

This file is part of the following work:

Bajema, Anna M. (2019) *Exploring attitudes towards environmentally displaced people in Australia: an integrated threat theory approach*. PhD Thesis, James Cook University.

Access to this file is available from:

© 2019 Anna M. Bajema.

The author has certified to JCU that they have made a reasonable effort to gain permission and acknowledge the owners of any third party copyright material included in this document. If you believe that this is not the case, please email

researchonline@jcu.edu.au

Exploring Attitudes towards Environmentally Displaced People in Australia:
An Integrated Threat Theory Approach

Anna M Bajema
BPsych (Hons)

Thesis submitted in fulfilment of the requirements for the degree of
Doctor of Philosophy

Discipline of Psychology
College of Healthcare Sciences
James Cook University

December 2019

Statement of Access

I, the undersigned, author of this work, understand that James Cook University will make this thesis available for use within the University library and, via the Australia Digital Theses network, for use elsewhere.

I understand that, as an unpublished work, a thesis has significant protection under the Copyright Act and I do not wish to place any further restriction on access to this work.

Anna Bajema

Date

Statement of Sources Declaration

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. To the best of my knowledge and belief, the thesis contains no material previously published by any other person except where due acknowledgement has been made. Every reasonable effort has been made to gain permission and acknowledge the owners of copyright material. I would be pleased to hear from any copyright owner who has been omitted or incorrectly acknowledged.

Anna Bajema

Date

Declaration of Ethics

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007). The proposed research methodology received human research ethics approval from the James Cook University Human Research Ethics Committee (approval numbers H6739 and H7388).

Anna Bajema

Date

Statement of Contribution of Others

I recognise the financial contribution of James Cook University provided through a Postgraduate Research Scholarship.

I recognise the financial and infrastructural contribution of James Cook University through providing me with a workstation, access to resources, and funding to conduct my research and attend conferences.

I recognise the financial contribution of the Graduate Research School who awarded me a grant to attend the ACSPRI Structural Equation Modelling with AMOS course and funded the purchase of equipment for my project.

I recognise the support, guidance and input provided by my advisory panel Dr Anne Swinbourne and Dr Connar McShane.

Anna Bajema

Date

Acknowledgements

The completion of this thesis was only achieved through the constant and unwavering support of my supervisors, colleagues, family and friends.

Before all else, I would like to thank those who took the time to participate in my research, without whom none of this would be possible. There were many times throughout the recruitment phases when I was truly humbled by the selfless willingness of those who participated. So thank you for generously contributing your time.

I would like to deeply thank my primary supervisor, Dr Anne Swinbourne, for your guidance, support and the never ending laughter. My experience throughout my PhD years was made ever brighter by the positive, supportive and hilarious research culture you have created with a bunch of misfits – so thank you for that. To my secondary advisor, Dr Connar McShane, thank you for your insight when I could not see the light through my writing fog. Your feedback always helped me see a clearer path forward.

To the other postgraduate psychology students. Without all of you this process would not have been anywhere near as enjoyable as it was. I cannot express how much I value the unwavering support we provide each other. No one else truly understands the rollercoaster that is a PhD. The challenges and frustrations would have been tenfold more difficult without all of you listening to my whining, and the joys and achievements would have been far less sweet. For that, I sincerely thank each and every one of you.

To my family and friends - there are too many of you to name, but you know who you are. Thank you for supporting my baffling desire to undertake university study for so many years. It has been a long journey and it is not over yet. I thank all of you for being there each and every step of the way. Special mention goes to my partner, Tony. You are truly amazing, and you have an incredible ability to brighten my day with your constant positive view on life, so thank you. Thank you for offering to make me tea, bring me scotch fingers and supply me with copious amounts of wine when I needed it most. You have been my rock, and I am so very grateful.

Abstract

The first aim of this project was to gain a greater understanding of an Australian sample's attitudes towards environmentally displaced people. The second aim was to investigate whether negative attitudes towards environmentally displaced people can be shifted to be more positive. An in-depth analysis of existing evidence suggests the Australian government, media and public views towards displaced people, specifically asylum seekers and refugees, appear to be fixed on the threat that displaced people pose to Australian security and way of life (Cooper, Olejniczak, Lenette, & Smedley, 2017; Lippi, McKay, & McKenzie, 2017; Saxton, 2003). However, no research has yet directly examined Australian views towards environmentally displaced people. Given there is a focus on the threat displaced people pose within Australia, the Integrated Threat Theory was used as the theoretical framework for this project. Broadly, the Integrated Threat Theory places threat perceptions at the core of tensions between different groups and asserts threat perceptions are formed from a number of contextual and individual variables, such as previous intergroup contact or in-group identification. Once threat perceptions towards a different group develop the theory hypothesises that they will lead to prejudicial attitudes and in turn discriminatory behaviour towards the different group (C. W. Stephan & Stephan, 2000; W. G. Stephan & Stephan, 1996b).

Study 1 of this project investigated what an Australian sample's attitudes were towards environmentally displaced people. Study 1's purpose was to achieve the first aim of this project as well as investigate the effectiveness of the Integrated Threat Theory for predicting an Australian sample's prejudicial attitudes towards environmentally displaced people. Furthermore, this study also aimed to investigate a number of gaps and theoretical questions which exists within the Integrated Threat Theory literature. Study 1 was a cross sectional study and involved conducting a survey which asked participants about their prejudicial attitudes, threat perceptions, contextual and individual characteristics as well as a number of other perceptions towards either refugees or environmentally displaced people. The questions within the survey were informed by the Integrated Threat Theory. Results from 763 participants indicated the sample held, on average, positive to neutral views towards environmentally displaced people and refugees. However, closer inspection of the distribution of the data indicated a proportion of the sample ($\approx 35\%$) held moderately to strong negative views towards both environmentally displaced people and refugees. Structural equation modelling results indicated the Integrated Threat Theory is an effective model to use for predicting the sample's prejudicial attitudes towards environmentally displaced people.

Study 2's purpose was to achieve the second aim of this project and investigate how effective an anti-prejudice intervention, social perspective taking, is for reducing negative views towards environmentally displaced people. Social perspective taking is the process of intentionally and actively imagining oneself in the perspective of another person, usually someone who is a member of a different group. An emerging technology, virtual reality, is increasingly being used for social perspective taking interventions as it is thought to increase the benefits of undertaking a perspective

taking experience (Ahn, Le, & Bailenson, 2013; Oh, Bailenson, Weisz, & Zaki, 2016). As such, Study 2 also aimed to test whether the use of virtual reality for social perspective taking was more effective than normal film. In addition, there were several identified overlaps between the theoretical explanations for how social perspective taking is thought to change attitudes and the concepts within the Integrated Threat Theory. Thus, Study 2 also examined how a social perspective taking intervention effects the variables within the Integrated Threat Theory.

To achieve these aims the participants in Study 2 were exposed to one of three conditions; 1) a control condition where the participants were exposed to no intervention, 2) a normal film condition where the participants undertook social perspective taking while watching a normal film and 3) a virtual reality condition where the participants undertook social perspective taking while watching a virtual reality film. After watching the film (or not) the participants were asked to complete a survey which asked about their prejudicial attitudes, threat perceptions, contextual and individual characteristics as well as a number of other perceptions towards environmentally displaced people. Again, this survey was informed by the Integrated Threat Theory. Data from 193 participants revealed the social perspective taking intervention was effective at reducing negative attitudes towards environmentally displaced people.

Overall, results from the two studies indicated negative views towards environmentally displaced people is an important issue in Australia which can be partly mitigated through using the presented social perspective taking intervention. Furthermore, this project also demonstrated the Integrated Threat Theory is an appropriate framework to use for understanding and predicting negative views towards environmentally displaced people within Australia. Based on the reviewed literature and results, both practical and theoretical recommendations for developing and maintaining positive intergroup relations between Australians and environmentally displaced people were made. Key recommendations for this project outline suggestions for social perspective taking interventions, such as imbedding them into a larger intervention approach and focusing on the induction of empathetic feelings towards environmentally displaced people.

Table of Contents

Statement of Access	ii
Statement of Sources Declaration	iii
Declaration of Ethics	iv
Statement of Contribution of Others	v
Acknowledgements	vi
Abstract.....	vii
Table of Contents	ix
List of Tables	xiii
List of Figures	xiv
Introduction.....	1
Primary Research Questions.....	4
Chapter 1: Environmentally Displaced People	5
1.1 Defining Environmental Displacement and Environmentally Displaced People	5
1.1.1 Legal and governance considerations for environmental displacement.	7
1.1.2 Environmental drivers of movement.	8
1.1.3 Putting it all together: Conceptualising environmental displacement.	11
1.2 The Prediction Conundrum: How Many People will be Environmentally Displaced?	13
1.3 Culture and Power.....	14
1.3.1 Framing displacement positively: Migration and displacement as adaptation.	16
1.3.2 Mind the gap: Disparities between developing and developed countries.....	17
1.4 Conclusion.....	18
Chapter 2: Australian Views and Representations of Displaced People	19
2.1 The Stance of the Australian Government.....	21
2.2 The Role of Media	23
2.3 Views and Attitudes of the Australian Public.....	26
2.4 Why does it matter what Australians think?	30
2.5 What does this mean for Environmentally Displaced People?	33
2.6 Conclusion.....	34
Chapter 3: Delving into Intergroup Derogation, Prejudice and Discrimination - An Integrated Threat Theory Approach.....	35
3.1 A Broad Overview of the Intergroup Relations Literature	35
3.1.1 Section summary.....	41
3.2 The Integrated Threat Theory	41
3.2.1 The role of context and individual factors.....	43
3.2.2 Threat variables	46
3.3 Reviewing the Evidence	54
3.4 Theory Revisions	57
3.5 Identified Research Gaps and Future Research	59
3.6 Conclusion.....	60
Chapter 4: Study 1 Rationale and Methodology	61
4.1 Study 1 Rationale.....	61
4.2 The Current Study	64
4.3 Study 1 Method.....	65
4.3.1 Study design	65
4.3.2 Participants	65
4.3.3 Materials.....	67
4.3.4 Procedure.....	73

4.3.5 Data treatment and analysis.....	74
Chapter 5: Study 1 Results and Discussion, Part 1 – Attitudes towards Environmentally Displaced People	76
5.1 Aims and Research Questions	76
5.2 Hypotheses	76
5.3 Results	78
5.3.1 Frequency data.....	79
5.3.2 Condition comparison	87
5.3.3 Realistic and symbolic threat comparison	88
5.3.4 Gender comparison	89
5.3.5 Education comparison.	90
5.3.6 Age analysis.....	91
5.4 Discussion.....	91
5.5 Chapter Summary	98
Chapter 6: Study 1 Results and Discussion, Part 2 – Examining the Psychometric Properties of the Integrated Threat Theory Variables.....	100
6.1 Aims and Research Questions	100
6.2 Statistical Criteria for Establishing Construct Validity	100
6.3 Statistical Criteria for Establishing Internal Consistency Reliability	101
6.4 Data Treatment	102
6.5 Results	103
6.5.1 Prejudice.....	103
6.5.2 Negative stereotypes	107
6.5.3 Intergroup anxiety	113
6.5.4 Realistic individual threats	116
6.5.5 Realistic group threats.....	118
6.5.6 Symbolic individual threats.....	120
6.5.7 Symbolic group threats	122
6.6 Chapter Summary	126
Chapter 7: Study 1 Results and Discussion, Part 3 - Modelling the Integrated Threat Theory in the Context of Environmentally Displaced People	127
7.1 Identified Research Gaps.....	127
7.2 Aims and Research Questions	127
7.3 Alternate Models.....	128
7.4 Hypotheses	129
7.5 Data Treatment	131
7.6 Criteria for Model Fit	133
7.8 Structural Equation Modelling.....	134
7.8.1 Model 1 - Negative stereotypes as an antecedent to threat perceptions.	136
7.8.2 Model 2 - Negative stereotypes as a direct predictor of prejudice.	138
7.8.3 Model 3 - Negative stereotypes as a mediator between threats and prejudice.	141
7.8.4 Model 4 - Negative stereotypes as an outcome variable.	144
7.8.5 Model Comparisons.	147
7.9 Discussion.....	148
7.9.1 Was prejudice predicted in the context of Australian attitudes towards environmentally displaced people?	148
7.9.2 Model comparisons and discussion of predictor variables	149
7.9.3 Non-predictive variables	156

7.10 Chapter Summary.....	157
Logic Check Point.....	159
Chapter 8: Seeing the World Through Others' Eyes - An Examination of Social Perspective Taking for Improving Intergroup Relations.....	161
8.1 Section One: Theoretical Underpinnings of Social Perspective Taking.....	165
8.1.1 Cognitive mechanisms.	165
8.1.2 Affective mechanisms.	170
8.1.3 Design considerations.	172
8.2 Section Two: Application of Social Perspective Taking - What are the Benefits and Drawbacks?	175
8.2.1 Benefits of social perspective taking.....	175
8.2.2 Could it really be that great? Drawbacks and limitations of social perspective taking... ..	178
8.3 Conclusion.....	180
Chapter 9: Applying Virtual Reality Technology to Social Perspective Taking	181
9.1 Virtual Reality and Social Perspective Taking	182
9.1.2 Evidence for combining virtual reality and social perspective taking.	183
9.2 Conclusion.....	184
Chapter 10: Study 2 - Rationale and Methodology	185
10.1 Rationale.....	185
10.2 The Current Study	186
10.3 Method.....	186
10.4 Pilot phase	186
10.5 Recruitment	187
10.6 Participants	188
10.7 Materials.....	188
10.8 Procedure.....	192
10.9 Data treatment and analyses	194
Chapter 11: Study 2 Results and Discussion, Part 1 – Group Differences Analyses	195
11.1 Research Questions	195
11.2 Hypotheses.....	195
11.2.1 Hypotheses for the effect of the social perspective taking intervention on out-group attitudes.....	195
11.2.2 Hypotheses for the effect of virtual reality.	200
11.2.3 Hypothesis relating to the long-term effect of the SPT intervention.....	200
11.3 Results	200
11.3.1 Examining the effect of social perspective taking and virtual reality on out-group attitudes.....	201
11.3.2 Examining the long-term effects of the SPT intervention on out-group attitudes	203
11.4 Discussion.....	207
11.4.1 Examining the effect of social perspective taking and virtual reality on out-group attitudes.....	207
11.4.2 Examining the long-term effects of the social perspective taking intervention on out- group attitudes	214
11.4.3 Limitations and future directions	216
11.5 Chapter Summary.....	217
Chapter 12: Study 2 Results and Discussion, Part 2 - Modelling the Effect of Social Perspective Taking on Out-group Attitudes	218
12.1 Identified Gaps.....	218

12.2 Research Questions	219
12.3 Data Treatment.....	219
12.4 Criteria for Model Fit	221
12.5 Structural Equation Modelling.....	221
12.5.1 Model 5 - Testing social perspective taking in the Integrated Threat Theory for predicting prejudice.	222
12.5.2 Model 6 - Testing social perspective taking in the Integrated Threat Theory for predicting negative stereotypes.	225
12.6 Discussion.....	229
12.6.1 Examining the role of social perspective taking within the Integrated Threat Theory .	229
12.6.2 Examining the role of attributional thinking for predicting negative stereotypes	231
12.6.3 Comparisons between Study 1 and 2 modelling	232
12.7 Chapter Summary.....	234
Chapter 13: General Discussion.....	235
13.1 General Overview	235
13.2 Perceptions towards Environmentally Displaced People	235
13.3 Using the Integrated Threat Theory as a Framework for Understanding Out-group Attitudes towards Environmentally Displaced People	236
13.4 Using Social Perspective Taking for Shifting Australian Attitudes towards Environmentally Displaced People.....	237
13.5 Using Virtual Reality for Social Perspective Taking	237
13.6 Theoretical Implications and Recommendations	237
13.7 Applied Implications and Recommendations	239
13.8 Limitations.....	242
13.9 Conclusion	244
References.....	245
Appendices.....	262

List of Tables

Table 1: <i>A summary of the primary drivers of environmental displacement.</i>	10
Table 2: <i>Percentages of the Australian public's views towards asylum seeker boat arrivals as obtained by Newspoll and The Australian (2009).</i>	28
Table 3: <i>Percentages of the Australian public's views towards the federal government's management of asylum seekers as obtained by Newspoll and The Australian (2002, 2004).</i>	29
Table 4: <i>Sample characteristics for each condition and the total sample [% (frequency)]</i>	66
Table 5: <i>Cronbach's alpha coefficients and item examples for threat perceptions.</i>	68
Table 6: <i>Means and standard deviations M(SD) for the dependent variables across the three conditions.</i>	79
Table 7: <i>Means and standard deviations M(SD) for gender across the dependent variables.</i>	89
Table 8: <i>Means and standard deviations M(SD) for the different levels of completed education across the dependent variables.</i>	90
Table 9: <i>Pearson's bivariate correlations between age and attitudes.</i>	92
Table 10: <i>Summary of indices for assessing acceptable model fit.</i>	102
Table 11: <i>Pearson's correlation coefficients between prejudice, negative stereotypes, intergroup anxiety and threat perceptions.</i>	103
Table 12: <i>Internal consistency of the original and revised prejudice scale.</i>	106
Table 13: <i>Pearson's correlation coefficients between trait frequency ratings and favourability ratings with prejudice, empathy, intergroup anxiety, and realistic and symbolic threats.</i>	108
Table 14: <i>Internal consistency of the original and revised negative stereotypes scale.</i>	111
Table 15: <i>Internal consistency of the original and revised intergroup anxiety scale.</i>	116
Table 16: <i>Internal consistency of the original and revised realistic individual threat scale.</i>	118
Table 17: <i>Internal consistency of the original and revised realistic group threats scale.</i>	120
Table 18: <i>Internal consistency of the original and revised symbolic individual threats scale.</i>	122
Table 19: <i>Internal consistency of the original and revised symbolic group threats scale.</i>	124
Table 20: <i>Summary of indices for assessing acceptable model fit.</i>	133
Table 21: <i>Means, standard deviations and Pearson's correlation coefficient between all dependent variables and prejudice.</i>	135
Table 22: <i>Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 1.</i>	138
Table 23: <i>Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 2.</i>	141
Table 24: <i>Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 3.</i>	144
Table 25: <i>Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 4.</i>	147
Table 26: <i>Summary of re-specified Model 1, 2, 3 and 4 fit indices.</i>	148
Table 27: <i>Cronbach's alpha coefficient and item examples for threat perceptions assessed in Study 2.</i>	191
Table 28: <i>Means and standard deviations M(SD) for the dependent variables across the three conditions.</i>	202
Table 29: <i>Means and standard deviations M(SD) for the dependent variables at the initial and follow-up phases across the three conditions.</i>	204
Table 30: <i>Summary of indices for assessing acceptable model fit.</i>	221
Table 31: <i>Pearson's correlation coefficients between all dependent variables and social perspective taking (SPT).</i>	223
Table 32: <i>Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 5.</i>	225
Table 33: <i>Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 6.</i>	228

List of Figures

<i>Figure 1: Conceptual diagram of the thesis</i>	3
<i>Figure 2. The Integrated Threat Theory</i>	42
<i>Figure 3. The original Integrated Threat Theory framework</i>	63
<i>Figure 4. The revised Integrated Threat Theory framework</i>	64
<i>Figure 5. Percentage of participants' prejudice scores</i>	80
<i>Figure 6. Percentage of participants' negative stereotype scores</i>	81
<i>Figure 7. Percentage of participants' realistic individual threat scores</i>	82
<i>Figure 8. Percentage of participants' realistic group threat scores</i>	82
<i>Figure 9. Percentage of participants' symbolic individual threat scores</i>	83
<i>Figure 10. Percentage of participants' symbolic group threat scores</i>	84
<i>Figure 11. Percentage of participants' intergroup anxiety scores</i>	84
<i>Figure 12. Percentage of participants' empathy scores</i>	85
<i>Figure 13. Percentage of participants' intergroup conflict scores</i>	85
<i>Figure 14. Percentage of participants' status inequality scores</i>	86
<i>Figure 15. Percentage of participants' self-reported knowledge scores</i>	87
<i>Figure 16. Percentage of participants' actual knowledge scores</i>	87
<i>Figure 17. Original factor structure for the prejudice measure</i>	105
<i>Figure 18. Revised factor structure for the prejudice measure</i>	105
<i>Figure 19. Original factor structure of the negative stereotypes measure</i>	109
<i>Figure 20. Revised factor structure for the negative stereotypes measure</i>	110
<i>Figure 21. Original factor structure of the intergroup anxiety measure</i>	114
<i>Figure 22. Revised factor structure for the intergroup anxiety measure</i>	115
<i>Figure 23. Original factor structure of the realistic individual threats measure</i>	117
<i>Figure 24. Revised factor structure for the realistic individual threat measure</i>	117
<i>Figure 25. Original factor structure of the realistic group threats measure</i>	119
<i>Figure 26. Revised factor structure for the realistic group threat measure</i>	119
<i>Figure 27. Original factor structure of the symbolic individual threats measure</i>	121
<i>Figure 28. Revised factor structure for the symbolic individual threat measure</i>	121
<i>Figure 29. Original factor structure of the symbolic group threats measure</i>	123
<i>Figure 30. Revised factor structure for the symbolic group threat measure</i>	123
<i>Figure 31. Model 1 - Original specified model with negative stereotypes as an antecedent to realistic and symbolic threat perceptions</i>	137
<i>Figure 32. Re-specified Model 1 – Re-specified model with negative stereotypes as antecedent to realistic and symbolic threat perceptions</i>	137
<i>Figure 33. Alternate Model 2 - Original specified model with negative stereotypes as a direct predictor of prejudice</i>	140
<i>Figure 34. Re-specified alternate Model 2 – Re-specified model with negative stereotypes as a direct predictor of prejudice</i>	140
<i>Figure 35. Alternate Model 3 - Original specified model with negative stereotypes as a mediator between prejudice and threat perceptions</i>	143
<i>Figure 36. Re-specified alternate Model 3 - Re-specified model with negative stereotypes as a mediator between prejudice and threat perceptions</i>	143
<i>Figure 37. Alternate Model 4 - Original specified model with negative stereotypes as an outcome variable</i>	146

<i>Figure 38. Re-specified alternate Model 4 - Re-specified model with negative stereotypes an outcome variable.</i>	146
<i>Figure 39: Conceptual diagram of the thesis.</i>	160
<i>Figure 40. Virtual reality device set-up (A) and normal computer set-up (B).....</i>	189
<i>Figure 41. Initial path specification for Model 5 – Testing SPT in the ITT for predicting prejudice.</i>	224
<i>Figure 42. Re-specified Model 5 – Testing SPT in the ITT for predicting prejudice.</i>	224
<i>Figure 43. Initial path specification for Model 6 – Testing SPT in the ITT for prediciting negative stereotypes.</i>	227
<i>Figure 44. Re-specified Model 6 - Testing SPT in the ITT for prediciting negative stereotypes</i>	227

Introduction

Typically when someone thinks of human displacement they consider push factors such as war and religious or political persecution as reasons why people leave their homes and seek refuge in other countries. However, environmental drivers of displacement, such as sea level rise or drought and land degradation, are also an important reason for human displacement globally (Castles, 2002; Lonergan, 1998; Melde, Laczko, & Gemenne, F (eds.), 2017; Morinière & Hamza, 2012; Naser, 2015; Warner, Ehrhart, Sherbinin, Adamo, & Chai-Onn, 2009). Environmental displacement is not a new reason for human movement. However, the number of people to be environmentally displaced is expected to increase as a result of climate change (Naser, 2015; Reuveny, 2007). This expected increase has raised concerns over how the global community will manage environmental displacement. The effects of increased environmental displacement are expected to be felt in different ways around the world. This project focuses on the Australian context. Australia is expected to receive people from Pacific islands who will be displaced because of sea level rise and coastal erosion (Burkett, 2011; Institute of Policy Studies, 2010; McNamara, 2015; Williams, 2008). Thus, the question as to how the Australian government and public will respond to this challenge is raised. Currently, there is very limited research which has investigated how citizens of host countries respond to and view environmentally displaced people.

While it is unknown how Australia will respond to environmentally displaced people, some insight can be gleaned by reflecting on the current context of asylum seekers and refugees within Australia. The Australian response to asylum seekers and refugees is one of global discussion and controversy. The Australian government has taken a hard-line and punitive approach to asylum seekers and refugees and have oftentimes breached international humanitarian laws (Australian Human Rights Commission [AHRC], 2013; Leach, 2003; Pedersen & Hartley, 2015). Furthermore, there appears to be a considerable proportion of Australians who hold negative attitudes towards asylum seekers and refugees (Newspoll & The Australian, 2002, 2004, 2009). Overall, there is a strong focus in Australian dialogue on the threats displaced people pose to Australian security and the Australian way of life. Given this, it may be that the Australian public's attitudes towards environmentally displaced people are similar to those held towards asylum seekers and refugees. However, research which investigates this directly is needed to more accurately understand Australian attitudes towards environmentally displaced people.

As there is a strong focus on threats to Australian security and way-of life in Australian dialogue, a theory which places threat perceptions at the centre of intergroup attitudes would be useful. The Integrated Threat Theory is one such theory. The Integrated Threat Theory is a psychological framework which considers threat perceptions to play a core role in causing prejudicial attitudes and discriminatory behaviours between groups (W. G. Stephan & Stephan, 1996b). This theory integrates into one framework numerous different individual and group based theories and models for understanding intergroup relations. The Integrated Threat Theory's focus on threat

perceptions and approach to understanding intergroup relations makes it a useful framework for endeavouring to gain a greater understanding of Australian attitudes towards environmentally displaced people.

Understanding how Australians will view environmentally displaced people coming into the country is vital as negative host country attitudes are linked to poor mental and physical health outcomes for displaced people (Correa-Velez, Gifford, & Barnett, 2010; Kim, 2016; Stuber, Meyer, & Link, 2008) as well as adverse social impacts for displaced people (Esses, Hamilton, & Gaucher, 2017; Florack, Piontkowski, Rohmann, Balzer, & Perzig, 2003). As such, the current project's first aim was to investigate through the framework of the Integrated Threat Theory an Australian sample's attitudes towards environmentally displaced people. However, simply understanding attitudes towards environmentally displaced people will have no impact on minimising the adverse health and social outcomes of negative host country attitudes. Thus, an approach which aims to reduce negative attitudes would be beneficial for minimising adverse outcomes.

Social perspective taking is one such strategy which appears to have strong beneficial outcomes on intergroup relations. Broadly, social perspective taking is defined as the process of intentionally and actively adopting the perspective of another person, usually someone who is a member of a different group. Undertaking a social perspective taking experience has been linked to such benefits as reduced prejudice, reduced feelings of anxiety about interacting with people in different groups and increased helping behaviours towards members of different groups (Aberson & Haag, 2007; Ahn et al., 2013; Vescio, Sechrist, & Paolucci, 2003).

While social perspective taking is promising, the approach does have limitations for improving intergroup relations. However, a new technology, virtual reality, offers more enhanced ways for people to experience the perspective of others. Thus, using virtual reality to undertake a social perspective taking experience may overcome some of the limitations of normal social perspective taking. The use of social perspective taking with virtual reality has not yet been tested in the context of improving relations between Australians and environmentally displaced people. Thus, this project's second aim was to investigate if social perspective taking was an effective strategy for changing an Australian sample's attitudes towards environmentally displaced people, and whether the use of virtual reality enhanced the effects of social perspective taking.

The following thesis provides greater exploration into the concepts and theories covered above as well as the details of the studies undertaken. The conceptual framework for this thesis is shown in Figure 1. To assist with clarity this conceptual framework will be repeated at critical points throughout the thesis. As shown in Figure 1, this thesis consists of 13 chapters. The first two chapters present the context in which this thesis is based. More specifically, Chapter 1 provides a discussion on environmentally displaced people and the definitional, governance, prediction and cultural challenges surrounding environmental displacement. Chapter 2 provides an overview of how the Australian government, media and public represent and view asylum seekers and refugees, and then draws this

discussion back to how such views may affect environmentally displaced people in Australia. The third chapter then provides the theoretical framework for this thesis and presents a detailed exploration of the Integrated Threat Theory. These first three chapters form the basis of the first study for this project. Study 1 investigated an Australian sample's attitudes towards environmentally displaced people. This study also tested the appropriateness of the Integrated Threat Theory for understanding attitudes towards environmentally displaced people. Study 1's rationale, aims, research questions, hypotheses, methodology, results and discussions are presented in Chapters 4-7.

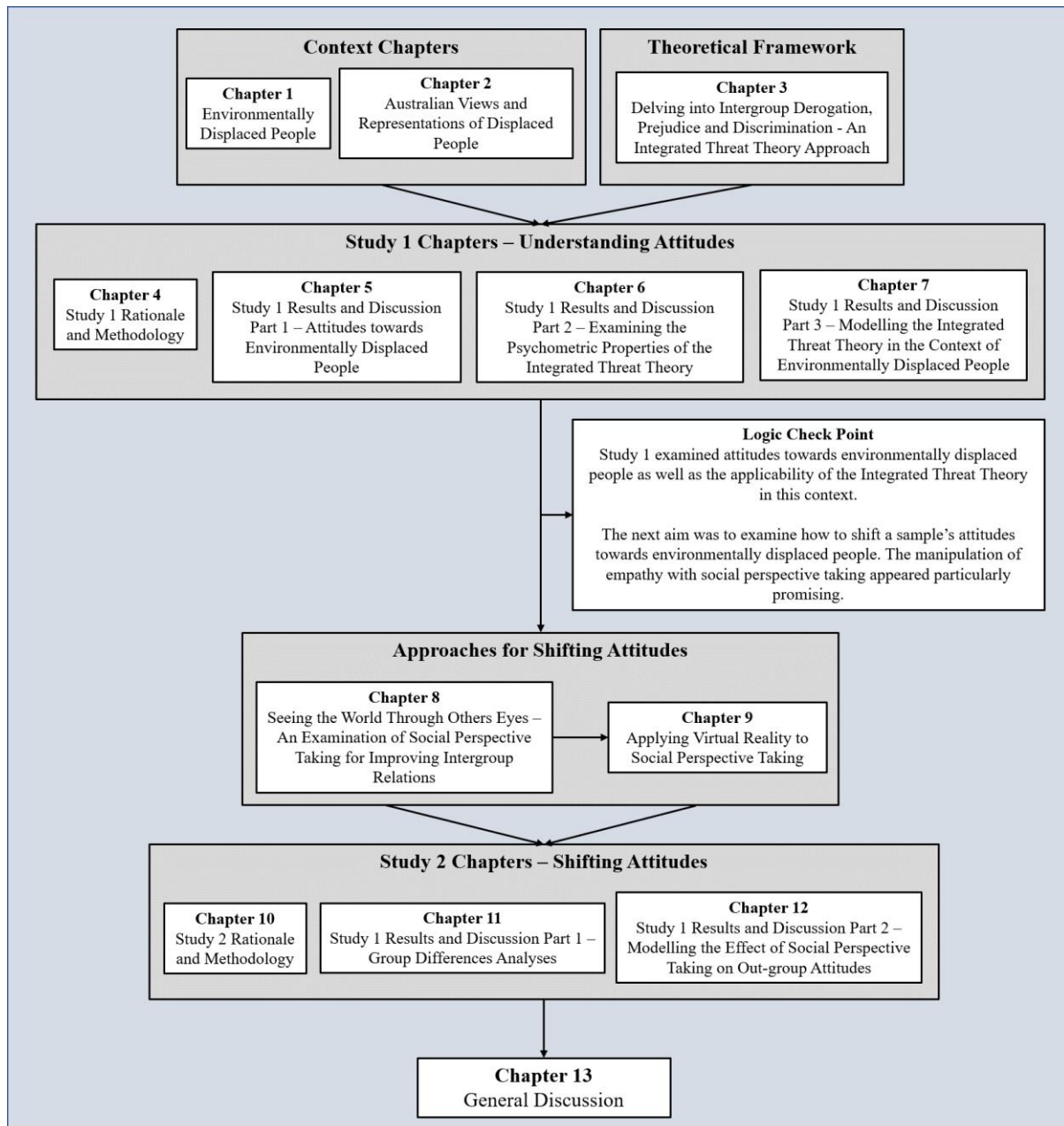


Figure 1: Conceptual diagram of the thesis

As indicated in the *Logic Check Point* box in Figure 1 the next aim of this thesis was to then investigate how negative attitudes may be shifted. Social perspective taking (with virtual reality) was

identified as a potentially powerful strategy for shifting negative attitudes for several reasons. One particular reason was because social perspective taking has been found to induce empathy, which was a strong predictor of prejudice in Study 1. Chapters 8 and 9 discuss the foundations for social perspective taking and virtual reality, which inform the second study of this project. Study 2 was an experimental study which examined whether a social perspective taking intervention was effective for inducing empathy and reducing negative attitudes. Chapters 10-12 cover the rationale, aims, research questions, hypotheses, methodology, results and discussions for Study 2. Chapter 13 then concludes the thesis by providing an integrative discussion of this project's findings and presents the project's overall theoretical and applied implications and recommendations for researchers, governments and intervention designers.

Primary Research Questions

The focus of this project was driven by the following primary research questions. After conducting the literature review a number of secondary research questions were identified for each of the studies conducted for this project. These secondary research questions are presented in the chapters which describe Studies 1 and 2. The first two research questions were:

1. What perceptions does an Australian sample hold towards environmentally displaced people?
2. Is the Integrated Threat Theory an appropriate framework to understand and predict prejudicial attitudes towards environmentally displaced people?

Research questions 1 and 2 were investigated in two ways. First, the literature and available evidence on environmental displacement, Australian views towards displaced people and the Integrated Threat Theory was reviewed and summarised in order to provide an initial insight into these research questions (Chapters 1-3). Second, Study 1 was undertaken in order to directly investigate and answer these research questions (Chapters 4-7). The last two research questions were:

3. How effective is social perspective taking for shifting an Australian sample's attitudes towards environmentally displaced people?
4. Does virtual reality enhance the beneficial effects of social perspective taking compared to normal film?

Research questions 3 and 4 were also investigated in two ways. Like above, the literature and available evidence on social perspective taking and virtual reality was reviewed and summarised in order to provide an initial insight into these research questions (Chapters 8 and 9). Second, Study 2 was undertaken in order to directly investigate and answer these questions (Chapters 10-12).

Chapter 1: Environmentally Displaced People

“What is important is that the debate remains on the right track, namely, that the paramount objective is not a new refugee regime but genuine efforts for better accountability, international cooperation, environmental protection standards and good governance.” (Stavropoulou, 2008, p. 12).

Displacement due to environmental factors, such as sea level rise, coastal erosion and extreme weather events, is a major global issue. Displacement poses many challenges for governments, human rights organizations and, most importantly, the people who have been and will be displaced. The complex nexus of issues that accompanies environmental displacement has made it difficult to establish a consensus on the definition, drivers, causes and predicted numbers of people to be displaced as a result of environmental disruption. This chapter presents a brief discussion on these issues and provides an overview of the current political, legal, cultural and academic context of environmental displacement.

1.1 Defining Environmental Displacement and Environmentally Displaced People

There is great contention in the political, legal, academic, humanitarian and media forums in regards to defining what constitutes environmental displacement. Currently, no formal or agreed upon definition exists, with many experts in different fields having attempted to develop their own definitions. This has resulted in a number of different terms being used to describe environmentally displaced people. Just a few of the terms include environmental migrants, environmental refugees, climate migrants, climate refugees and climate change-induced migrants amongst others.

The most recognised first attempt to define those who are displaced due to environmental factors was made by the United National Environmental Project by El-Hinnawi in 1985. El-Hinnawi (1985) used the term ‘Environmental Refugee’, defined as:

those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life. By ‘environmental disruption’ in this definition is meant any physical, chemical, and/or biological changes in the ecosystem (or resource base) that render it, temporarily or permanently, unsuitable to support human life. (p. 4)

El-Hinnawi (1985) outlined three main categories or forms of environmental displacement. The first category refers to those who are temporarily displaced due to a natural hazard or weather event (e.g. flood). The second refers to those who have been permanently displaced, usually due to development projects, in which the environment cannot be re-habilitated. The third refers to those

voluntarily displaced, either temporarily or permanently, as a result of gradual and damaging changes to the environment and a reduction in quality of life.

The definition of El-Hinnawi (1985) has been criticised for not being specific enough to distinguish environmental refugees from other forms of refugees and migrants (Bates, 2002). This vague categorisation of environmentally displaced people makes it difficult to identify those who have or will be displaced due to environmental factors as opposed to political or economic factors. Furthermore, the third category outlined by El-Hinnawi (1985) refers to those who are ‘voluntarily’ displaced as a result of environmental disruption and a reduction in quality of life. Debate exist around whether this should be considered voluntary displacement, when the alternative action is staying in the current location and potentially losing all opportunities at maintaining a livelihood, having little to no income and experiencing food and water shortages (Biermann & Boas, 2010; Warner et al., 2009). Additionally, these issues are likely to equate to safety concerns (e.g. malnutrition, poor sanitation), which is considered to lead to ‘forced’ displacement in other scenarios. While in this situation individuals may make the decision at some point to leave their current place of living, this decision is likely only made as remaining is not a viable option. Thus, this decision is unlikely to be one made voluntarily, but rather one which is forced on these individuals.

Since El-Hinnawi (1985) first defined environmentally displaced people, numerous other attempts have been made to refine this definition with little progress. Myers (1993, 1994, 1997, 2002), a prolific writer in this field, provided the definition of Environmental Refugee as “people who can no longer gain a secure livelihood in their erstwhile homelands because of drought, soil erosion, desertification, and other environmental problems” (Myers, 1993, p. 752). Once again, this definition is ambiguous and fails to clearly identify environmentally displaced people from people who are displaced due to political or economic push factors. Furthermore, Myers (1993) definition focuses on being able to gain a secure livelihood, but does not consider other factors such as health and quality of life.

In attempts to develop a clear conceptualisation of environmental displacement, various scholars have created different ways to categorise environmentally displaced people (Bates, 2002; Jacobson, 1988; Lonergan, 1994, 1998). For instance, Lonergan (1994, 1998) identified five categories of environmental stress that are likely to lead to environmental displacement. These categories include natural disasters (e.g. floods); cumulative or slow-onset changes (e.g. deforestation); accidental disruptions or industrial accidents (e.g. nuclear explosion); development projects (e.g. dams or irrigation projects); and conflict and warfare where the environment is purposefully manipulated for strategic advantage (e.g. destruction of irrigation systems). While these definitions assist in clarifying what causes environmental displacement, they are couched in terms of the identified drivers of movement. Defining environmental displacement in the context of what drives human movement creates challenges as it rarely occurs as a result of one isolated factor, but

rather a complex interaction between various political, social and environmental factors (Farbotko & Lazrus, 2012).

The International Organization for Migration (IOM) refer to environmentally displaced people as environmental migrants and provided the following working definition in the 2008 World Migration Report (International Organisation for Migration [IOM], 2008, p. 493).

Environmental migrants are persons or groups of persons who, for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to have to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their territory or abroad.

This definition is still currently used by the IOM and recognises four caveats of environmental displacement. These include 1) environmental migration can be triggered by both extreme environmental events as well as deteriorating environmental conditions; 2) environmental displacement can occur both within and across international borders; 3) environmental displacement can be both temporary and permanent; and 4) environmental displacement can be understood along a spectrum that ranges from voluntary to forced.

This definition is more comprehensive than the previously discussed definitions and provides some clarification about what constitutes environmental displacement. Furthermore, this definition considers the issue of voluntary versus forced displacement along a spectrum, which is a more appropriate conceptualisation. However, as with all definitions, the issue of identifying environmental displacement as the primary push factor, as opposed to political or economic factors, is still unclear. Furthermore, this definition does not provide contextual information about what the term ‘environmental changes’ includes.

After reviewing the definitions in this area, it is recognised that creating one definition which encompasses all that is ‘environmental displacement’ is a challenging task. Furthermore, this task is complicated by the numerous and sometimes conflicting definitions and terms that exist in the academic, media, political, humanitarian and legal forums for environmental displacement. The confusion which results from attempts to clearly understand and operationalise environmental displacement has many impacts ranging from policy implementation to the health and wellbeing of the displaced. These impacts are considered in the remainder of this chapter and will be discussed in greater depth as the chapter progresses. To begin with, one major reason for the confusion and use of different terms and definitions is due to the lack of legal recognition and governing processes for environmentally displaced people.

1.1.1 Legal and governance considerations for environmental displacement. Unlike other refugees, environmentally displaced people do not receive international legal protection. Under the

1951 United Nations Convention on the Status of Refugees and the 1967 Protocol (United Nations High Commissioner for Refugees [UNHCR], 2006), people who are displaced outside their own country and have a well-founded fear of being persecuted on the grounds of race, religion, nationality, membership of a particular social group or political opinion, and who cannot receive the protection from or return to their own country for fear of persecution, are protected within and across the 145 signatory states around the world. The 1951 Convention provides a detailed definition of what is meant by the term refugee and provides clear guidelines for when and to whom refugee status should be granted. This document has been the cornerstone of protecting those displaced due to fear of persecution, and is a clear, legally binding internationally recognised document which outlines and defines refugee status and protection.

However, environmental causes of displacement are not recognised in the 1951 Convention, thus those who are displaced due to environmental drivers are not formally recognised and cannot receive refugee status. In some instances, those who are displaced due to environmental factors may have also experienced persecution, and may therefore be eligible to receive refugee status on the grounds that they have been persecuted against and cannot receive protection from their country (Biermann & Boas, 2010). However, a large number of environmentally displaced people will not fall under this category and can therefore not receive any legal protection under the 1951 convention.

The lack of a legally binding and internationally recognised form of governance which clearly outlines and specifies what is meant by environmental displacement may be a core reason for the lack of consensus for a definition and term for environmentally displaced people. Furthermore, it has been suggested that no formal recognition of environmental displacement has been developed as it would lead to greater numbers of recognised displaced people, which would put additional pressure onto already struggling organisational and governmental systems that manage displaced people (Ramlogan, 1996; Warner, 2010). Alternatively, some scholars have posited that the lack of consensus in this area is due to the complexity in distinguishing environmental drivers of movement from political or social drivers (Dun & Gemenne, 2008; Warner, 2010). The following section explores the drivers of environmental displacement and outlines the complexities of isolating the primary cause of displacement.

1.1.2 Environmental drivers of movement. While environmental displacement is not a new phenomenon, the recognition of environmental factors as being a driving force of displacement and in influencing an individual's decision to leave their home is still highly contested for several reasons. Primarily among these reasons is the difficulty of identifying and separating environmental drivers of movement from other political and social drivers (Black, 2001; Farbotko & Lazrus, 2012). The drivers of movement are often indistinct and are rarely attributable to one factor. Often it is the interaction of many drivers and influences which leads to the decision to leave and seek refuge somewhere else. This makes it very difficult to isolate and define environmental displacement. For instance, environmental

disruptions can often lead to political instability and unrest, which in turn may lead to a dangerous and unsafe situation that causes people to leave their homes and seek refuge in other countries. Another debate regarding the drivers of environmental movement is whether the driving force for movement is due to natural environmental influences or are human-induced.

Naturogenic drivers include environmental disruption which has occurred naturally and independent of human impacts on the environment. Such disruptions can include natural disasters such as droughts, flooding or fire. In contrast, anthropogenic drivers are primarily caused due to human actions, such as human-induced climate change as well as disruption which is more directly linked to human activity, such as deforestation, industrial accidents (e.g. the Chernobyl nuclear explosion) or the development of infrastructure (e.g. dams) (Ramlogan, 1996). It is often difficult to determine if environmental displacement is due to naturogenic or anthropogenic causes. It is particularly challenging to isolate naturogenic causes from anthropogenic causes when attempting to determine if an environmental event is due to anthropogenic climate change or has occurred independently of human influences on the environment. For example, it is difficult to isolate whether the 2019 floods in North Queensland were exacerbated by anthropogenic climate change, or whether this event would have occurred naturogenically regardless of the changes occurring in global temperatures and weather patterns. Adding to the already difficult challenge of determining naturogenic and anthropogenic causes is the political controversy regarding anthropogenic climate change. Regardless of the scientific consensus around the influence human activity is having on the climate, there is still widespread denial on the existence of anthropogenic climate change. Many politicians both in Australia and globally argue against anthropogenic climate change and many members of the public also agree with these conclusions. (Dunlap & McCright, 2011; Norgaard, 2011). This issue becomes even more important when considering that anthropogenic climate change is expected to substantially increase environmental displacement in the coming years and as such support from the public is vital in the resettlement of environmentally displaced people (Institute of Policy Studies, 2010; Reuveny, 2007; Wilkinson, Schipper, Simonet, & Kubik, 2016).

There are many drivers which push environmental displacement, and these drivers have been categorised in several different ways (Lonergan, 1994, 1998; Naser, 2015). After reviewing the literature, five broad categories of drivers have been identified for this chapter based on the most commonly cited causes of displacement. Table 1 outlines these categories and the individual drivers which may fall within each category. Each of these various drivers of population movement have occurred because of naturogenic or anthropogenic causes (or both), and can also result in temporary and/or permanent displacement. Furthermore, the different drivers are expected to affect different locations around the world.

Table 1: *A summary of the primary drivers of environmental displacement.*

Category	Specific drivers	Link to climate change	Do these drivers usually lead to temporary or permanent displacement?	Example areas most likely to be affected
Drought and land degradation	Food insecurity, agricultural difficulties, water insecurity, loss of livelihood.	These drivers could be due to climate change, however the link is not necessarily clear.	These drivers can result in both temporary and permanent displacement. People sometimes leave temporarily to source funds as an adaptation response.	Asia, Africa, the Mediterranean, Latin America, Egypt, Central America, Mexico, Australia and New Zealand
Extreme weather events and natural disasters	Windstorms (cyclones/hurricanes/typhoons) flooding, storm surges, tsunamis, earth-quake, landslides.	These drivers could be due to climate change, but the link to specific weather events is not necessarily clear. However, a generalised increase in the severity of weather events is linked to climate change.	Usually temporary. However, people may choose to leave permanently if the extreme weather events occur regularly or if their homes have been destroyed.	Mostly tropical regions
Sea level rise and coastal erosion	Inundation of living location by water and deterioration of living location due to erosion and salination.	Sea level rise and coastal erosion is directly linked to climate change, specifically global warming.	Permanent	Small island states (e.g. Tuvalu, Maldives), coastal regions and cities (e.g. Guangzhou, Bangladesh, Miami, New York)
Glacier melt	Flooding, water insecurity	Glacier melt is directly linked to climate change, specifically global warming.	Undetermined	Asia, Polar regions
Developmental projects	Development of dams, airports ect.	It depends on the project being undertaken. Some developmental projects are directly related to climate change as they may be part of an adaptation response (e.g. building a dam to capture and store excess water from a melting glacier). However, other projects may not be related to climate change in any way.	Permanent	Globally

Note: see (Hallegatte, Green, Nicholls, & Corfee-Morlot, 2013; Intergovernmental Panel on Climate Change, 2007; Myers, 1993; Warner et al., 2009)

1.1.3 Putting it all together: Conceptualising environmental displacement. One thing which became abundantly clear while conducting the above review is that human displacement is a complex issue. It is extremely difficult to isolate the primary cause of displacement, with displacement occurring due to a complex array of push factors, individual demographics, political and social environments, and of course environmental disruption. However, differentiating between political/social and environmental causes is valuable and should at the very least be attempted. Indeed, the current refugee laws and governance systems already attempt to isolate the primary cause of displacement as a political or social cause. These systems are flawed as they do not consider a large driving force for displacement – environmental factors.

Attempting to capture the primary cause of displacement can provide useful information for both current and future policy, as well as data for research and organisations which manage human displacement. Capturing this information becomes even more important when considering the impact climate change is expected to have on human displacement. Not recognising environmental displacement as an important or separate category to political/social factors will mean limited reliable data will be gathered regarding the influence of climate change on displacement. Furthermore, the sooner reliable data on the primary cause of displacement is collected, the sooner more accurate predictions of the number of people to be displaced due to environmental factors can be made. This in turn means more effective mitigation and adaptation strategies can be implemented at earlier stages.

In light of these considerations and based on the above review of the literature, a conceptualisation of environmental displacement has been made for use in the current research. Furthermore, the justification for using the term ‘environmentally displaced people’ has been formulated. Environmentally displaced people are conceptualised as those who are either temporarily or permanently displaced with the primary cause of displacement due to environmental factors, which may be either naturogenic or anthropogenic in nature. The most commonly identified environmental drivers include drought and land degradation, extreme weather events and natural disasters, sea level rise and coastal erosion, glacier melt and developmental projects.

Within this conceptualisation no differentiation is made between environmental factors which are naturogenic or anthropogenic due to the difficulty in isolating the cause of environmental events. For instance, it cannot be definitively known if one particular cyclone has occurred or is more severe as a direct result of anthropogenic climate change. Therefore, it would be erroneous and misguided to attempt to separate environmental events into two categories – naturogenic or anthropogenic. Not distinguishing between naturogenic and anthropogenic causes will have the added benefit of avoiding the political debate on the ‘truth’ of anthropogenic climate change.

Furthermore, it seems irrelevant to differentiate between these two categories. All individuals who are displaced due to environmental factors, regardless of whether those factors were anthropogenic, are in need of assistance.

Various issues were considered in determining that the term environmentally displaced people was the most appropriate, accurate and meaningful. First, the term 'Climate' and any of its derivatives (e.g. climate-induced) was not used as it only refers to those displaced as a result of anthropogenic climate change and ignores all persons who are displaced as a result of non-climate change factors, such as naturogenic environmental events as well as development projects. Those people displaced due to non-climate change related factors are still in need of assistance and protection. Furthermore, as identified previously there is no definitive way of knowing whether an environmental event has occurred due to climate change. Thus, the term 'Environmentally', as opposed to 'Climate', was deemed more appropriate as it encompasses all people who are in need of assistance and protection as a result of environmental factors, not just a sub-group of this category. Furthermore, it does not create the problematic issue of distinguishing between climate change and non-climate change related environmental events and also avoids the issues around the politicisation of climate change.

Second, the term refugee was deemed inappropriate as it is a legal term which applies to a very specific group of people who are displaced outside their own country and have a well-founded fear of being persecuted on the grounds of race, religion, nationality, membership of a particular social group or political opinion as outlined under the 1951 Convention (UNHCR, 2006). Thus, refugee implies a legal status of international protection which people who are displaced due to environmental factors cannot receive at this point in time. Furthermore, some researchers have proposed that using the term refugee will result in negative political and social responses, perpetuating the current global refugee crisis (Castles, 2002; Stavropoulou, 2008). The refugee crisis as well as the politicisation and socialisation of the term 'refugee' will be carefully examined in the following chapter.

Third, the term 'migrant' is not appropriate as there is often ambiguity around the definition of this term itself. Some define migrants as people who choose to leave their current place of living for 'personal convenience' such as relocating for better job opportunities or living conditions (IOM, 2011). Whereas, others conceptualise 'migrant' as referring to any person who has left their place of living regardless of whether it was forced or optional (IOM, 2011). Given the already contested nature of environmental displacement, it seems unwise to use another contested term in the definition of this group of displaced people. Furthermore, using a term such as migrant which can refer to people who voluntarily choose to leave their place of living may overlook the often-forceful

nature of environmental factors in human displacement. As a result of these considerations, the term environmentally displaced people was selected over and above other terms (e.g. climate refugees, climate-induced migrants, environmental migrants) as the most politically, socially and legally appropriate term.

1.2 The Prediction Conundrum: How Many People will be Environmentally Displaced?

There is great controversy over the effect environmental factors will have on human movement and displacement. This debate is fuelled by conflicting definitions, legal considerations and the diversity of methods used to determine the estimated number of people to be displaced. Predictions which estimate the number of people expected to be environmentally displaced vary considerably. Most scholars use 2050 as a timeframe for their predictions, with estimates of the number of people to be environmentally displaced by 2050 ranging between 25 million to one billion (Christian Aid, 2007; Gemenne, 2011; Naser, 2015). While this is a huge range, there does appear to be somewhat of a consensus that by 2050 there will be approximately 200 million environmentally displaced people globally (see Gemenne, 2011 for a review). However, these current estimates are fraught with flaws. These flaws are largely because making predictions about human displacement is extremely difficult on its own. It is very difficult to track human movement reliably, particularly as this movement usually occurs in poorer countries which have less resources and systems to capture such data. The added challenge of attempting to isolate environmental factors, which themselves are somewhat unpredictable, as the primary cause for displacement makes this task even more difficult. Furthermore, as there is no officially recognised definition for environmental displacement, the current estimates are working off different conceptualisations of what environmental displacement encompasses.

There are three main issues with predicting environmental displacement. First is the lack of a robust and consistent methodology. The methods which have been used to form predictions vary considerably, with no method appearing to be robust or adequate enough to produce an accurate estimate (Gemenne, 2011). The second issue with predicting the number of people to be environmentally displaced is the issue of multi-causality. As mentioned earlier in this chapter, it is very difficult to isolate environmental drivers of movement from social, political or economic drivers (Castles, 2002; Loneragan, 1998; Obokata, Veronis, & McLeman, 2014). As such, some authors have concluded it is almost impossible to isolate where environmental drivers are the primary cause of displacement (Loneragan, 1998). This makes accurately predicting the number of people to be environmentally displaced extremely challenging. The third challenge for predicting how many people will be environmentally displaced is the question as to whether people will be

internally (within their own country) or externally (outside their own country) displaced. This issue is also one which contributes to the difficulties of defining environmental displacement. However, whether displacement is internal or external is influenced by the specific context and a number of factors including education, land ownership, livelihood and the drivers of displacement (Obokata et al., 2014). Furthermore, it is possible that the increasing effects of climate change may make it more likely for external displacement to occur. Indeed, in cases such as small island states which are experiencing sea level rise, the prospects of internal displacement may become limited (McNamara, 2015; Moberg, 2008). As with most predictions of human movement, it cannot be definitively known whether people in vulnerable locations will be internally or externally displaced. This makes predicting environmental displacement very challenging and uncertain.

Regardless of the above identified challenges with making predictions, many authors agree that there is adequate evidence to suggest it is worth considering environmental displacement as a very real issue which deserves serious attention (Castles, 2002; Lonergan, 1998; Melde et al., 2017; Morinière & Hamza, 2012; Warner et al., 2009). Furthermore, while the multi-causal nature of human displacement means it is challenging to make accurate predictions for environmental displacement, this does not mean environmental displacement should be discounted or ignored. Even if the conservative predictions of the number of people to be environmentally displaced are accurate, adaptation and mitigation strategies which aim to reduce the impact of displacement on both those being displaced as well as host countries still need to be considered.

1.3 Culture and Power

Previous, often westernised, narratives around those at risk of environmental displacement have often framed these persons, groups of people or communities as passive, powerless agents who need assistance from other, more powerful western countries. For instance, language such as ‘victims’, ‘vulnerable’, ‘desperation’ and ‘little hope’ is common within the literature which discusses environmental displacement (Myers, 1993; Ramlogan, 1996; Ransan-Cooper, Farbotko, McNamara, Thornton, & Chevalier, 2015). Ransan-Cooper et al. (2015) reviewed the dialogue on environmental displacement and conducted a qualitative, interpretative analysis of the way in which environmental displacement is framed within academia, policy, the media and non-government organisations. Out of the four frames identified, ‘environmental migrants as victims’ was arguably the most prominent frame. According to their findings, the framing of environmentally displaced people as victims has been occurring since the initial discussions on this form of displacement in the 1980s.

Additionally, some scholars argue environmentally displaced people are represented as symbols of helplessness or as symbols of the climate change ‘crisis of nature’ (Farbotko & Lazrus, 2012; Ramlogan, 1996). The news reports and literature on Tuvalu and other Pacific island nations at risk from sea level rise provide strong examples of how those at risk of environmental displacement have been framed and symbolised as helpless and powerless victims who need the support or are at the mercy of the generosity of western, developed countries (Doherty, 2017; Farbotko, 2005; Farbotko & Lazrus, 2012; Ransan-Cooper et al., 2015).

The framing of environmentally displaced people as victims often aims to encourage humanitarian, legal or financial assistance as well as providing a sense of urgency in addressing this issue (Bettini, 2013; Ransan-Cooper et al., 2015). However, the representation of potential environmentally displaced people as passive and powerless victims is problematic for several reasons. The frame of environmentally displaced people as passive, powerless agents is often at odds with how the displaced people view their own experience, ability and adaptive capacity (Farbotko & Lazrus, 2012). These *victim* and *powerless* frames ignore the views, culture, adaptive capacity, agency and agenda of displaced people, and may even damage the ability of these populations to adapt to and overcome the challenges they face by damaging community resilience (Farbotko & Lazrus, 2012).

The reason the perspective of environmentally displaced people is often overlooked is because the people writing about their experience are from a western culture, one that is very different to that of those who may be facing environmental displacement. As such, the western frame often marginalises the views of those who are at risk of displacement by focusing on the western perspective, thus positioning the western perspective above the perspective of displaced people. Furthermore, these frames often disempower displaced people and remove their agency by stating their only hope is to receive assistance from other more powerful countries/agents (Farbotko & Lazrus, 2012; Ransan-Cooper et al., 2015).

To minimise negative framing of displaced people it is important to understand the culture and perspective of those at risk of displacement, which can aid in understanding how environmental displacement may affect them. For instance, for the Tuvaluan people and other Pacific Islanders, migration and movement is a part of everyday life. Movement within Pacific islands, as well as overseas is understood as a way to contribute and network with the collective community (Farbotko & Lazrus, 2012). However, while movement is not a new or threatening concept to the Tuvaluan people, this does not mean the potential permanent displacement from Tuvalu is insignificant. It simply suggests the Tuvaluans may have a strong adaptive capacity to relocate and not be helpless and powerless victims of climate change and sea level rise. The adaptive capacity of displaced

people is explored further in the following section. Specifically, displacement is explored as a possible adaptive response.

1.3.1 Framing displacement positively: Migration and displacement as adaptation.

Traditionally, migration has been viewed as a response which is separate to adaptation strategies, and has even been seen as a maladaptive response which leads to greater negative outcomes (Oliver-Smith, 2009; Warner, 2010). However, a conflicting view sees migration as a possible adaptation strategy to adverse events (Leyk, Runfola, Nawrotzki, Hunter, & Riosmena, 2017; Naser, 2015; Reuveny, 2007). Indeed, migration due to environmental factors has been a survival strategy used by various cultures and communities around the world (1996; Warner et al., 2009). In reality, the context and push factors for migration and displacement are what determine whether movement is an adaptive or maladaptive response (Warner, 2010). If no other adaptation responses are effective or appropriate, migration and displacement serve as an adaptive strategy to cope with environmental degradation. However, displacement occurring when other coping strategies are available could indicate a lack of adaptive capacity and an inability to adapt to the local environmental factors.

Framing environmental displacement as an adaption coping strategy may begin to change the dialogue on environmentally displaced people from being ‘victims’ to ‘active agents’. Ransan-Cooper et al. (2015) interpretive analysis found ‘environmental migrants as adaptive agents’ as another prominent frame in the environmental displacement literature. According to their analysis, this frame of environmental displacement is viewed as a positive solution to environmental degradation and sources which have this view focus on areas such as upskilling, remittances and resilience. When appropriate, framing environmental displacement as an adaptive, proactive response to environmental degradation may be one strategy to help empower displaced people to proactively adapt to environmental degradation. This may play one part in reducing the negative impacts of displacement.

However, it is important to note that environmental displacement and migration is not always the most adaptive response. In many instances, such as in Tuvalu, displacement of the entire community is viewed by the Tuvaluans as a last resort after other adaption strategies have been implemented. Placing too much focus on displacement as an adaptation response may take away from other adaption responses, and lead to premature and unnecessary displacement (Ransan-Cooper et al., 2015). Unnecessary displacement should be avoided, given that displacement is linked with various negative consequences. For many cultures, connection to land and place is very important and linked to cultural identity. Thus, displacement severs these ties and can have impacts

on social and cultural connectedness (C. B. Field et al., 2012; Ransan-Cooper et al., 2015). Furthermore, displaced communities often have difficulty entering and succeeding in the new labour market (Junankar & Mahuteau, 2005; Pedersen & Hartley, 2015), experience prejudice and discrimination from host country citizens and experience poor mental health outcomes (Stuber et al., 2008).

When considering displacement as an adaptation response, it should be examined in reference to the culture, views and potential outcomes of those who will be displaced. Any attempt to assist displaced people, whether it be through adaptation strategies or framing, will often be unsuccessful if it is not considered in the context of the culture and perspective of those being displaced. When referring to displaced people and when developing policy and strategies for managing environmental displacement, care needs to be taken to ensure people are not disempowered or marginalised, and that all mitigation and adaptation strategies are considered in the context in which displacement will occur.

1.3.2 Mind the gap: Disparities between developing and developed countries. Another important issue to consider when discussing environmental displacement and adaptation is the disparity between developed and developing countries. Adaptation strategies are likely to differ as a factor of how developed a country is, with richer countries mitigating environmental disruption by implementing technological and institutional redesign. In contrast, developing countries are less likely to have the resources for such mitigation strategies, which limits their adaptive capacity and makes migration and displacement a more likely outcome in the event of environmental disruption and degradation (Reuveny, 2007).

Underprivileged individuals, especially those in developing countries, are usually located in more hazardous areas (e.g. hill-sides, low-lying areas) as they have little choice in living location (Hunter, 2005; Warner et al., 2009). Furthermore, these individuals usually lack access to adaptive resources (e.g. finances, social connections) and often have pre-existing health issues, making them more likely to be vulnerable to adverse environmental factors and thus more likely to be displaced from their place of living in the event of environmental disruption (Biermann & Boas, 2010).

With climate change projected to increase environmental effects, it is expected that developing countries and underprivileged individuals, who contributed the least to causing the current climate change crisis, will experience the worst effects and experience the largest number of displaced people as a result of climate change (Biermann & Boas, 2010; Wilkinson et al., 2016). Furthermore, many of these displaced people will enter other developing countries, increasing financial, political and social pressures of the host countries (Cattaneo & Peri, 2016). Given that

richer countries have contributed the most to climate change, the burden of environmental displacement cannot be placed on developing countries, but should be shared internationally (Akter, 2009; Biermann & Boas, 2010; Warner et al., 2009). However, overcoming these disparities between developing and developed countries and equitably managing the adverse effects of climate change on human displacement has proven challenging (See Parks and Roberts (2006) for a full review).

1.4 Conclusion

Environmental displacement is a highly controversial topic. There is disagreement and uncertainty in terms of how to define and what to call environmental displacement and environmentally displaced people; what the current legal and governance situation is for environmental displacement and how this should be managed; how to predict the number of people to be environmentally displaced; the drivers of movement; and there is even great debate over how large of an impact environmental factors have on human movement. When discussing environmental displacement, cultural and power considerations also need to be considered. This chapter has discussed these issues in an attempt to provide an overview of the current context for environmental displacement and environmentally displaced people.

One factor which can have quite a significant impact on environmentally displaced people is the attitudes of host country governments and citizens. Negative views towards asylum seekers and refugees have been linked to poor mental and physical health outcomes, as well as how well the displaced people adapt to their new community (Correa-Velez et al., 2010; Esses et al., 2017; Kim, 2016). While there is very little research which explores host country attitudes towards environmentally displaced people, there is a lot of evidence which demonstrates how the government, media and public view asylum seekers and refugees in Australia. The following chapter explores Australia's position towards asylum seekers and refugees and discusses what this might mean for environmentally displaced people in Australia.

Chapter 2: Australian Views and Representations of Displaced People

“When [Australia’s former Immigration] Minister Morrison came here in October 2013 [...], he was just pointing his finger at us, saying, ‘Don’t ask questions, just listen – call to your country, call to your village, and just tell them not to come to Australia, Australia is closed!’ Then I realized we were not in processing – we were hostages.” (Afghan refugee on Nauru as reported in Amnesty International (2016b, p. 43))

The previous chapter examined the many contentious and difficult challenges faced by global governments and humanitarian organisations for assisting people who will be displaced as a result of environmental drivers. What was lacking in the previous chapter is a description of how environmentally displaced people are viewed by host country citizens. As yet there is limited research which explores this. Thus, to gain insights into how host countries view environmentally displaced people this chapter looks at how a host country, Australia, views individuals displaced by other drivers of movement, such as political or religious persecution. Before doing this it is first important to clearly understand the global context which surrounds asylum seekers and refugees.

There are certain legal and governance systems in place which aim to protect people displaced due to non-environmental drivers. These systems were briefly covered in the previous chapter. Here, more detail is provided on the protection provided to asylum seekers and refugees as well as the legal obligations of signatory countries. To reiterate, the primary protection for asylum seekers and refugees is the 1951 United Nations Convention relating to the Status of Refugees and the 1967 Protocol. Under the Refugee Convention and the 1967 Protocol displaced people have the right to seek asylum in the 145 signatory states or countries (UNHCR, 2006).

A major function of the 1951 Convention is to define the terms used to refer to displaced people – primarily asylum seeker and refugee. According to the convention a refugee is someone who does not wish to or cannot return to their country because they have a reasonable fear of being persecuted because of their race, religion, nationality, membership of a social group or political opinion. In contrast, an asylum seeker is someone who is seeking refugee status. Before being granted refugee status, people have the right to seek asylum. Often times this distinction between refugees and asylum seekers becomes blurred, with the different terms used interchangeably and incorrectly.

The Refugee Convention also stipulates the legal obligations of the 145 signatory countries which agreed to protect people who are displaced outside their own country, have a well-founded fear of being persecuted and who cannot receive the protection from or return to their own country

for fear of persecution. Under international law, the signatory countries cannot return displaced people to their home country where they may face serious threats to their life or freedom. Furthermore, displaced people cannot be punished for entering or staying in a country illegally. That is, people who are displaced and seeking asylum do not need to adhere to a country's normal immigration laws and can enter a country via any mode of transport. Furthermore, asylum seekers cannot be detained simply for seeking asylum. Last, refugees have certain rights within signatory countries, such as the right to access the courts, education, work and documentation (e.g. refugee travel document) (UNHCR, 2006).

With the past and recent levels of mass displacement, the 1951 Convention means the international community must find suitable shelter, food and resources for these displaced people. This issue of mass displacement and the rehoming of millions of people has created - sometimes unfounded - economic, social and security concerns for governments and host country citizens around the world. As a result, many countries have created more restrictive policies for the acceptance and resettlement of displaced people (Castles, 2002). This has resulted in a balancing act between attempting to meet the humanitarian and compassionate conditions set out in the Refugee Convention and managing the border control, social and economic challenges faced by each country (Canetti, Snider, Pedersen, & Hall, 2016).

Australia is one of the 145 signatory countries of the 1951 Refugee Convention. Within Australia, asylum seekers and refugees are a highly debated and divisive issue. Given the large political, media and public attention dedicated to addressing the asylum seeker and refugee challenges within Australia, it would be reasonable for members of the public to assume Australia receives large quantities of asylum applications. However, compared to the United States, Canada, the United Kingdom and most European countries, Australia receives very few applications per year – less than 2% of all applications in the industrialized world (UNHCR, 2010).

The remainder of this chapter aims to examine how asylum seekers and refugees are represented and perceived in Australia. The purpose of doing this is to gain insights into how Australians may view environmentally displaced people, which has not been investigated as yet. This chapter will look at Australian views from three different domains – the government, the media and the public domain. Many scholars argue these three domains interact with and influence each other, forming a somewhat reciprocal relationship (Burststein, 2003; Cooper et al., 2017; Herman & Chomsky, 1988; A. Schneider & Ingram, 1993). Indeed, numerous content analysis studies of the Australian political and media forums have demonstrated there is a symbiotic relationship between politics, media and public perceptions within Australia (Bleiker, Campbell,

Hutchison, & Nicholson, 2013; Leach, 2003; Lippi et al., 2017; McKay, Thomas, & Kneebone, 2012; McKay, Thomas, & Warwick Blood, 2011; Saxton, 2003; Zetter, 2007).

2.1 The Stance of the Australian Government

The debate and controversy around asylum seekers and refugees has been a prominent issue for many years in the Australian political arena. In 1977, the first major arrival of asylum seekers occurred. For several years Vietnamese people arrived by boat and applied for asylum (McKay et al., 2011). By 1995 over 100, 000 Vietnamese people were resettled in Australia (UNHCR, 2000). During this time public opinion on boat arrivals was predominantly negative, with focus being placed on the idea of ‘Asian invaders’ and the perceived threat these people posed to Australia (McKay et al., 2011). In 1989 other asylum seekers, mostly from China and Cambodia, began to arrive by boat. This again spurred fears of invasion and in 1992 the Australian government introduced mandatory detention for designated persons and denied judicial review of the detention (McKay et al., 2011; Pedersen & Hartley, 2015). At this time a limit of 273 days of detention was specified. However, this was removed in 1994 and mandatory detention was expanded to include all asylum seekers who arrived without a visa (AHRC, 2013). This mandatory detention implemented by the Australian government directly breaches international law as outlined in the 1951 Convention (AHRC, 2013; UNHCR, 2006). The use of institutionalized accommodation, such as detention centres, has been linked to significantly poorer mental health outcomes (Esses et al., 2017). The government’s policies for mandatory detention were followed with the introduction of more punitive policies which aimed to deter and punish those seeking asylum in Australia. In 1999, the Australian government introduced the Temporary Protection Visa. This visa only granted individuals refugee status for three years, after which their status was re-evaluated with no guarantee of permanency. Additionally, refugees under the Visa could not re-enter Australia if they left the country (AHRC, 2013; Pedersen & Hartley, 2015). While the 1951 Convention does not prohibit the use of temporary protection, it does recommend it is only used when necessary due to mass-displacement, something Australia has not experienced. The granting of temporary protection with the risk of being sent out of Australia every three years creates unstable and challenging conditions for refugees to live with (AHRC, 2013; Hartley & Fleay, 2014).

In the late 1990s Australia began, and has continued, to see the arrival of asylum seekers from Iraq, Afghanistan, Iran, Sri Lanka and Pakistan (McKay et al., 2011). In 2001, the Howard Government introduced the Pacific Solution. The Pacific Solution aimed to see asylum seekers sent to offshore mandatory detention centres on island nations within the Pacific Ocean, such as Nauru and Papua New Guinea. Asylum seekers were (and still are) detained for an indefinite period of

time while their claims for refugee status were determined (McKay et al., 2011). During this time asylum seekers were framed by both politicians and the media to pose a threat to Australian sovereignty and a threat to Australian security and way of life (McKay et al., 2011). False phrases such as ‘illegal asylum seekers’, ‘illegal refugees’ and ‘queue jumpers’ were introduced by prominent politicians and were recirculated by the media (Klocker & Dunn, 2003). This encouraged further negative views towards asylum seekers (Leach, 2003). These views were exacerbated by an incident where the government alleged asylum seekers had thrown their own children overboard. A senate inquiry later found these allegations untrue (Commonwealth of Australia, 2002), but in the meantime negative attitudes towards asylum seekers were strengthened and support for strict and punitive policies grew (Leach, 2003).

In 2007 the Labor Government was elected, which saw the introduction of more humane asylum seeker policies and the abolition of the Pacific Solution and Temporary Protection Visa. However, in 2009 there was an increase in the number of boat arrivals. In response to such arrivals the Labor Government reverted back to offshore detention centres and sent asylum seekers to Christmas Island for processing (McKay et al., 2011; Pedersen & Hartley, 2015). Since then policies regarding Australian asylum seekers have become progressively more punitive. The Australian government has introduced Operation Sovereign Borders which is a militarized approach to apprehend and prevent the arrival of boats containing asylum seekers. Furthermore, the Australian government has made particularly restrictive policies which apply only to asylum seekers who arrive by boat – a perfectly legal way to seek asylum (Hartley & Fleay, 2014; Pedersen & Hartley, 2015).

The position and policies of the Australian government have been criticized by the international community for violating human rights and breaching the Refugee Convention (Amnesty International, 2016a; AHRC, 2013; Human Rights Watch, 2015). For instance, Amnesty International (2016a) reported that refugees and asylum seekers located in the Australian detention centre on Nauru suffer severe abuse, inhumane treatment and neglect from health workers and other service providers. The Australian policies on asylum seekers and refugees have also been criticised for deliberately dehumanising and ‘othering’ asylum seekers and refugees (Bleiker et al., 2013; Leach, 2003; Saxton, 2003). The dehumanisation and ‘othering’ of asylum seekers and refugees has been identified to achieve two outcomes. First, by dehumanising asylum seekers, people are less empathetic towards them and therefore may be more supportive of harsher policies (Bleiker et al. 2013). Second, by framing asylum seekers as the ‘other’ and different to ‘us’ asylum seekers are posed as a qualitatively different group that holds values that are different to one’s own. Thus, this

group is perceived to pose a threat to Australian security, values and way of life (Leach, 2003; Lippi et al., 2017).

In addition to restrictive and punitive policies the government, often supported by the media, has continued to frame asylum seekers as a threat to Australia (Pedersen & Hartley, 2015). Boat arrivals, while perfectly legal according to international law, are framed as a threat to border protection and Australian security (Lippi et al., 2017). Those who seek asylum by boat are referred to as ‘illegal’ and ‘criminals’. Asylum seekers are also claimed to be opportunistic economic migrants who wish to exploit Australia (Bleiker et al., 2013; Canetti et al., 2016; Lippi et al., 2017). A further example of this can be seen in an advertisement released by The Department of Home Affairs which focusses on themes of border protection, threats and suspicious behaviour against people arriving on Australian shores by boat (Department of Home Affairs, 2017). Such government framing of asylum seekers as a threat appears to justify the use of extreme policies as a way of protecting Australia from invasion of ‘others’ who do not respect Australian laws and way of life (Klocker & Dunn, 2003; Lippi et al., 2017; Saxton, 2003).

Overall, the underlining theme in the Australian governments approach to the asylum seeker and refugee issue seems to be one of portraying asylum seekers as a threat to Australia which requires military intervention (Lippi et al., 2017; Pedersen & Hartley, 2015). To justify such an approach, asylum seekers are depicted as a dehumanized mass of ‘others’ who are undeserving of help (Bleiker et al. 2013; Leach, 2003). Furthermore, the threat theme used by the Australian government appears to have been adopted and perpetuated by the Australian media. This in turn provides support and further justification for the government’s stance.

2.2 The Role of Media

As with the Australian government, the predominant frame in the media is negative. Asylum seekers and refugees are represented as ‘illegals’ or ‘criminals’ and are described as posing a threat to Australian security and way of life. This frame has been present for many years, with various discourse analyses showing similar results of media reporting over different time-frames (Bleiker et al., 2013; Klocker & Dunn, 2003; Lippi et al., 2017; McKay et al., 2011). Before continuing, it is important to note that there is some positive framing in the media (Lippi et al., 2017). However, discourse analyses have found that when this occurs asylum seekers and refugees are often positioned as passive victims with terminology such as ‘oppressed’, ‘wretched’ and ‘miserable’ being featured (Klocker & Dunn, 2003). It is also interesting to note that only 12% of media articles made reference to the contextual push factors of displacement (Klocker & Dunn, 2003). Not understanding the context of why people are seeking asylum in Australia can limit

empathetic and compassionate responding to their situation and makes it easier for asylum seekers to be framed in a negative light.

McKay et al. (2011) conducted a discourse analysis of the media reporting on the SIEV 36 incident as well as the public's response to the media. The SIEV (Suspected Illegal (changed to Irregular) Entry Vessel) 36 was a boat carrying 49 asylum seekers towards the north coast of Australia in April of 2009. On the 16th of April, 2009 the SIEV 36 exploded, killing five people and injuring 40 (Department of Defence, 2009). The media reporting and public debate around this issue was extensive. McKay et al.'s (2011) findings indicate that while there was an attempt to have balanced reporting, the asylum seekers aboard the SIEV 36 were predominantly framed as exploitative, hostile and un-Australian for not entering through the 'proper' channels. Very little focus was given to the tragic nature of the event or the loss of human life.

Lippi et al. (2017) also conducted a discourse analysis of the print news media. This analysis was conducted on articles printed immediately before and after the 2013 federal election, where asylum seekers and refugees were a core issue for the election. Similarly to McKay et al. (2011), their analysis found a predominant theme of asylum seekers as a threat to Australia which requires military intervention and a securitized response. However, in contrast to McKay et al. (2011), Lippi et al. (2017) found a different dominant frame. In some instances, asylum seekers were represented as victims. As with other dominant frames, this frame again sees asylum seekers as a group that requires help and management by the Australian government. Lippi et al. (2017) argues this framing positions the asylum seeker issue as one in need of controlling by the Australian government. Many authors have argued such frames are used as a justification for the Australian government's restrictive, exclusionary, inhumane and punitive policies (Klocker & Dunn, 2003; Lippi et al., 2017; Saxton, 2003; Zetter, 2007).

The images used in media reporting and how they may influence the framing of asylum seekers and refugees are also interesting to consider. Bleiker et al. (2013) conducted a content analysis of the front page of newspapers in order to examine how asylum seekers have been represented through imagery in the Australian media. Bleiker et al. (2013) were particularly interested in whether asylum seekers were portrayed as identifiable individuals or large anonymous groups. This was of interest as empathetic and compassionate responding is more likely when images show the facial expressions and emotions of individual victims (Höijer, 2004; Moeller, 1999; Small & Loewenstein, 2003). Conversely, images of large un-identifiable groups are less likely to evoke a compassionate response and results in the dehumanization of that group (Bleiker et al., 2013). Bleiker et al.'s (2013) content analysis found that imagery in the Australian media were predominantly of unidentifiable medium to large groups and boats. Forty seven percent and 19% of

the images of asylum seekers were of medium and large groups respectively, with only 6% of images containing individuals. Furthermore, in 46% of the images there were no visible features of the asylum seekers faces and in 30% there was mixed visibility. Only 2% of images showed visible features of individuals. Bleiker et al. (2013) argues the images used do not depict people who need help, but rather show a dehumanized, faceless mass – a political and security issue in need of management, rather than a humanitarian crisis. The images used in the media are thus unlikely to elicit empathetic and compassionate responding.

Images do appear to play a core role in framing asylum seekers. Indeed, the government has instigated policies which regulate what images can and cannot be shown to the public. In 2011, a media policy was introduced which controlled journalists' access to asylum seekers and restricted journalist from showing images of asylum seeker faces (Bleiker et al., 2013; Taylor, 2012). Of course, there are privacy and safety reasons for such measures. For instance, protecting the asylum seekers and their families from retaliation at home as well as protecting their privacy within Australia. However, Bleiker et al. (2013) argues while the privacy and safety of these individuals needs to be ensured, such extreme control of images is not necessary. Bleiker et al. (2013) suggests it should be up to the individual whether they want their image taken and publicly shown, which is currently the case for all other Australians but is not possible for asylum seekers.

Furthermore, when the asylum seeker policies on imagery and journalism are considered in the context of other government directives, it appears there may be more alarming reasons for wanting to control the images taken. More specifically, a senate inquiry found that after the Tampa incident, the Minister of Defence gave specific instructions to not personalize or humanize asylum seekers [refugees] in images (Commonwealth of Australia, 2002). The inquiry committee found that one of the objectives of the public affairs plan after the Tampa incident was to “ensure that no imagery that could conceivably garner sympathy or cause misgivings about the aggressive new border protection regime would find its way into the public domain” (Commonwealth of Australia, 2002, p. 25). Furthermore, the committee concluded that there was deliberate manipulation by the Defence Minister and his office to control information and imagery which supported the government's electoral objectives. The committee stated:

Such preparedness to manipulate the factual record would be abhorrent and inimical to good governance at any time. That it occurred during the caretaker period of an election campaign, in which issues relating to ‘border protection’ were extremely significant, is inexcusable. (Commonwealth of Australia, 2002, p. 25)

The conclusions made by the Senate Inquiry indicate Australian government officials attempted to deliberately manipulate and control images and information in the media. It would appear the purpose of deliberately manipulating and controlling images is to support and justify the governments' hard-line and inhumane policies and to further control the public narrative on asylum seekers. Such control of images ensures that the frame of threat and securitization is consistent and maintained.

2.3 Views and Attitudes of the Australian Public

The Australian public's views tend to fall somewhere along a spectrum of negative and positive feelings towards asylum seekers and refugees and the Australian policies on this issue. There are those who fight for the rights and dignity of asylum seekers and refugees (Asylum Seeker Resource Centre, 2018). However, there are also those who hold similar views as that expressed by the government and media (Newspoll & The Australian, 2002, 2004, 2009). Given the media is the public's main source of information regarding asylum seekers and refugees, it makes sense some people would hold views which align with the media (Lippi et al., 2017; Plous, 2003). Plous (2003) argues the media exposes individuals to group stereotypes. While each exposure to group stereotypes via the media is relatively short lived, each activation of stereotypes reinforces stereotypic thinking and increases the ease of stereotype reactivation (Kunda, Davies, Adams, & Spencer, 2002; W. G. Stephan & Stephan, 1996b). Thus, Plous (2003) concluded the cumulative effect of media supported stereotypes can be powerful over time, even though a single exposure seems harmless. Additionally, Matthes and Schmuck (2015) have found that right-wing political advertising of immigrants in Europe strengthens stereotypical beliefs and feelings of intergroup anxiety. These increases were then associated with greater negative attitudes about immigration levels in the country. Furthermore, Murray and Marx (2013) investigated how the use of the term 'unauthorised migrants' affected public attitudes in the United States. They found the use of the term 'unauthorised' was linked with greater prejudice, threat perceptions and intergroup anxiety towards unauthorised migrants. As such, Murray and Marx (2013) findings would suggest the Australian government and media using similar terms, such as 'illegal', will increase the public's prejudicial attitudes, threat perceptions and level of anxiety towards refugees and asylum seekers.

Similarly, Zetter (2007) suggests the constant negative framing of refugees has politicised the term 'refugee' and negatively impacted upon the meaning held within this term. Rather than the official and legal definition for refugee, the social meaning of this term now appears to incorporate themes of illegality, threat and refugees as an inferior group that is different to ourselves (Lippi et al., 2017; Zetter, 2007). Some terms used to refer to environmentally displaced people use the word

‘refugee’ (e.g. environmental refugee). When considering Zetter’s (2007) findings, using the term ‘refugee’ when referring to environmentally displaced people may have negative impacts on attitudes towards environmentally displaced people.

Together, this research suggests the negative framing in Australian media and government forums, particularly the advertisements used by the government (Department of Home Affairs, 2017), will likely increase negative attitudes towards asylum seekers and refugees amongst the Australian public. While it is important to identify that not all Australians’ attitudes are negative, a large amount of research in this area has concluded Australian views towards asylum seekers and refugees are predominantly negative. Furthermore, these negative views appear to have been sustained for an extended period of time (Betts, 2001; Markus & Dharmalingam, 2017).

For instance, The Australian newspaper, Newspoll, has shown a consistent trend of negative attitudes towards asylum seekers and support for harsh asylum seeker policies by those surveyed (Newspoll & The Australian, 2002, 2004, 2009). Table 2 and 3 provide a summary of Newspoll data related to asylum seeker issues from 2001 to 2009. Table 2 indicates that from 2001-2004 there was a large proportion (35%-50%) of people who thought all boats with asylum seekers should be turned away. Only between 8 to 10% of people thought all boats should be allowed to enter Australia. This is a very small percentage of people given that seeking asylum by boat is recognized as a legitimate way to seek asylum by international law (UNHCR, 2006). Table 3 indicates relatively strong support for the actions taken and policies made by the federal government on the asylum seeker issue. Of particular interest is in 2009, 46% of the people in the poll thought the government was being ‘too soft’ on asylum seekers. This is concerning considering the international community considers the actions and policies of the Australian government are harsh, inhumane and in breach of international law (Amnesty International, 2016a; AHRC, 2013). However, it is important to note that the wording of the questions in many of the polls were either incorrect or biased. For instance, the wording of one poll was “Thinking now about asylum seekers or refugees trying to enter Australia illegally...” (Newspoll & The Australian, 2004, p. 1). This statement is incorrect as seeking asylum by boat is not illegal. Furthermore, this statement negatively frames asylum seekers and refugees as being ‘illegals’ which will likely bias the respondents to have more negative responses. Such statements perpetuate false beliefs on this issue and may contribute to the reported negative views. The issue of false beliefs about asylum seekers and refugees in the Australian public and media will be discussed further below.

Table 2: *Percentages of the Australian public's views towards asylum seeker boat arrivals as obtained by Newspoll and The Australian (2009).*

Issue	Time period of poll			
	Sept 2001	Oct 2001	Aug/Sept 2002	Aug 2004
Turn back ALL boats carrying asylum seekers	50%	56%	48%	35%
Allow some boats to enter depending on circumstances	38%	33%	38%	47%
Allow all boats to enter	9%	8%	10%	10%
Uncommitted	3%	3%	4%	4%

Note: All polls were of 1200 adults aged 18 years or older. Participants were randomly selected from all states and lived in both city and country regions.

More recently, Blair, Dunn, Kamp, and Alam (2017) and Markus and Dharmalingam (2014, 2017) have conducted extensive national surveys on issues such as racism and social cohesion within Australia. Blair et al.'s (2017) research was conducted in 2015 and 2016. The sample collected for this research consisted of 6, 001 Australian residents located throughout the country. Of the participants, 80% held the view it is good for society to be culturally diverse. However, when considering whether cultural diversity was a threat to Australian nationhood a different story emerged. Almost half (49%) of the participants showed support for assimilation and thought people from ethnic, racial, cultural and religious minority groups should behave more like mainstream Australians. Furthermore, 23% of the participants indicated some migrant groups do not belong or are not welcome in Australia, and 21% believed African refugees increase crime in Australia. When the participants were asked directly if they were prejudiced against other cultures, 11% self-identified as racist. Blair et al. (2017) recognized this group as the 'hard-core' racists in Australia.

Table 3: *Percentages of the Australian public's views towards the federal government's management of asylum seekers as obtained by Newspoll and The Australian (2002, 2004).*

Issue	Time period of poll			
	Feb 2002	Aug 2004	April 2009	Nov 2009
Support ALL asylum seekers being held in detention centres	56%			
Support for adult males ONLY being held in detention centres	19%			
Support for Howard Governments actions during the 2001 Tampa incident		35%		
Think the federal government is doing a good job managing the asylum seeker issue			37%	31%
Think the federal government is doing a bad job managing the asylum seeker issue			40%	53%
The federal government are being TOO HARD on asylum seekers				16%
The federal government are being TOO SOFT on asylum seekers				46%

Note: All polls were of 1200 adults aged 18 years or older. Participants were randomly selected from all states and lived in both city and country regions.

The Scanlon Foundation Social Cohesion research program provides a series of survey data focusing on social cohesion, immigration and population issues. Certain findings from the 2014 and 2017 reports are described here (Markus & Dharmalingam, 2014, 2017). There were 2,596 and 2,702 Australian residents who responded to the survey for 2014 and 2017 respectively. Where possible, stratified random sampling was used for these surveys to obtain a representative sample. In the 2014 report 54% of people indicated they thought the federal government was taking the right approach or was 'too soft' on asylum seekers, while only 27% thought the federal government was

‘too tough’. Of twelve federal government decisions, turning back asylum seeker boats was the most popular, with 61% approval for this policy. In regards to asylum seeker residency in Australia, 24% of the participants favoured permanent residency, 30% favoured temporary residency, 31% favoured turning asylum seekers back and 10% favoured detention and deportation. These findings indicate that only a quarter of the sample agreed with allowing asylum seekers to permanently reside in the country. Within the 2017 the highest level of disagreement towards the statement ‘accepting immigrants from many different countries makes Australia stronger’ was recorded. Of the sample, 16% disagreed with this statement while 13% strongly disagreed.

Finally, it does appear there are certain individual demographic factors which are linked with greater negative attitudes towards asylum seekers and refugees. Various studies have found that men, people who are older, people with a non-tertiary education, those with more conservative or right-wing political views, people of lower socio-economic status and people with high levels of national identity are more likely to hold negative perceptions towards asylum seekers and refugees (Blair et al., 2017; Canetti et al., 2016; Markus & Dharmalingam, 2014, 2017; McKay et al., 2012; Pedersen, Attwell, & Heveli, 2005; Schweitzer, Perikoulidis, Krome, Ludlow, & Ryan, 2005). These findings provide a profile of the type of person who may hold negative attitudes and could provide a starting point on targeting certain groups when aiming to improve attitudes.

2.4 Why does it matter what Australians think?

Host country attitudes towards displaced people can have a significant impact on the lives of displaced people in a number of different ways. Hence, understanding what the attitudes are and the drivers behind such attitudes is important for improving relations between host country citizens and displaced people as well as mitigating the adverse effects of negative attitudes. It is particularly pertinent to understand host country attitudes given the influence such attitudes can have on the physical and mental health and wellbeing of displaced people (Correa-Velez et al., 2010; Kim, 2016; Stuber et al., 2008). Displaced people already face an array of challenges, losses and changes which are linked to adverse impacts on their mental and physical health (Esses et al., 2017). Negative prejudicial attitudes of host country citizens is an added dimension to an already difficult experience. Indeed, Kim (2016) found everyday discrimination was significantly associated with Latino and Asian refugee mental health outcomes. Furthermore, Correa-Velez et al. (2010) found perceptions of discrimination and bullying to be important indicators of belonging, which is associated with wellbeing outcomes. This research highlights that understanding attitudes towards environmentally displaced people is fundamental in order to foresee and mitigate such potential adverse health impacts.

In addition to affecting physical and mental health, the attitudes of host country citizens towards displaced people has been found to have impacts on acculturation and/or integration outcomes (see Esses et al., 2017 for a review). Specifically, if displaced people are perceived positively they are more likely to be positively integrated into the host community. In contrast, if displaced people are perceived negatively, they are more likely to be segregated and assimilated (rather than integrated) into the host country community (Esses et al., 2017; Florack et al., 2003). Furthermore, it appears the perceptions held by the host community can influence not only how the host community citizens respond to displaced people, but also how displaced people respond to the host community (Esses et al., 2017).

Perceptions of threat have also been found to influence acculturation and/or integration outcomes and how people are received into society. Florack et al. (2003) found that high perceptions of threat led to views of exclusion (displaced people should leave the host country) by the host community. Moderate threat perception levels were associated with assimilation (displaced people should become more like us) and segregation (displaced people should be kept separate to us) views, whereas integration (interacting with and accepting displaced people and their culture) of displaced people was endorsed when there were low threat perceptions. From these findings Florack et al. (2003) suggested that the information received while forming acculturation attitudes is critical. Specifically, Florack et al. (2003) argue the information presented in the media plays an important role in forming acculturation attitudes, and that positive framing in media can have positive effects on how displaced people are received and incorporated into the host country society. Conversely then, it can be deduced that negative media framing will have similar negative effects. As outlined earlier in this chapter, the Australian media and government have framed asylum seekers and refugees to pose a threat to Australian society. This aligns with Florack et al.'s (2003) conclusions as to why there are such strong exclusion, segregation and assimilation views amongst the Australian public towards asylum seekers and refugees. Such conclusions highlight the importance of host country attitudes on the experience of displaced people within the host country and community. As such, understanding attitudes towards environmentally displaced people, particularly threat perceptions, can provide important insights into whether environmentally displaced people will be integrated, segregated, assimilated or excluded from Australian society.

In addition to Florack et al.'s (2003) findings, Canetti-Nisim, Ariely, and Halperin (2008) also found threat perceptions toward different groups are related to exclusionary attitudes. Particularly important for the current research, Canetti-Nisim et al. (2008) found perceived threats to security to be a much stronger predictor of negative exclusionary attitudes towards an out-group than other forms of threat. Considering asylum seekers and refugees are strongly framed as a

security threat to Australia, these findings are particularly relevant to the Australian context and again demonstrate the importance of understanding Australian attitudes towards environmentally displaced people. The findings that threat perceptions of host country citizens influence how displaced people are received by the host country is particularly important for the current project. As examined in this chapter, threat perceptions are central to how Australians represent and think about refugees and asylum seekers. This is seen within government policies and dialogue, in media reporting and is reflected in the attitudes and views of Australian citizens.

Another reason it is important to understand the attitudes of host country citizens is because such attitudes can influence policy decisions. Numerous content analysis studies of the Australian political and media discourses have demonstrated politics, media and public perceptions within Australia interact and influence each other (Bleiker et al., 2013; Leach, 2003; Lippi et al., 2017; McKay et al., 2012; McKay et al., 2011; Saxton, 2003; Zetter, 2007). These findings are not unique to Australian public and social domains. Cooper et al. (2017) outline the reciprocal influences which often exist between governments, the media and the public. The authors assert that the media can select the information presented to the public and influence the interpretations the public make regarding certain issues. Public opinion can in turn influence policy decisions. Burstein (2003) reviewed the effect sizes of 30 studies which investigated the impact public opinion has on public policy. Not surprisingly, Burstein's (2003) findings confirmed public opinion can influence policy. Burstein (2003) suggested the impact of public opinion on policy is stronger when the issue under consideration is highly salient. For example, the gay rights movement was a highly salient issue within Australia which had strong public engagement and debate. As such, and in line with Burstein's (2003) hypotheses, policy decisions in this area were strongly influenced by public opinion. As human displacement is also a highly salient issue within Australia (Bleiker et al., 2013), Burstein's (2003) findings would suggest that public opinion would substantially influence the development of Australia's asylum seeker and refugee policies. Likewise, it is also likely attitudes towards environmentally displaced people will have an influence on policy development in this area. Thus, if public views towards environmentally displaced people are negative, policy decisions may also lean in this direction.

Ultimately, it is important to understand what Australians think about displaced people in order for any attempt to be made to change such attitudes. In the case of displaced people, attitude change may help minimise the above discussed adverse impacts. Such reduction of adverse impacts can have direct and substantial effects on the quality of life for those who have had to leave their homes because it was unsafe or near impossible to stay. It is first crucial to understand what those attitudes are before intervention strategies which change attitudes can be implemented.

2.5 What does this mean for Environmentally Displaced People?

Currently, it is unknown how host countries citizens, and particularly Australians, view environmentally displaced people. However, the above discussion can provide some insight on this issue. Given environmentally displaced people are similar to asylum seekers and refugees in that they are displaced from their own country and are seeking resettlement in Australia, it is likely Australian attitudes towards environmentally displaced people will at least partially mirror attitudes towards asylum seekers and refugees. This is concerning given the negative attitudes currently held towards asylum seekers and refugees. If this is the case, it may be that environmentally displaced people experience prejudice and discrimination, which may influence their mental and physical health, settlement into the country and policy decisions (Burstein, 2003; Esses et al., 2017; Florack et al., 2003; Kim, 2016).

However, while there are a number of similarities between environmentally displaced people and asylum seekers and refugees, there are also a number of important differences. First, environmentally displaced people are displaced because of environmental factors, which are exacerbated by anthropogenic climate change largely caused by developed countries (Naser, 2015; Reuveny, 2007). Thus, it could be argued that there is a moral obligation for developed countries, such as Australia, to assist those displaced because of a problem developed countries have contributed to. Second, there is often a perception that people displaced because of war or persecution should ‘stay and fight for their country’ (Suriyaarachchi, 2016). However, this is not an option for those experiencing environmental challenges as humans have very little control over the climate and environment. Thus, people may be more lenient towards environmentally displaced people and place the blame for displacement on the situation, rather than on the individual. Third, the most likely locations Australia is expected to receive environmentally displaced people from are Pacific island nations. Australia is part of the Pacific and many Australians are quite familiar with the Pacific islands. In fact, Australia is often referred to as a ‘big brother’ to other Pacific nations (Cochrane, 2015; O'Malley, 2014). Thus, some individuals may consider Pacific islanders to be a part of their own group. This may reduce Australian threat perceptions towards environmentally displaced people, particularly if the displaced people are from Pacific regions.

Overall, this chapter has examined how Australians may view environmentally displaced people. If Australians view environmentally displaced people the same way as asylum seekers and refugees it is likely there will be social and political division on this issue. However, environmentally displaced people and refugees and asylum seekers are not entirely the same. Thus, Australians may view environmentally displaced people differently. To really understand how

environmentally displaced people are viewed by Australians, research is needed which investigates this directly.

2.6 Conclusion

This chapter has looked at the stance of the Australian government, the role of media and the Australian public's attitudes towards asylum seekers and refugees. In all these domains the representation of and views towards asylum seekers and refugees predominantly focuses on ideas of national security, border protection and the threat asylum seekers and refugees pose to Australia and the Australian way of life. It appears that within Australia attitudes towards asylum seekers and refugees are strongly linked with perceptions of threat. As demonstrated, themes that focus on threats to Australian security and way of life are apparent at the government, media, and public levels. Considering the strong focus that is given to asylum seekers and refugees as a threat to Australia, it is not surprising that public perception towards this group is often negative and hostile. Indeed, theories such as the Integrated Threat Theory have long postulated that perceiving a group which is different to one's own as posing a threat will lead to prejudicial attitudes and discriminatory behaviours towards this group (Murray & Marx, 2013; Schlueter, Schmidt, & Wagner, 2008; Schweitzer et al., 2005). The rationale of the Integrated Threat Theory identifies threat perceptions as the central reason for prejudicial attitudes and discriminatory behaviour. Given that asylum seekers and refugees are perceived as posing a threat in Australia, the Integrated Threat Theory was selected as the framework to understand attitudes towards environmentally displaced people. The following chapter provides a broad overview of the assumptions and theories which led to the development of the Integrated Threat Theory. The following chapter also provides a detailed description and discussion of the theoretical underpinnings and research evidence for the Integrated Threat Theory.

Chapter 3: Delving into Intergroup Derogation, Prejudice and Discrimination - An Integrated Threat Theory Approach

“A psychological theory of intergroup relations must provide a two-way link between situations and behaviour, and it can do this through an analysis of the motivational and the cognitive structures which intervene between the two” (Tajfel, 1969, p. 174)

The study of intergroup relations is very broad and there is a large array of literature in this field. The aim of this chapter is to first provide a broad overview of some major assumptions, theories and concepts used for explaining intergroup derogation, prejudice and discrimination. This overview will then lead into an exploration of the theory used to frame this project - the Integrated Threat Theory. The Integrated Threat Theory is based on many of the early approaches for studying intergroup relations and considers intergroup threat perceptions play a crucial role in developing prejudicial attitudes and discriminatory behaviour. Before discussing the Integrated Threat Theory, it is first important to look at the theories and literature it was based on.

3.1 A Broad Overview of the Intergroup Relations Literature

Individuals tend to place themselves and others into certain social categories or groups based on defining characteristics (e.g. race, gender, sexual orientation) (Plous, 2003; Tajfel & Turner, 1986). The social categorisation of people results in in-groups and out-groups. Those who are in the group to which the individual belongs can be labelled the ‘in-group’, while those who are not in that group are labelled the ‘out-group’ (Madera, 2017; Plous, 2003). These groups are not mutually exclusive or rigid. While an individual can perceive others as part of the in-group, these same individuals can also be perceived as part of the out-group if categorised on a different characteristic. For instance, a young female may consider an older female to be a member of the out-group when the defining characteristic is age. However, if the defining characteristic is gender, the younger female may perceive the older female as part of the in-group.

The above described tendency of humans to group themselves based on defining characteristics has long been considered the product of normal cognitive processes (Allport, 1954; Plous, 2003; D. J. Schneider, 2004). Allport (1954) was one of the first theorists to identify that social grouping is based on the normal automatic process of categorisation. Allport (1954) argued the formation of categories is essential for day to day functioning, and prejudice is a product of social categorisation. Similarly, D. J. Schneider (2004) suggests that both prejudice and discrimination are also products of normal automatic cognitive and behavioural processes.

Intergroup prejudice and discrimination can be broadly understood as negative attitudes and behaviours which are directed towards different groups of people (Allport, 1954; Plous, 2003). Many theorists still conceptualise prejudice along the same lines as Allports' (1954) original definition of prejudice. Allport (1954) defined prejudice as a negative appraisal of a target group which is based on both affective and cognitive evaluations about that group (Allport, 1954). More specifically, Allport (1954) hypothesised prejudice is based upon negative emotions towards a different group (affective evaluation) and inaccurate beliefs or stereotypes about that group (cognitive evaluation) (Allport, 1954; Quillian, 2006). Intergroup discrimination is then usually considered the behavioural outcomes of such negative evaluations which result in disadvantaging and unfairly treating people because of their group membership (Plous, 2003; W. G. Stephan, Stephan, & Gudykunst, 1999). Discrimination can occur on a personal level between individuals (e.g. a manager giving an employee poor performance reviews because of their group membership), or at an institutional and systematic level such as organisational and government policies (e.g. the White Australia Policy) (Plous, 2003).

The occurrence of such prejudice and discrimination has been shown to negatively impact the targeted out-group. More specifically, prejudice and discrimination have been shown to have negative impacts on physical and mental health (Kim, 2016; Stuber et al., 2008), educational outcomes (Steele & Aronson, 1995) as well as group integration, acculturation or assimilation outcomes for out-group members (Esses et al., 2017; Florack et al., 2003). When these health, educational and social adverse impacts affect groups, particularly disadvantaged and marginalised groups, investigating the root causes for poor intergroup relations becomes important. There are numerous theoretical approaches and models for understanding and explaining intergroup derogation, prejudice and discrimination. While these theories and models all attempt to explain the same phenomena, they have substantial variation in their approach to explaining why negative intergroup relations occur. For instance, some theorists argue for a distinction between classical and modern prejudice (McConahay, Hardee, & Batts, 1981; Sears, 1988; Swim, Aikin, Hall, & Hunter, 1995). These authors contend classical, or traditional, prejudice is more overt and openly hostile. This form of prejudice is characterised by individuals unashamedly expressing their prejudiced views. In contrast, modern prejudice is conceptualised as being more covert and subtle. This form of prejudice is characterised by the denial that discrimination of minority groups still occurs, resentment towards minority groups getting distinct attention and antipathy towards minority demands (Akrami, Ekehammar, & Araya, 2000; Pedersen, Attwell, et al., 2005; Sears, 1988).

It has been suggested that the modern form of prejudice emerged as an outcome of the civil rights movement which resulted in overt prejudice being seen as socially undesirable and political

correctness and acceptance being seen as desirable (McConahay et al., 1981). As would be expected, the classical and modern forms of prejudice have been shown to be consistently highly correlated. Regardless, researchers have found them to be distinct constructs (Akrami et al., 2000; Akrami, Ekehammar, Claesson, & Sonnander, 2006). It is important to note that the modern prejudice construct is now over 25 years old and researchers in this area are beginning to doubt the usefulness and simplicity of such a distinction (Pedersen, Attwell, et al., 2005).

While the classical and modern conceptualisations of prejudice may be useful when looking at changes in prejudice over time as well as the way in which prejudice is expressed, these approaches do little for explaining the causes of intergroup derogation, prejudice and discrimination. Outside the classical and modern framework there are numerous approaches which do attempt to explain the cause of poor intergroup relations. These tend to fall into two broad categories. There are the approaches that focus on the characteristics that are specific to the individual (e.g. personality), or those that focus on the characteristics that are specific to the group (e.g. social norms).

Some scholars within the individual approach have suggested that prejudice is a personality trait, rather than an attitude or perception (Allport, 1954; Ekehammar, Akrami, Gylje, & Zakrisson, 2004). This idea can be linked to the concept of generalised prejudice, which is the tendency to reject and respond negatively towards any out-group (Allport, 1954). More specifically, Allport (1954) asserted that someone who is anti-Semitic is also likely to be against all other out-groups, such as Catholics or people of a different race. Studies have suggested this is the case and found that people who are prejudiced against one group tend to be prejudiced towards all groups (Bierly, 1985; Ekehammar & Akrami, 2003). In line with this personality approach, Ekehammar and colleagues have looked at the role of the Big Five personality traits for predicting prejudice (Ekehammar & Akrami, 2003, 2007; Ekehammar et al., 2004). Generally they found that two of the five factors, Openness to Experiences and Agreeableness, were strongly related with prejudice. That is, people who were low on Openness and Agreeableness were more likely to hold prejudicial attitudes towards out-groups (Ekehammar & Akrami, 2003; Ekehammar et al., 2004).

Other individual factors which have been found to contribute to prejudicial attitudes are an individual's social dominance orientation and right-wing authoritarianism. Social dominance orientation refers to an individual's tendency to endorse societies/relationships which are grounded in group-based social hierarchies (Sidanius & Pratto, 1999). It has been shown that individuals who endorse hierarchical structures tend to hold more prejudicial attitudes towards lower status groups compared to individuals who endorse more egalitarian social structures (Esses, Jackson, & Armstrong, 1998; Levin, Federico, Sidanius, & Rabinowitz, 2002). In contrast, right-wing

authoritarianism refers to an individual's tendency to support right-wing authority and conventional norms and values (Altemeyer, 1998; Rattazzi, Bobbio, & Canova, 2007; Whitley, 1999). Hence, people with high authoritarianism are resistant to anyone or group which threatens the conventional status quo (Whitley, 1999). Similarly to social dominance orientation, individuals who are high on right-wing authoritarianism are more likely to hold negative attitudes towards out-group members (Ekehammar et al., 2004; Rattazzi et al., 2007).

While social dominance orientation and right-wing authoritarianism are typically considered individual factors which predict prejudicial attitudes, there is debate that they are actually group-based constructs. Duckitt, Wagner, Du Plessis, and Birum (2002) and Kreindler (2005) argue social dominance orientation and right-wing authoritarianism are not individual factors, but instead are measures of social and ideological attitudes and group dynamics. Furthermore, Ekehammar and Akrami (2007) suggest that social dominance orientation and right-wing authoritarianism are a combination of both personality and social factors. Determining whether social dominance orientation and right-wing authoritarianism are individual factors or are social attitudes is significant, as changing attitudes to be more positive is a much easier task than changing a personality characteristic.

In contrast to the individual approach for understanding intergroup derogation, prejudice and discrimination, social and group based approaches argue that poor intergroup outcomes are the result of factors such as group dynamics, social and moral norms, group membership and group context and history. According to group based approaches, individual factors provide only part of the picture for understanding outgroup derogation, prejudice and discrimination (Louis, Duck, Terry, Schuller, & Lalonde, 2007). Advocates of social and group based approaches argue the social environment and group processes must be considered in order to understand intergroup relations. There are many social and group based approaches for understanding intergroup relations. Following is a brief look at the most relevant and significant approaches. One of the most prominent social and group approaches to understanding intergroup relations is Realistic Group Conflict Theory.

The Realistic Group Conflict Theory (RGCT) is based on early work which proposed that competition and conflict over shared interests and scarce resources leads to negative intergroup outcomes (Campbell, 1965; Esses et al., 1998; LeVine & Campbell, 1972; Riek, Mania, & Gaertner, 2006; M. Sherif & Sherif, 1966). Such negative outcomes are thought to occur as competition over scarce resources is often a zero-sum situation - the success of one group is perceived to directly threaten the well-being of the other group (Riek et al., 2006). Therefore, individuals within a group will perceive the opposing group as a threat, which in turn leads to

discrimination, prejudice, negative stereotyping and other out-group derogation and in-group solidarity processes in order to protect the in-group's resources (Campbell, 1965 as cited in Sidanius & Pratto, 2001). There is strong evidence to support the idea that group threats to scarce resources leads to negative intergroup relations (Binggeli, Krings, & Sczesny, 2015; Brown, Maras, Masser, Vivian, & Hewstone, 2001; Esses, Dovidio, Jackson, & Armstrong, 2001; McLaren, 2003). However, a criticism of the RGCT is that it only focuses on threats to realistic or instrumental resources, such as money, food or housing, and does not consider other forms of threat or group based processes, such as group norms or values (Tajfel & Turner, 1979). Stemming from such limitations came the Social Identity Theory which aimed to extend on the RGCT and consider in-group based processes such as in-group identity (Tajfel & Turner, 1979).

Social Identity Theory (SIT) is one of the most influential intergroup relations theories and was developed by Tajfel and Turner (1979) to provide a framework to understand intergroup behaviour and conflict. The SIT aims to consider the social context of intergroup behaviour, the role of social identity and group comparison, and the influence of group status perceptions on intergroup behaviours. Fundamentally, the SIT asserts that people categorise themselves into groups based on similarities and differences. This categorisation forms part of a person's social identity. A major theoretical underpinning within the SIT is that individuals strive to have positive self-esteem and social identity. Tajfel and Turner (1979) argue that self-esteem and social identity are intertwined with one's group membership, and individuals will use other groups as a comparison or reference point to establish the positive or negative value connotation of their own group. Thus, group members attempt to make value comparisons between in-groups and out-groups with the aim of achieving the perception of superiority over the out-group. As such, competition and conflict between groups will likely occur when two distinct groups have a shared dimension which can be compared for value (Tajfel & Turner, 1979).

Another dominant group based theory for explaining negative intergroup relations was Symbolic Racism Theory (SRT). This theory emerged inductively to explain changes in racial attitudes between African Americans and Caucasian Americans in the 1960s (Tarman & Sears, 2005). Similarly to the previously discussed concept of modern racism, symbolic racism attempts to explain why racial bias and discrimination towards African Americans continues to occur even after significant positive shifts in overt Caucasian attitudes (Tarman & Sears, 2005). Advocates of the SRT proposed that racist attitudes were not due to perceptions of biological inferiority, but were a result of Caucasians' feeling their Protestant ethic values and beliefs were threatened by the differing values and beliefs of African-Americans (Sears, 1988; Sears & Henry, 2003). As a theory, symbolic racism has received criticism for lacking a sound theoretical foundation, most likely a

function of its inductive development (Bowser, 2017; Tarman & Sears, 2005). Perhaps where the concept of symbolic racism is most valuable is when it is conceptualised as a cognitive appraisal of threat that can then lead to prejudice, rather than as a separate type of racism. This concept of symbolic threat will be discussed in more detail later in this chapter.

The last approach for understanding intergroup relations to be discussed is the study of stereotypes. Broadly, stereotypes are generally understood as overgeneralised beliefs about members of groups (Berrenberg, Finlay, Stephan, & Stephan, 2002; Plous, 2003). Like prejudice and discrimination, stereotypes are thought to be the result of the normal cognitive process of categorisation in order to form mental shortcuts and speed up day to day functioning (Plous, 2003; D. J. Schneider, 2004). Typically, stereotypes are perceived as ‘bad’ as they tend to focus on negative characteristics or traits, are inaccurate and based on faulty reasoning and are rigid or resistant to change (D. J. Schneider, 2004). While stereotypes do often conform to these tendencies, D. J. Schneider (2004) argues this is the case with all overgeneralisations and stereotypes are not inherently bad, but can also be positive. Perhaps where group stereotypes are the most harmful is when they contribute to prejudicial attitudes and discriminatory behaviour towards marginalised or disadvantaged groups.

Stereotypes are frequently thought to be related to and influence prejudice and discrimination (Devine, 1989; Plous, 2003; D. J. Schneider, 2004; W. G. Stephan & Stephan, 1996b). However, studies in this area have not converged and determined the specifics of how stereotypes and prejudice relate. It appears isolating the specific way in which these variables relate is challenging and remains unclear in the literature (D. J. Schneider, 2004). For instance, some theorists suggest holding stereotypes about a group will lead to prejudicial attitudes towards that group (W. G. Stephan & Stephan, 1996b). In contrast, other theorists argue that stereotypes are the cognitive component of prejudicial attitudes (Devine, 1989; D. J. Schneider, 2004). Perhaps this lack of clarity around the role of stereotypes for prejudicial attitudes is partly due to a lack of consistency in how stereotypes are defined and measured.

Stereotypes are defined and conceptualised in numerous different ways within the academic literature. Some key areas of difference in common stereotype definitions include whether stereotypes are accurate or not, whether they are positive or negative and whether they are based on individualistic factors or are the result of cultural norms and socialisation (D. J. Schneider, 2004). This lack of agreement on how to conceptualise stereotypes has contributed to the use of numerous different methods and measures for assessing stereotypes (see Schneider, 2004 for a review of stereotype definitions and measures). There are three important points to understand about stereotype definitions and measurement. First, across numerous different approaches for

conceptualising and measuring stereotypes it is consistently thought that stereotypes are related to prejudice and discrimination between groups (D. J. Schneider, 2004). Second, the way in which stereotypes relate to and influence prejudice and discrimination remains unclear. Third, across numerous studies no one measure has been shown to consistently outperform other measures. Rather, the measure used for assessing stereotypes should be dependent on the way in which stereotypes are defined and the goals of the research project in question (see D.J. Schneider, 2004 for a review).

3.1.1 Section summary. Each of the above discussed theoretical approaches to understanding intergroup conflict are narrowly focused and only consider a few of the many factors which contribute to intergroup derogation, prejudice and discrimination (C. W. Stephan & Stephan, 2000). For instance, approaches which focus on individual factors, such as personality, ignore the important role of group processes. Similarly, most of the group based theories do not consider the role of individual factors on intergroup relations. Such tendencies mean these approaches are limited and do not provide a comprehensive picture of intergroup derogation, prejudice and discrimination. One theory, the Integrated Threat Theory (ITT), does aim to combine a number of both individual and group factors to provide a more comprehensive approach to predicting prejudice and discrimination. The remainder of this chapter will provide an overview of the ITT and discuss the strengths and weaknesses of the theory.

3.2 The Integrated Threat Theory

The ITT provides a framework to assist in predicting prejudicial attitudes between groups (W. G. Stephan & Stephan, 1996b). The relationships between the variables within the ITT are depicted in Figure 2. Broadly, the theory explains how in-group threat perceptions influence prejudicial attitudes towards out-group members. The ITT is formed from numerous group theories such as the Social Identity Theory (Tajfel & Turner, 1979), Realistic Group Conflict Theory (Esses et al., 1998; M. Sherif & Sherif, 1966), and Symbolic Racism Theory (Tajfel & Turner, 1985). Furthermore, the ITT also draws upon concepts such as negative stereotypes, intergroup anxiety, intergroup conflict as well as considering individual factors such as in-group identification and knowledge about the out-group. The integration of these numerous approaches for understanding prejudice to form the ITT has resulted in the identification of numerous contextual factors and four primary threats. Under the ITT framework, it is hypothesised the antecedent factors will influence threat perceptions between two groups, while the four threats are hypothesised to predict prejudicial attitudes. The ITT asserts that if individuals perceive members from an out-group to pose any of the

four threats, prejudicial attitudes towards that out-group will form. These prejudicial attitudes are then predicted to affect a variety of behaviours, primarily negative, hostile and discriminatory behaviours, which are directed towards the out-group (W. G. Stephan et al., 1999).

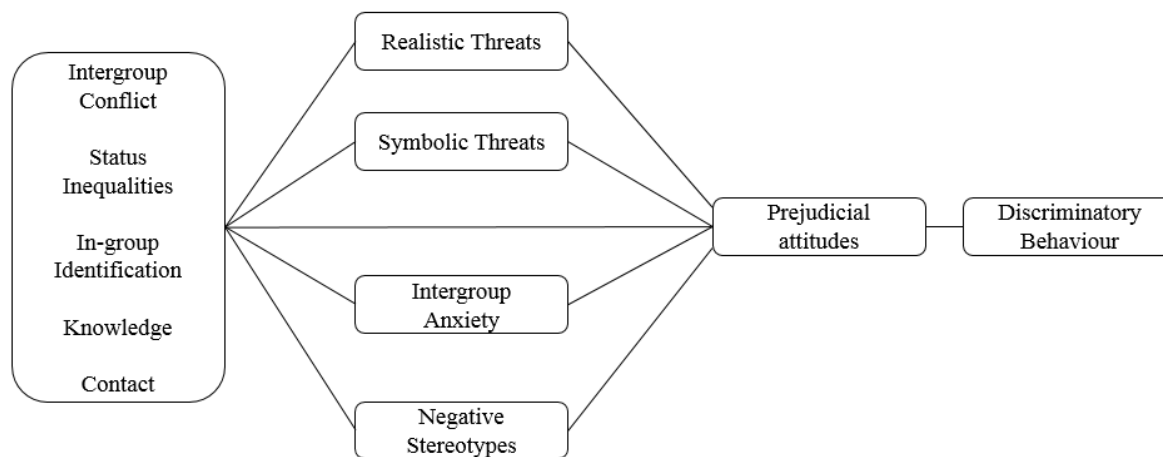


Figure 2. The Integrated Threat Theory

Under the ITT framework, prejudice is understood as a negative affective response to a target group. Affect is defined as feeling states that can range from extremely negative to extremely positive. W. G. Stephan and Stephan (1996b) argue a negative affective response is formed from both evaluations about the out-group and emotional reactions to that group. In the ITT, evaluations are conceptualised as the cognitive representations of affect. As such, the ITT focuses on the affective aspect of Allport's original definition of prejudice (Allport, 1954). While W. G. Stephan and Stephan's (1996) conceptualisation of prejudice does include cognitive evaluations, these evaluations are defined as cognitive representations of affect. Thus, it appears affect is the central component to prejudice in the ITT framework.

A key consideration when discussing the influence of the four ITT threats on prejudicial attitudes, and thus behaviours, is the distinction between perceived and real threats. Under the ITT framework, perceived threats are of primary interest. This is because perceptions of threat, irrespective of whether the threat is real, can lead to the formation of prejudicial attitudes (C. W. Stephan & Stephan, 2000; W. G. Stephan & Stephan, 1996b). Furthermore, it is thought the stronger the perceived threat to the in-group, the more negative attitudes will be towards the out-group (W. G. Stephan & Stephan, 1996b).

Another important consideration when examining the ITT is the use of the terms in-group and out-group. Under the ITT framework, these terms are relative. The term used to describe each group depends on the perspective taken. For instance, when investigating Australian attitudes

towards refugees, Australians would be referred to as the in-group if it is from their perspective the threats are being analysed. However, Australians would be the out-group if threats were analysed from the perspective of the refugees. The following sections now focus on the variables within the ITT, beginning with the contextual and individual factors.

3.2.1 The role of context and individual factors. Group context as well as individual factors have been identified to influence the type of threat perception that develops between groups (W. G. Stephan & Stephan, 1996b). Within the ITT a number of contextual and individual factors are considered antecedents to the four threats. The original ITT identified five contextual factors that influence perceptions of threat between two groups. These include prior group contact and conflict, perceptions of status, in-group identification and knowledge about the out-group.

The first antecedent factor is prior intergroup contact. Under the ITT framework, the quantity of previous intergroup contact is predicted to influence prejudicial attitudes between groups (W. G. Stephan & Stephan, 1996b; Velasco González, Verkuyten, Weesie, & Poppe, 2008). Furthermore, the quality of contact has also been shown to have an effect. More specifically, positive intergroup contact is expected to reduce threat perceptions, while negative intergroup contact is expected to increase threat perceptions (Aberson & Gaffney, 2009; C. W. Stephan, Stephan, Demitrakis, Yamada, & Clason, 2000). The role of intergroup contact in influencing intergroup relations is based on Allport's (1954) early work and is often referred to as the Contact Hypothesis (Aberson, 2015; Aberson & Haag, 2007; Henry & Hardin, 2006; Shook & Fazio, 2008). Pettigrew and Tropp (2006) conducted a meta-analysis of 515 studies that investigated the intergroup contact theory. The meta-analysis results found support for the contact hypothesis and suggested that those who had experienced more contact with the out-group expressed less prejudicial attitudes. Furthermore, Pettigrew and Tropp (2006) found contact effects to occur in an array of contexts and that the positive effects of contact tend to generalize to the entire out-group.

The second contextual factor, prior intergroup conflict, refers to previous negative encounters between two groups. In the ITT framework, conflict is only studied in terms of what has occurred in the past and how this may influence current intergroup relations (C. W. Stephan & Stephan, 2000). Furthermore, intergroup conflict is not necessarily limited to physical violence, but predominantly refers to other forms of conflict such as competition over resources (W. G. Stephan et al., 2002; W. G. Stephan & Stephan, 1996b). This form of non-physical conflict ties in with the realistic group conflict theory, which asserts competition over scarce resources can lead to poor intergroup relations (Esses et al., 1998). The identification of prior intergroup conflict as an antecedent to threat perceptions in the ITT was based on a wealth of research which found conflict

plays a central role in influencing intergroup relations [see (W. G. Stephan & Stephan, 1996a)]. C. W. Stephan and Stephan (2000) predict that the presence of prior intergroup conflict will likely increase perceptions of all four threats.

Group differences in status and power are also expected to either increase or decrease prejudicial attitudes between two groups. It is expected the larger the perceived status inequalities between the two groups, the greater the perception of threat (Riek et al., 2006; W. G. Stephan & Stephan, 1996b; W. G. Stephan, Ybarra, Martinez, Schwarzwald, & Tur-Kaspa, 1998). C. W. Stephan and Stephan (2000) identify specific ways in which status perceptions may influence threat perceptions between groups. Specifically, C. W. Stephan and Stephan (2000) suggest a high status in-group may perceive a low-status out-group as a symbolic threat because they will want to reverse the status quo and/or introduce inferior values and beliefs. Furthermore, high status groups may also feel anxiety when interacting with the low status group because they are concerned about experiencing feelings of guilt or being treated with hostility and resentment. Similarly, low-status groups may perceive symbolic threats from the high-status group because the low status group fears the dominant group will enforce their own way of life and reject the low-status group's values and norms. Furthermore, low-status groups may be anxious about interacting with the dominant group for fear of prejudice and discrimination (C. W. Stephan & Stephan, 2000).

The fourth antecedent variable is in-group identification. In-group identification has been found to affect threat perceptions (Bizman & Yinon, 2001). Individuals with high in-group identification are thought to be invested in their group's welfare and success and thus feel greater levels of threat than those who do not identify strongly with the in-group (Bizman & Yinon, 2001; Riek et al., 2006; Velasco González et al., 2008). Bizman and Yinon (2001) investigated in-group identification and its influence on specific threat perceptions. They found that realistic threats were a better predictor of prejudice when people had high in-group identification compared to those with low in-group identification. Furthermore, intergroup anxiety was a better predictor of prejudice with people who had low in-group identification compared to those with high in-group identification. In this study, different levels of in-group identification had no influence on the predictive capacity of symbolic threats or negative stereotypes. Such results suggest that different levels of in-group identification have an influence on the capacity of symbolic threats and intergroup anxiety for predicting prejudice.

The last antecedent variable within the ITT is out-group knowledge. W. G. Stephan and C. W. Stephan (1996b; 2000) claim knowledge about the out-group influences threat perceptions. Specifically, the authors hypothesised low levels of knowledge about the out-group will likely result in in-group members being fearful of the out-group, which will influence threat perceptions. While

this claim seems reasonable, it appears to be based on very little evidence. A review of the ITT and broader literature has found little experimental or cross-sectional evidence to suggest that knowledge about the out-group influences perceptions of threat. As such, further research which examines the role of knowledge within the ITT is needed to either confirm or deny this hypothesis.

According to W. G. Stephan and Stephan (1996b) the contextual factors will influence the formation of the different threats in specific ways. For instance, if the groups have had prior physical intergroup conflict, realistic threats will likely be the strongest predictor of prejudicial attitudes. This is because perceptions of realistic threats are related to concerns about safety and the group's physical wellbeing. Thus, it follows that prior physical conflict between the groups will likely make in-group members feel as though the out-group poses a threat to their physical safety. Conversely, groups which have large differences between their worldviews and values will likely perceive dissimilar groups to pose a symbolic threat. For example, if out-group members believe in and adhere to a vastly different religion, the in-group may perceive the out-group will bring this religion with them and try to enforce their religious beliefs on the in-group. As such, the in-group will likely hold symbolic threat perceptions which are related to concerns about threats to their way of life, beliefs and values. Intergroup anxiety is expected to play a large role in prejudicial attitudes when groups have had limited prior contact and share differing cultural norms. Last, negative stereotypes are hypothesised to play the largest role in predicting prejudicial attitudes when prior intergroup contact has resulted in the attribution of negative traits to out-groups members. These discussed contextual and individual factors can also interact and have more than one effect on perceived threats, resulting in one or more perceived threat leading to prejudicial attitudes (W. G. Stephan & Stephan, 1996b).

The above examples demonstrate that the context of the groups being investigated is essential for understanding how the antecedent variables may influence threat perceptions. It thus stands to reason that the context of the groups will likely determine what in-group members perceive as threatening about the out-group. As such, the predictive capacity of the antecedent variables on the perceived threats and the threats that influence prejudicial attitudes will be different for each group context. Furthermore, considering group contextual factors, such as previous group contact and conflict, may be helpful for understanding intergroup relations and why threat perceptions, prejudicial attitudes and discrimination occur.

3.2.2 Threat variables

3.2.2.1 Realistic threat. The concept of realistic threats emerged out of the Realistic Group Conflict Theory (RGCT). To reiterate, the RGCT asserts that competition between groups over scarce resources leads to intergroup hostility (Campbell, 1965; Esses et al., 1998; LeVine & Campbell, 1972; M. Sherif & Sherif, 1966). For example, if the goals of two separate groups are in conflict, each group is predicted to hold prejudicial attitudes towards the competing group (Jackson & Purdue, 1993; Muzafer Sherif, Harvey, White, Hood, & Sherif, 1961; M. Sherif & Sherif, 1966). The ITT realistic threat concept is based on this conceptualisation, but is broader as it encompasses anything that threatens the physical or concrete welfare of the group, rather than just a threat to scarce resources (C. W. Stephan & Stephan, 2000; W. G. Stephan & Stephan, 1996b). Thus, realistic threats in the ITT framework refers to in-group members perceiving the out-group to pose a threat to issues of physical well-being, political and economic power, and competition over scarce resources (i.e. housing, jobs, healthcare, schooling)(C. W. Stephan & Stephan, 2000; W. G. Stephan & Stephan, 1996b). Thus, if the in-group perceives the out-group to pose threats to these factors, it is hypothesised that the in-group will hold prejudicial attitudes towards the out-group in an attempt to protect their interests.

Numerous studies have consistently found realistic threat perceptions to be a robust predictor of prejudicial attitudes between various group types (Berrenberg et al., 2002; Schweitzer et al., 2005; W. G. Stephan, Diaz-Loving, & Duran, 2000; W. G. Stephan et al., 1998; Tausch, Hewstone, & Roy, 2009). For instance, Schweitzer et al. (2005) investigated Australian attitudes towards refugees. In a model that included social desirability, symbolic threats and realistic threats, realistic threats were consistently the strongest predictor of prejudicial attitudes. Similar results were found in two studies which investigated realistic and symbolic threat perceptions, negative stereotypes, intergroup anxiety and negative attitudes towards people living with cancer or AIDS. In the study which looked at attitudes towards cancer patients, realistic threats were the second strongest predictor of negative attitudes. In the study which looked at attitudes towards people with AIDS, realistic threats were the strongest predictor of negative attitudes (Berrenberg et al., 2002).

An example of realistic threats being related to negative perceptions can be seen in the result reported by Binggeli et al. (2015). This study was conducted in two different linguistic regions in Switzerland – a German-speaking region and a French-speaking region. The researchers assessed the local residents' attitudes towards two different immigrant types - those who could not speak the local language and those who could. In the German-speaking region, local residents perceived German immigrants less warmly and as more competitive. Conversely, in the French-

speaking region, locals perceived French immigrants less warmly and as more competitive. Overall, this indicates the participants were less receptive to the immigration of out-groups that spoke the local language as these groups posed greater competition for resources (i.e. jobs). Thus, the in-group perceived the out-group to pose a realistic threat when the out-group had high integration potential and high ability to access resources. This suggests, in line with the RGCT, in-groups will view highly skilled and competitive out-groups more negatively.

Within Australia, there are numerous examples which can be drawn on to demonstrate how the theoretical concept of realistic threats can be observed within everyday Australian dialogue. One obvious example of realistic threat perceptions in Australia can be seen when considering Pauline Hanson's One Nation Party. Pauline Hanson is currently a Senator representing Queensland in the Australian Parliament. Senator Hanson has been identified as a central figure in Australia's 1990s racism debate and has proudly promoted hard-right anti-immigrant and anti-multiculturalism views (Docker & Fischer, 2000). In her 2016 maiden speech to the senate, Senator Hanson stated:

Governments have continually brought in high levels of immigration, so they say, to stimulate the economy. This is rubbish ... The only stimulation that is happening is welfare handouts—many going to migrants unable to get jobs.

At present, our immigration intake is 190,000 a year ... They [everyday Australians] are waiting longer for their life-saving operation. The unemployment queues grow longer—and even longer when government jobs are given priority to migrants.

Our city roads have become parking lots. Schools are bursting at the seams. Our aged and sick are left behind to fend for themselves. And many cities and towns struggle to provide water for an ever-growing population ... Clean up your own backyard before flooding our country with more people who are going to be a drain on our society. I call for a halt to further immigration and for government to first look after our aged, the sick and the helpless. (Australian Broadcasting Corporation [ABC], 2016b)

This excerpt of Senator Hanson's maiden speech demonstrates that immigrants are thought to threaten job availability, welfare funding and access to healthcare and other services or resources (water, roads and schools). Such perceptions align directly with the concept of realistic threats. It is also evident these concerns are felt by a considerable portion of the Australian public. In the 2016 Federal Election the One Nation party was supported by 4% of Australians and 9% of Queenslanders where Senator Hanson won a senate seat (ABC, 2016a). While these percentages

may seem low, this is a considerable portion given the extreme hard-right position taken by Pauline Hanson.

Another example can be seen in Melbourne, the capital city of Victoria. There is a perception across Australia that African youth gangs are ‘overrunning’ Melbourne (Davidson, 2018). A Four Corners investigation suggests that the attention given to African youth crime in the media has exaggerated and sensationalised the actual rates of African youth crime. Now, anecdotal reports from African youth indicate that such perceptions are being generalised to all African youths being perceived as physically threatening (McNeill, McGregor, & Carter, 2018). This case again demonstrates that Australians’ perceive the out-group of African youths which is comprised of both refugees and immigrant children to pose a realistic physical threat to Australian citizens. Another similar and very clear example of realistic threats in Australia is the Australian governments’ framing of asylum seekers as being dangerous criminals who pose a physical threat to the Australian people (Bleiker et al., 2013; Canetti et al., 2016; Lippi et al., 2017). Such perceptions align seamlessly with the concept of realistic threats under the ITT framework.

These examples demonstrate that some Australians’ view immigrants and asylum seekers as posing a threat to Australian peoples’ physical safety, access to jobs, healthcare and other scarce resources. This suggests that the concept of realistic threats within the ITT plays an important role in Australian attitudes towards immigrants, refugees and asylum seekers. Given this, it stands to reason realistic threat perceptions largely influence Australian views towards environmentally displaced people.

3.2.2.2 Symbolic threat. The concept of symbolic threats as seen in the ITT emerges from several early theoretical positions including Symbolic Racism Theory (Tarman & Sears, 2005), Social Dominance Theory (Pratto, Sidanius, Stallworth, & Malle, 1994; Sidanius & Pratto, 1999), and Ambivalence Amplification Theory (Katz & Glass, 1979) among others. Primary among these are the theoretical underpinnings of Symbolic Racism Theory, which focused primarily on racist attitudes, such as those seen between Caucasians and African-Americans (Tarman & Sears, 2005). As discussed earlier in this chapter, advocates of Symbolic Racism Theory proposed that racist attitudes were not due to perceptions of biological inferiority, but were a result of Caucasians’ feeling their Protestant ethic values and beliefs were threatened by the differing values and beliefs of African-Americans (Sears & Henry, 2003). The ITT symbolic threats concept embodies this underlying premise, but applies it to contexts other than the Protestant ethic (C. W. Stephan & Stephan, 2000; W. G. Stephan & Stephan, 1996b). Symbolic threats under the ITT framework refer to perceived group differences in moral norms, values, worldviews, attitudes and standards (C. W. Stephan & Stephan, 2000; W. G. Stephan et al., 2000; W. G. Stephan & Stephan, 1996b). Similarly

to realistic threats, symbolic threats are thought to be formed based on cognitive evaluations of the out-group's norms and values, and whether these norms and values pose a threat to the in-group's way of life. The symbolic threat literature asserts that if in-group members feel their way of life is threatened by the values and beliefs of an out-group, this out-group will be viewed negatively as a consequence (Greenberg et al., 1990; Schweitzer et al., 2005; W. G. Stephan et al., 2000; W. G. Stephan & Stephan, 1996b; W. G. Stephan et al., 1998). Furthermore, an underlying assumption of symbolic threats is that the more the in-group perceives their values, beliefs and way of life are at risk, the stronger the negative attitudes will be (C. W. Stephan & Stephan, 2000).

Again, Pauline Hanson's maiden speech provides a clear example of symbolic threat perceptions towards out-groups within Australia. In her 2016 maiden speech, Senator Hanson stated:

Their [Muslims] tolerance to our customs has seen Christmas carols no longer sung at some schools and bibles not to be found in most hospitals. Some public swimming baths have times set aside for Muslim women only, and drivers licences are obtained by Muslim women wearing the burqa and niqab. Prayer rooms are now provided in universities, hospitals, schools, airports and shopping centres to accommodate Muslims. ... Now we are in danger of being swamped by Muslims, who bear a culture and ideology that is incompatible with our own.

This excerpt demonstrates concerns about the perceived threat Muslims pose to the Australian culture and way of life, which again seamlessly aligns with the symbolic threat concept in the ITT. These concerns are commonly expressed in Australian dialogue and can be seen on social media pages, newspaper articles and popular television platforms (Perth Now, 2018; Sibson, 2018). In line with current global political tensions, perceptions of symbolic threat seem to centre on Muslims and Islam. Other ethnic or religious groups do not appear to be perceived as symbolically threatening to Australia or its' people at the current time.

3.2.2.3 Intergroup anxiety. People often feel personally threatened about interacting socially with outgroup members, which causes feelings of anticipatory anxiety. This anxiety is based on concerns about being embarrassed, rejected or ridiculed during social interactions (C. W. Stephan & Stephan, 2000; W. G. Stephan & Stephan, 1996b). This is the basis for the intergroup anxiety threat in the ITT, which is formed from a wealth of early research that positioned intergroup anxiety as a core cause for negative inter-group relations (Dijker, 1987; C. W. Stephan & W. G. Stephan, 1993; W. G. Stephan & Stephan, 1985, 1989a, 1989b; Wilder & Shapiro, 1989). This early

research proposed that when anxiety is high, predominantly negative responses and emotions are amplified and expressed. Furthermore, high levels of intergroup anxiety were thought to cause individuals to rely on cognitive heuristics, such as stereotypes (W. G. Stephan et al., 1999). High anxiety tends to occur when there is a history of antagonism, the groups have had limited prior contact, are ethnocentric, perceive each other to be different, are ignorant of each other, when interactions are unstructured, and in competitive situations where the in-group is of lower status (W. G. Stephan et al., 1998). Other early research also found evidence to suggest there was a relationship between intergroup anxiety and attitudes. For example, Islam and Hewstone (1993) assessed the level of intergroup anxiety and attitudes between Hindu and Muslim university students in Bangladesh. Results indicated that lower intergroup anxiety was associated with positive attitudes.

The early research on intergroup anxiety did not typically conceptualise anxiety as a form of threat perception. However, W.G. Stephan and colleagues proposed that feelings of anxiety reflect concern about negative outcomes during intergroup interactions (W. G. Stephan et al., 2000; W. G. Stephan & Stephan, 1996b; W. G. Stephan et al., 1999). Thus, it was argued intergroup anxiety constitutes its own unique threat. Evidence supporting intergroup anxiety as a threat predictor of prejudicial attitudes has been found with research investigating prejudicial attitudes between females and males (C. W. Stephan et al., 2000), Hindus and Muslims in India (Tausch et al., 2009), European Canadian and native Canadians (Corenblum & Stephan, 2001), and between Spanish and Israeli peoples' attitudes towards Moroccan, Ethiopian and Russian people (W. G. Stephan et al., 1998). Across these studies, intergroup anxiety was consistently a significant predictor of attitudes towards the out-group.

3.2.2.4 Negative stereotypes. As discussed earlier in this chapter, stereotypes have been extensively researched using many different approaches and within a range of different contexts. Stereotypes are a complex concept that have proven challenging to conceptualise and measure. Within the ITT, negative stereotypes are understood as overgeneralised, negative characteristics or traits which are assigned to groups of people (Berrenberg et al., 2002). They are formed through cognitive and affective information processing and have been consistently related to prejudicial attitudes (Corenblum & Stephan, 2001; W. G. Stephan, Renfro, Esses, Stephan, & Martin, 2005; Wirtz, van der Pligt, & Doosje, 2015). W. G. Stephan and Stephan (1996b) hypothesise that there is an associative network linking stereotypes and prejudicial attitudes. This network is formed through cognitive and affective evaluations that are associated with group labels and traits. These cognitive and affective evaluations affect the formation and valence of both negative stereotypes and prejudicial attitudes. Furthermore, it is suggested that when a node within the associative network is

triggered, other connected nodes will also be triggered and the association between the two nodes will strengthen. The strength of these associations is hypothesised to be dependent on the frequency and consistency that they are triggered (W. G. Stephan & Stephan, 1996b). For instance, if an event triggers a negative affective response (fear), the strength of the association between that negative affective response and the corresponding out-group trait (aggression) is argued to increase. If this occurs frequently and consistently, the association between the two nodes is thought to be strong. While W. G. Stephan and colleagues have provided considerable support for this conceptualisation of negative stereotypes and their relationship to prejudice (C. W. Stephan et al., 2000; W. G. Stephan et al., 2002; W. G. Stephan et al., 2000; W. G. Stephan & Stephan, 1996b), there is controversy in the literature relating to the identification of negative stereotypes as a threat. Similarly to intergroup anxiety, negative stereotypes are not typically thought of as a form of threat in this way, but are understood as cognitive evaluations of out-group members. W. G. Stephan and Stephan (1996b) in their original conceptualisation of negative stereotypes argued that when negative stereotypes are assigned to groups (aggression, dishonesty), people will hold threatening expectations about the out-group's behaviour. Thus, negative stereotypes lead people to feel threatened by out-group members. This feeling of threat is thought to lead to negative prejudicial attitudes. However, this rather core assumption that holding negative stereotypes about a group will lead to threatening expectations about that group's behaviour has not been tested. As such, it is unknown whether holding negative stereotypes about a group will actually lead to people feeling threatened by that group.

Another issue with stereotypes being conceptualised as a threat variable is that the nature of the threat perception that is thought to be caused by negative stereotypes has been overlooked in the ITT literature. When considering common negative stereotypes about groups, it seems likely that any threat perceptions based on these stereotypes would be comparable to the realistic or symbolic threats concepts. For example, a common negative stereotype about asylum seekers and refugees from Islamic countries is that they are radicalised and violent. From this negative stereotype it would be expected that asylum seekers and refugees would be perceived to pose a physical threat to Australia. Physical threats are captured under the ITT realistic threat concept. Another common negative stereotype is that Muslims abide by Sharia Law and wish to have Australia run by Sharia Law. The likely threat perception to emerge from this stereotype is that the Australian way of life, beliefs and values are threatened. This threat perception aligns with the concept of symbolic threats as defined under the ITT framework. What this breakdown suggests is that if stereotypes do in fact lead to threatening expectations as originally hypothesised (W. G. Stephan & Stephan, 1996b), it is likely these threats are realistic or symbolic threats. As such, the conceptualisation of negative

stereotypes within the ITT as a unique threat variable seems theoretically problematic. What seems sounder is that negative stereotypes would act as a predictor of realistic and symbolic threats.

Considering the above issues, it is no surprise the position of negative stereotypes within the ITT structure is unclear and a topic of controversy. Originally, negative stereotypes were conceptualised as an independent threat that sat in the same block as symbolic and realistic threats (W. G. Stephan & Stephan, 1996b). However, other research has found negative stereotypes to act as an antecedent to the other threats (Aberson & Gaffney, 2009; W. G. Stephan et al., 2002), as a mediating variable between symbolic and realistic threats and prejudicial attitudes (Curşeu, Stoop, & Schalk, 2007) or as an outcome variable (Aberson & Gaffney, 2009; Aberson & Haag, 2007).

Several studies have tested the four threat variables together, with differing results on the model structure. One of the first studies to test the full theory was conducted by W. G. Stephan et al. (1998). This study investigated attitudes towards immigrants in Spain and Israel. Regression analyses suggest intergroup anxiety and negative stereotypes were stronger direct predictors of attitudes towards immigrants than realistic and symbolic threats. Similarly, Corenblum and Stephan (2001) found negative stereotypes directly predicted Euro-Canadian negative attitudes towards First Nation People alongside realistic and symbolic threats. In comparison, W. G. Stephan et al. (2002) analysed the attitudes of African-American undergraduate students towards Caucasian undergraduate students and vice-versa. Results from this analysis found negative stereotypes acted as an antecedent predictor of the other three threat variables. A fourth study by Curşeu et al. (2007) found a different relationship between the variables when compared to the above three studies. This study assessed 187 Dutch employees' attitudes towards immigrant workers. After testing three different models it was concluded negative stereotypes acted as a mediating variable between the other three threats and prejudice.

In contrast to the above studies, Aberson and Haag (2007) conceptualised negative stereotypes as an outcome variable. While not directly examining the ITT, this study suggests perhaps negative stereotypes is best conceptualised as another outcome of threat perceptions, rather than a predictor of prejudice. The authors were examining how contact, perspective taking (an anti-prejudice intervention strategy) and anxiety interacted to predict stereotype endorsement and implicit and explicit outgroup attitudes. Aberson and Haag (2007) tested several alternate models, all of which placed stereotype endorsement as an outcome variable. Structural equation modelling indicated good model fit with stereotypes as an outcome. Across the alternative models the variance in negative stereotypes was significantly predicted (~12%) over and above the variance explained for implicit and explicit outgroup attitudes (~5% and 3% respectively). Such results indicate negative stereotypes is perhaps best suited as an outcome variable.

Given the inconsistency in how negative stereotypes is thought to relate to prejudice, Aberson and Gaffney (2009) conducted structural equation modelling to compare results for the location of negative stereotypes within the ITT model. In their modelling Aberson and Gaffney (2009) included both implicit and explicit attitudes towards African Americans with the four threat variables (realistic threats, symbolic threats, intergroup anxiety and negative stereotypes) and three antecedent variables (contact, status and in-group identification). Aberson and Gaffney (2009) used structural equation modelling to test three different models – 1) stereotypes as an antecedent, 2) stereotypes as a threat, and 3) stereotypes as the outcome. Good model fit was achieved for all three models. However, the model which placed stereotypes as a threat required extensive modifications, with correlations between the other three threat variables added. Fundamentally, adding correlations between stereotypes and the other threats is conceptually similar to the model which placed stereotypes as an antecedent. Furthermore, negative contact was the only antecedent which predicted stereotypes and the prediction of stereotypes as a threat was poor ($R^2 = .128$) compared to realistic and symbolic threats and intergroup anxiety (R^2 s = .268-.365). The model with stereotypes as an outcome variable alongside attitudes also required several model modifications. However, the model fit was good and stereotypes were predicted well ($R^2 = .346$). Aberson and Gaffney (2009) suggested the model with stereotypes as the antecedent was arguably the best model, as it was the most parsimonious and required the least modifications to achieve good model fit. This study provides some of the strongest evidence on the role of stereotypes in the ITT framework as it included all of the threat variables as well as antecedents and tested three alternate models.

Other studies have partially tested the theory by looking at two or three of the ITT variables. Velasco González et al. (2008) conducted structural equation modelling on 1,187 Dutch adolescents' attitudes towards Muslims. Three of the ITT threat variables were included in the model (negative stereotypes, symbolic threats and realistic threats) as well as intergroup contact, in-group identification and multiculturalism. The results support the original theory structure and suggest negative stereotypes act independently alongside symbolic and realistic threats. That is, stereotypes in this study did not predict or mediate symbolic and realistic threats. Similarly, Wirtz et al. (2015) investigated attitudes towards Muslims with 101 Netherlands students. They used path modelling to examine the relationships between negative attitudes, negative stereotypes, and symbolic threats as well as a range of affective variables (i.e. disgust). Negative stereotypes were again found to act alongside symbolic threats. However, these results should be interpreted with caution due to the small sample size.

The above review of studies have found negative stereotypes to interact with the other variables in the ITT in four different ways –1) stereotypes acted as outlined in the original ITT

framework as a threat construct which directly predicts prejudice (Corenblum & Stephan, 2001; W. G. Stephan et al., 1998; Velasco González et al., 2008; Wirtz et al., 2015), 2) as an antecedent predictor of the other threat variables (Aberson & Gaffney, 2009; W. G. Stephan et al., 2002), 3) as a mediating variable between the threat variables and prejudice (Curşeu et al., 2007) and 4) as an outcome variable alongside prejudice (Aberson & Gaffney, 2009; Aberson & Haag, 2007). Overall, from reviewing the literature it is unclear as to what role stereotypes play within the ITT framework. However, what is consistently found is that stereotypes are related to prejudicial attitudes and the other variables within the ITT framework. As such, stereotypes should not be discarded from the ITT, but should be investigated further in order to isolate how negative stereotypes best fit within the model.

3.3 Reviewing the Evidence

Now that the antecedents and threat variables within the ITT have been explained, the research evidence for the ITT can be discussed. Within the literature, there is a general consensus that the ITT antecedent variables lead to threat perceptions, and that threat perceptions in turn lead to prejudicial attitudes. Additionally, this has been found in a range of different contexts and between different groups. Indeed, various studies investigating several different group contexts have found the threat variables within the ITT significantly predict the variance in prejudicial attitudes (Berrenberg et al., 2002; Monterrubio, 2016; Tausch et al., 2009; Wirtz et al., 2015). A large proportion of this literature has investigated the ITT in the context of host country attitudes towards political or war refugees or immigrants (Murray & Marx, 2013; Schlueter et al., 2008; Schweitzer et al., 2005; W. G. Stephan et al., 2000; W. G. Stephan et al., 2005; W. G. Stephan & Stephan, 1996b; W. G. Stephan et al., 1998; Velasco González et al., 2008). Within these studies, the threats that predict prejudicial attitudes depends on the groups under investigation. For instance, Schweitzer et al. (2005) investigated Australian prejudice towards refugees. The authors defined refugees broadly as people from afar seeking refuge in Australia. Two hundred and sixty-one university students were assessed on the level of threat they perceived refugees to pose to Australia. The participants' prejudicial attitudes were also assessed. Results indicated symbolic and realistic threats accounted for 77% of the variability in prejudicial attitudes, with realistic threats being the strongest predictor. In contrast, Velasco González et al. (2008) investigated the ITT with Dutch adolescents' attitudes towards Muslims. Similar measures as those used by Schweitzer et al. (2005) were used to assess threat perceptions. Unlike Schweitzer et al.'s (2006) findings, Velasco González et al.'s (2008) results indicate symbolic threats and stereotypes significantly predicted prejudice (22%), while realistic threats did not. The different results between these two studies are likely

attributable to the contexts within which the different groups under investigation were operating. For instance, at the time of data collection several false beliefs relating to refugees posing a realistic threat to resources (e.g. “refugees get all sorts of handouts from the government”) and physical safety (e.g. “the people in the boats are terrorists”) were common in Australia (Pedersen, Watt, & Hanser, 2006). Such false beliefs about the out-group may not have been common within Holland and among the Dutch participants at the time of the study. There are also a number of other contextual factors which may have influenced the different role of threats in these two studies. For instance, Schweitzer et al. (2005) recruited university students whereas Velasco González et al. (2008) recruited adolescents. It is possible the university sample was more concerned about access to jobs and resources compared to the adolescent sample. Contextual differences like this may explain why realistic threats significantly predicted in the Australian sample, but not the Dutch sample. Thus, while the ITT is effective for both contexts, different threats predicted prejudicial attitudes based on the nature of the groups investigated, sample characteristics and the social and political context at the time and location of the study.

Outside of investigating attitudes between host country citizens and refugees or immigrants, research using the ITT has also investigated residents prejudice towards spring breakers in Cancun, Mexico (Monterrubio, 2016), female prejudices towards males (C. W. Stephan et al., 2000), relations between Hindus and Muslims in India (Tausch et al., 2009), prejudice towards cancer patients and people living with AIDS (Berrenberg et al., 2002), attitudes between Caucasians and African-Americans (Aberson & Gaffney, 2009) and Euro-Canadian attitudes towards First Nation People (Corenblum & Stephan, 2001). Within these studies the ITT was found to be a useful model for understanding intergroup relations and predicting prejudicial attitudes towards out-groups. More specifically, 28% to 70% of the variation in prejudice was predicted by the ITT variables that were under investigation.

While at this point it may seem like realistic and symbolic threats play the larger role, this perception is likely because of a bias in the literature. More specifically, a larger number of studies have looked at realistic and symbolic threats, rather than intergroup anxiety and negative stereotypes. Thus, there is a bias in the literature to suggest realistic and symbolic threats are the strongest predictor of prejudice. However, Riek et al. (2006) conducted a meta-analysis of 95 studies that looked at the four threats within the ITT. They found all four threats significantly predicted prejudice, but intergroup anxiety and negative stereotypes predicted the greatest unique variance in out-group attitudes. Overall, results suggest the ITT predicted 36% of the variance in prejudicial attitudes across the 95 studies included in the meta-analysis. Riek et al. (2006) concluded the ITT was effective and useful for conceptualising intergroup threat.

However, while there is strong support for the ITT variables, Riek et al. (2006) and other researchers have suggested the ITT structure requires modification. As already discussed, the conceptualisation of negative stereotypes as a threat has been questioned (Curşeu et al., 2007). In addition to the contention in the literature regarding the theory structure, other criticisms relating to the research conducted using the ITT framework need to be noted. Primary among these is that the majority of the research conducted using the ITT is cross-sectional, suggesting there are issues with making conclusive statements about the causal relationship between the variables within the theory. While Stephan and colleagues propose threats lead to prejudicial attitudes, it is recognised the causal link may be reciprocal (W. G. Stephan et al., 1998; W. G. Stephan, Ybarra, & Morrison, 2009). That is, it is entirely possible prejudicial attitudes can lead to threat perceptions as opposed to threat perceptions leading to prejudicial attitudes. Furthermore, it is also possible the direction of causality is interdependent, meaning threats and prejudicial attitudes develop and affect each other simultaneously.

In an attempt to clarify the direction of causation between variables within the ITT, W. G. Stephan et al. (2005) conducted three experimental studies looking at the causal relationship between perceived threats about out-groups and holding prejudicial attitudes. In all three experiments the participants were given information about a target out-group. In the first experiment, the influence of realistic and symbolic threats were investigated. The information the participants received was manipulated to frame the immigrant group to pose either a realistic threat, a symbolic threat, both a symbolic and a realistic threat or no threat. Results from this experiment showed attitudes were most negative when the information was framed to suggest the immigrant group posed both a realistic and symbolic threat. The second study investigated whether manipulating perceptions of negative stereotypes affected attitudes. In this experiment, the participants were presented with information that framed the immigrant group to have positive stereotypical traits, negative stereotypical traits or both positive and negative stereotypical traits. Results from this experiment showed that when the participants were presented with the negative stereotypical traits condition, they had more negative attitudes towards the immigrant group compared to the other conditions. Lastly, the third experiment looked at the role of intergroup anxiety on negative attitudes towards foreign exchange students. In this experiment, the participants were given information about foreign exchange students which were manipulated to encourage either high levels of intergroup anxiety or low levels of intergroup anxiety. Results from this experiment showed participants in the high intergroup anxiety condition expressed more negative views. Overall, the results from these three experiments appear to suggest there is a causal link between the four perceived threats and prejudicial attitudes towards out-groups.

Further evidence of a causal relationship between threat perceptions and negative out-group attitudes was found by Schlueter et al. (2008). Schlueter et al. (2008) conducted a longitudinal modelling study with 825 German citizens' attitudes towards foreign workers and 953 Russian citizens' attitudes towards ethnic minorities. The variables modelled were the participants dislike towards the out-group, negative behavioural intentions towards the out-group and perceived out-group threat. After conducting latent auto regressive cross-lagged modelling, the authors concluded that perceived threats are causally antecedent to prejudicial attitudes. While further evidence is required to determine a causal link, the findings from W. G. Stephan et al. (2005) and Schlueter et al. (2008) support the ITT framework and suggest a causal link may exist with perceived threats leading to prejudicial attitudes.

3.4 Theory Revisions

As discussed so far in this chapter, research evidence supports that threat perceptions do lead to prejudicial attitudes as outlined in the ITT. However, research has also indicated there are some issues with the model structure and conceptualisation of some variables. As such, W.G. Stephan and colleagues have proposed some revisions to the theory (W. G. Stephan & Renfro, 2002; W. G. Stephan et al., 2009). The first revisions were made by W.G. Stephan and Renfro in 2002 who proposed realistic and symbolic threats can be perceived at either an individual or group level. That is, an in-group member may perceive an out-group to either threaten them as an individual, threaten their group, or threaten their group as well as them as an individual. For example, an Australian may perceive asylum seekers as a realistic threat to their group (all Australians) as they may place 'a drain' on the Australian economy. This same individual may also perceive asylum seekers to pose a realistic threat to themselves as an individual as asylum seekers will make it more difficult to find a job. As such, in W.G. Stephan and Renfro's (2002) revisions, threat perceptions to both the in-group as a whole (e.g. Australians) and the individual (e.g. me) are included in the ITT. Another major revision to the ITT was the location of stereotypes. As a result of the literature discussion of stereotypes within the ITT, stereotypes are now conceptualised by Stephan and colleagues to be a cause or antecedent of threat, rather than a separate threat of their own (W. G. Stephan & Renfro, 2002; W. G. Stephan et al., 2009). In addition, the revisions also included adjustments to the contextual antecedent factors to include other group relations, cultural dimensions, individual differences and situational factors.

In 2009, Stephan, Ybarra and Morrison revised the theory name from Integrated Threat Theory to Intergroup Threat Theory. The authors also discussed the role of other, broader contextual antecedents to threat perceptions such as cultural characteristics and group

communication styles. In addition, the authors also added other individual characteristics to the ITT as antecedent variables. These individual characteristics include social dominance orientation, right-wing authoritarianism, personal self-esteem and collective self-esteem. As discussed in section 3.1 of this chapter, social dominance orientation refers to a person's tendency to endorse societies/relationships which are grounded in group-based social hierarchies (Sidanius & Pratto, 1999). Right-wing authoritarianism refers to a person's tendency to support right-wing authority and conventional norms and values (Altemeyer, 1998; Rattazzi et al., 2007; Whitley, 1999). Both social dominance orientation and right-wing authoritarianism have been shown to be related to attitudes towards out-groups, and have also been shown to be related to realistic or symbolic threats (Duckitt, 2006; Esses et al., 2001).

In their revision, W. G. Stephan et al. (2009) also proposed an individual's personal and collective self-esteem may also influence threat perceptions. W. G. Stephan et al. (2009) suggested an individual who has low personal self-esteem will be more susceptible to perceptions of threat due to a lowered self confidence in dealing with such threats. In contrast, people with high collective self-esteem are expected to hold greater perceptions of threat as they are more likely to be concerned about what happens to their group (W. G. Stephan et al., 2009).

In addition to W.G. Stephan and colleagues (2002, 2009), other authors have also suggested some revision to the ITT, specifically around the addition of affective predictive variables such as disgust and pity (Wirtz et al., 2015). Extending from this, empathy would be an interesting affective variable to consider within the ITT given the substantial literature which identifies the role empathy can play in positive intergroup relations (Bäckström & Björklund, 2007; Finlay & Stephan, 2000; Pedersen & Hartley, 2015; W. G. Stephan & Finlay, 1999; Vanman, 2016). Indeed, W. G. Stephan et al. (2005) investigated how empathizing with out-group members interacted with intergroup anxiety and negative attitudes towards the out-group. They found feeling empathy towards the out-group had beneficial effects on intergroup attitudes. As such, it would be appropriate to determine how empathy interacts with and relates to the other threat and antecedent variables within the ITT.

As yet, very little research has investigated these theory revisions and the effectiveness of the revised theory. Most research, even research conducted after these revisions, has only tested the original ITT framework. As such, more research is needed to find evidence that either supports or disputes the revisions proposed by W. G. Stephan and Renfro (2002), W. G. Stephan et al. (2009) and Wirtz et al. (2015).

3.5 Identified Research Gaps and Future Research

After reviewing the literature, it is clear there are several research gaps and avenues for future research. By investigating the following suggestions, greater insights can be gained on the nature of intergroup relations and how they can be explained using the ITT. First, future research on the above discussed ITT revisions is needed to examine if the revised theory is more effective. This would involve testing the relative position of negative stereotypes within the theory. This will assist in establishing whether stereotypes do in fact act as an antecedent to the other threats, or as a mediating variable between the other threats and prejudice, or as a separate direct predictor of prejudice, or as an outcome variable. Another theory revision which requires testing is the distinction between perceived realistic and symbolic threats to the individual and perceived realistic and symbolic threats to their group. Evidence is needed to determine if such a distinction does exist and whether both individual and group based threats independently predict prejudicial attitudes. Furthermore, research is needed to test whether the addition of the numerous antecedent variables, such as social dominance orientation, right-wing authoritarianism and self-esteem significantly predict the threat variables and prejudicial attitudes. Last, the role of affective variables, specifically empathy, also need to be investigated to determine how emotional variables relate to threats as well as whether they add explanatory power to the ITT.

In addition to testing the theory revisions, there are relatively few studies which have examined the ITT framework in its entirety. Most studies have only examined a small number of the variables within the ITT. While it is recognised not all antecedent variables can be accounted for, more research is needed which accounts for at least the most important antecedent variables for that context as well as all of the threat variables in the model. There is also a need for more experimental research that assists in establishing the causal relationship between the variables within the ITT.

Last, drawing from the literature explored in this chapter as well as the earlier chapters already discussed, the ITT has not yet been investigated in the context of environmentally displaced people. As such, research is needed which examines whether the ITT is an effective model to use for predicting prejudicial attitudes towards environmentally displaced people. Given the current attitudes towards asylum seekers and refugees are negative in Australia (discussed in Chapter 2), Australia is identified as an appropriate country to investigate host country attitudes towards environmentally displaced people.

3.6 Conclusion

W. G. Stephan and colleagues integrated a number of different theoretical approaches for studying intergroup behaviour to form the ITT – a useful and empirically supported theory that predicts prejudicial attitudes in a range of different contexts (C. W. Stephan & Stephan, 2000; C. W. Stephan et al., 2000; W. G. Stephan & Stephan, 1996a, 1996b; W. G. Stephan et al., 1998). However, as Harrison and Peacock (2009) recognise, the ITT remains under development and requires further testing in order to establish greater evidence for the theories structure. The above identified research gaps and future research suggestions provide some direction for further developing the model.

One reason the ITT was chosen as the theoretical approach to understanding intergroup relations in this project is the theoretical benefits it provides compared to other theories as well as the existing empirical support for the model. In addition to this, the ITT was also selected for this project as threat perceptions are a core concept within the ITT. Given the focus that is placed on the threats displaced people pose to Australia, it is clear threat perceptions are core to understanding relations between Australian citizens and displaced people. Thus, it was expected that the ITT would be a valuable model for understanding relations between Australians and environmentally displaced people. The first study for this project aimed to test the ITT in the context of environmentally displaced people while addressing many of the research gaps identified so far in this thesis. In the following chapter the rationale and methodology used for Study 1 is presented.

Chapter 4: Study 1 Rationale and Methodology

4.1 Study 1 Rationale

As discussed in Chapter 1, displacement due to environmental factors is a growing and extremely complex global issue. Given the increasing impacts of climate change the number of people predicted to be environmentally displaced around the world is expected to increase (Institute of Policy Studies, 2010; Wilkinson et al., 2016). However, despite this there are as yet no clear definitions or governance systems for managing these displaced peoples. Furthermore, because of the lack of a definition and the multi-causal nature of human displacement, it is extremely difficult to accurately predict the number of people expected to be environmentally displaced. Contributing to these challenges are how governments and citizens of host countries will view and respond to the people who will be environmentally displaced. It is important to understand the views of government and host country citizens as they can have substantial impacts on the life of environmentally displaced people in numerous ways (Correa-Velez et al., 2010; Esses et al., 2017; Kim, 2016). The topic of asylum seekers and refugees in Australia is a useful case study of how government and citizen attitudes can impact displaced people.

As reviewed in Chapter 2 the topic of displaced people, specifically refugees and asylum seekers, is a divisive issue in Australia. The Australian public appear to hold divided views.. Some people support asylum seekers and refugees, while a large proportion are against displaced people coming to Australia (Blair et al., 2017; Laughland- Booy, Skrbis, & Tranter, 2014; Markus & Dharmalingam, 2014, 2017; Pedersen & Hartley, 2017). Furthermore, the Australian political and media forums are predominantly hostile, which can be argued to foster and enhance negative public views towards displaced people (Lippi et al., 2017; Zetter, 2007). Indeed, it appears political and media discourses have represented refugees and asylum seekers in a negative light, focusing on concepts such as the illegality and illegitimacy of refugees and asylum seekers, the threat they pose to Australian society and how they are different to Australians (Cooper et al., 2017; Lippi et al., 2017; Saxton, 2003).

Furthermore, the persistent negative framing of refugees has changed the social meaning of the term 'refugee' (Zetter, 20117). The social meaning of this term now appears to incorporate themes of illegality, threat and refugees as different to ourselves (Lippi et al., 2017; Zetter, 2007). As it appears the social meaning of 'refugee' in Australia now incorporates negative representations, it is important to consider whether attitudes towards environmentally displaced people, and indeed the use of the term 'refugee', may influence views towards environmentally displaced people. This is particularly important in Australia for several reasons.

First, understanding Australian attitudes towards environmentally displaced people is of particular importance as Australia is expected to receive people from Pacific island populations who are displaced due to sea level rise (Burkett, 2011; Institute of Policy Studies, 2010; McNamara, 2015; Williams, 2008). As a result of geographical proximity to Pacific island nations and pre-existing political and social relationships, Australia has been identified to have a role to play in providing foreign aid and helping to mitigate the effects of environmental disruption for Pacific island nations (Cork & Auty, 2017). This role of Australia highlights the importance of understanding how the Australian public may respond to environmentally displaced people.

Second, as discussed in Chapter 2, negative host country attitudes towards displaced people can have adverse impacts on the physical and mental health and wellbeing of displaced people (Correa-Velez et al., 2010; Kim, 2016; Stuber et al., 2008). Furthermore, if displaced people are perceived negatively, they are more likely to be segregated and assimilated (rather than integrated) into the host country community (Esses et al., 2017; Florack et al., 2003). Specifically, perceptions of threat about displaced people appear to impact whether displaced people are excluded, assimilated, segregated or integrated into society. Higher perceptions of threat and particularly the presence of security threats have been shown to be associated with views that displaced people should 'leave our country' or be excluded from the host country (Canetti-Nisim et al., 2008; Florack et al., 2003). Given that the Australian media and government have framed asylum seekers and refugees as posing numerous threats (particularly security threats) to Australia it is clear why some Australians have such strong exclusionary and separatist views towards asylum seekers and refugees. The above research demonstrates the importance of host country attitudes on the experience of displaced people within the host country and community. As such, understanding attitudes towards environmentally displaced people, particularly threat perceptions, can provide important insights into whether environmentally displaced people will be integrated, segregated, assimilated or excluded from Australian society.

Despite the above identified importance of understanding Australian attitudes towards environmentally displaced people, no research has been found which provides insight into Australian, or any other host communities, attitudes towards this group. Thus, it was identified that research which examines such views is needed in order to understand how these views might impact the health and wellbeing of environmentally displaced people as well as how they may be received into society. The current study aims to address this research gap. Given threat perceptions are central to Australian attitudes towards displaced people (Lippi et al., 2017; McKay et al., 2011), the Integrated Threat Theory (ITT) was selected as an appropriate framework to examine Australian attitudes towards environmentally displaced people.

As covered in Chapter 3, the ITT is a theoretical framework which proposes in-group threat perceptions about out-group members plays a core role in causing prejudicial attitudes and discriminatory behaviours towards the out-group. The fundamental principles of the ITT are based on a number of theoretical approaches including Social Identity Theory (Tajfel & Turner, 1979), Realistic Group Conflict Theory (Esses et al., 1998; M. Sherif & Sherif, 1966), and Symbolic Racism Theory (Tajman & Sears, 2005). The original ITT model structure can be seen in Figure 3. However, since its original conceptualisation W.G. Stephan and colleagues have made several revisions to the ITT.

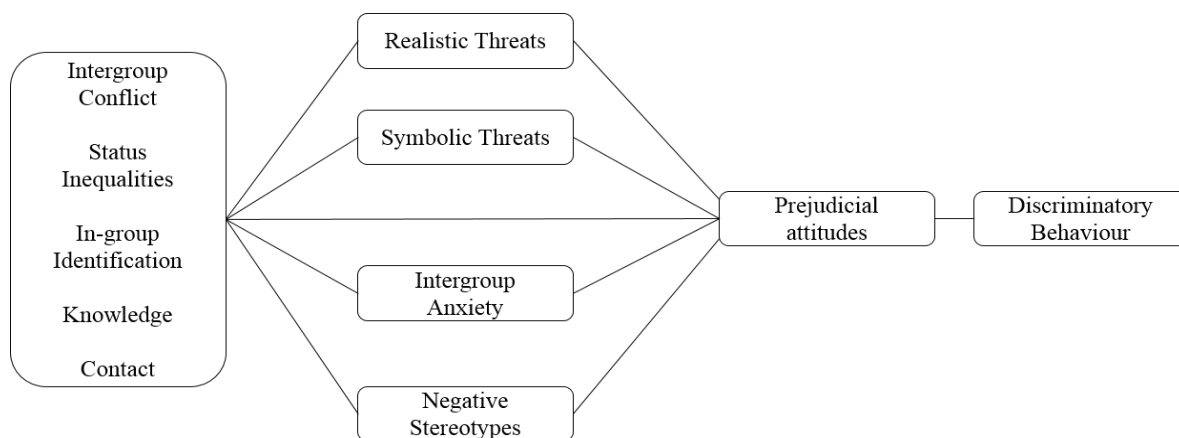


Figure 3. The original Integrated Threat Theory framework.

Based on contradictory evidence which suggests stereotypes do not belong alongside the other threat variables (realistic and symbolic threats), W. G. Stephan et al. (2009) suggested the model be modified so negative stereotypes act as a predictor of realistic and symbolic threats. Another revision made to the theory is the distinction between symbolic and realistic threats to the self (the individual) and symbolic and realistic threats to the group (all Australians) (W. G. Stephan & Renfro, 2002; W. G. Stephan & Stephan, 1985; W. G. Stephan et al., 2009). Furthermore, other authors have suggested the addition of affective variables to the ITT would improve the model (Wirtz et al., 2015). Based on research which has shown empathy to be strongly related to intergroup relations (Bäckström & Björklund, 2007; Finlay & Stephan, 2000; W. G. Stephan & Finlay, 1999; Vanman, 2016), empathy has been identified as a potential powerful variable to add to the ITT. Lastly, W. G. Stephan and Renfro (2002) and W. G. Stephan et al. (2009) identified several extra antecedent variables which should be added to the ITT. This project will test the addition of social dominance orientation, right-wing authoritarianism and collective and personal self-esteem. Based on these considerations, the hypothesised model structure used for this project can be seen in Figure 4.

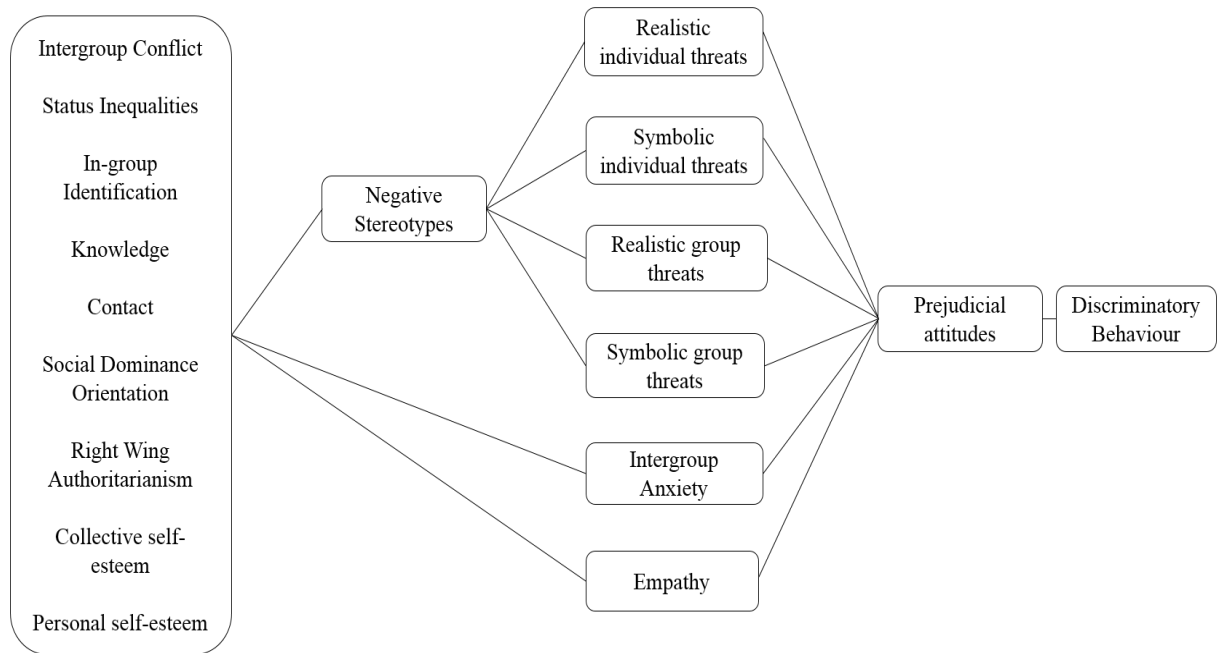


Figure 4. The revised Integrated Threat Theory framework.

Figure 4 represents the revised model structure and the possible relationships between variables based on previous research and theoretical reasoning. However, as made clear in Chapter 3, the relationships between the variables will depend on the groups in question and the context between the groups. As such, it is not expected in this project that all of the specified relationships depicted in Figure 4 will be evident. Furthermore, after reviewing the ITT literature it was evident the position of negative stereotypes within the model is not clear. As such, four alternate model structures based on the different positions of stereotypes within the literature were tested for this study. Further details for this are provided in Chapter 7. The current study is also the first to test the role of empathy within the ITT. Therefore, it was unclear exactly how empathy would predict or be predicted by the other variables within the model. However, empathy has been found to be a significant direct predictor of prejudicial attitudes in other research (Finlay & Stephan, 2000; Pedersen, Beven, Walker, & Griffiths, 2004). As such, it was expected that empathy would act as a direct predictor of prejudicial attitudes in the ITT.

4.2 The Current Study

Study 1 was designed to address two of the primary research questions for this project. The first primary research question addressed was: *What perceptions does an Australian sample hold towards environmentally displaced people?* The second primary research question addressed was: *Is the Integrated Threat Theory an appropriate framework to understand and predict prejudicial*

attitudes towards environmentally displaced people? Given the breadth of these research questions four separate chapters for Study 1 are presented – Chapter 4 - 7. Chapter 4, the current chapter, presents the rationale and method for Study 1. Chapter 5 addresses the first primary research question and aims to answer how an Australian sample views environmentally displaced people. Chapter 6 and 7 aim to address the second primary research question and investigate if the ITT is effective in the context of predicting Australian attitudes towards environmentally displaced people. In Chapter 6 the psychometric properties of the ITT variables are investigated. Chapter 6 also addresses some of the measurement and conceptualisation issues of the ITT variables discussed in Chapter 3. In Chapter 7 structural equation modelling was used to examine the ITT model structure and whether the variables within the model significantly predict the sample's prejudicial attitudes towards environmentally displaced people.

4.3 Study 1 Method

4.3.1 Study design

Study 1 was a cross-sectional study which assessed the participants' attitudes towards either environmentally displaced people or refugees. Two different terms to refer to people displaced due to environmental factors were used – environmentally displaced people or environmental refugees. As such, there were three different conditions – 1) attitudes assessed towards *environmentally displaced people*; 2) attitudes assessed towards *environmental refugees* and 3) attitudes assessed towards *refugees*. Participants were presented with an informative fictional newspaper article prior to completing the survey to ensure they had a basic level of understanding about the relevant group of displaced people.

4.3.2 Participants

In total 1,221 participants were recruited. Due to missing data 338 cases were deleted, leaving 883 cases within the final sample (see section 4.3.5 for more details on removal of missing cases). There were 648 participants in the *Environmentally Displaced People* condition, 115 in the *Environmental Refugee* condition and 120 in the *Refugee* condition. The mean age of the sample was 23.98 years (± 9.81 , range = 15-87). The majority of the sample were undergraduate students (90%) living in Townsville or Cairns, North Queensland. Furthermore, 77% of the sample identified as Caucasian, 4% identified as Aboriginal or Torres Strait Islander and the remainder identified with other ethnicities. Table 4 presents the remaining sample characteristics. Data is presented separately for the total sample as well as the characteristics of the sample within each condition.

Table 4: *Sample characteristics for each condition and the total sample [% (frequency)]*

	Condition			
	Environmentally displaced people	Environmental refugee	Refugee	Total
Mean age (SD)	23.66 (9.66)	23.88 (10.11)	25.87 (10.19)	23.98 (9.81)
Gender				
Female	65% (424)	67% (77)	63% (76)	65% (577)
Male	34% (218)	32% (37)	35% (42)	34% (297)
Other	1% (5)	1% (1)	1% (1)	1% (7)
Unknown	<1% (1)	0% (0)	1% (1)	<1% (2)
Educational level obtained				
Primary school	<1% (4)	0% (0)	<1% (1)	1% (5)
Grade 10	2% (12)	4% (5)	2% (2)	2% (19)
Grade 12	77% (500)	76% (87)	64% (77)	75% (664)
TAFE or VET	13% (85)	10% (12)	18% (21)	13% (118)
Undergraduate degree	3% (17)	6% (7)	7% (8)	4% (32)
Postgraduate degree	5% (30)	3% (4)	9% (11)	5% (45)
Unknown	0% (0)	0% (0)	0% (0)	0% (0)
Currently studying				
Secondary school	<1% (1)	1% (1)	1% (1)	<1% (3)
TAFE or VET	<1% (2)	0% (0)	1% (1)	<1% (3)
Diploma	<1% (2)	0% (0)	1% (1)	<1% (3)
Undergraduate	91% (591)	89% (102)	83% (99)	90% (793)
Postgraduate	4% (23)	3% (4)	5% (6)	4% (33)
Ethnicity				
Caucasian	77% (500)	77% (88)	79% (95)	77% (683)
Aboriginal or Torres Strait Islander	4% (24)	5% (6)	3% (4)	4% (34)
Asian	4% (28)	3% (4)	3% (4)	4% (36)
European	3% (20)	7% (8)	5% (6)	4% (34)
Pacific Islander	1% (8)	2% (2)	1% (1)	1% (11)
Indian	1% (5)	0% (0)	1% (1)	1% (6)
New Zealander	1% (5)	1% (1)	0% (0)	1% (6)
Latin American	1% (4)	0% (0)	2% (2)	1% (6)
Middle Eastern	1% (4)	0% (0)	0% (0)	<1% (4)
African	<1% (2)	0% (0)	0% (0)	<1% (2)
Maori	<1% (2)	0% (0)	0% (0)	<1% (2)
Unknown	7% (46)	5% (6)	6% (7)	7% (59)
Living location				
Townsville	56% (363)	58% (67)	51% (61)	56% (491)
Cairns	30% (196)	27% (31)	31% (37)	30% (264)
Brisbane	1% (5)	1% (1)	1% (1)	1% (7)
Other (Queensland)	5% (35)	7% (8)	4% (5)	5% (48)
Melbourne	2% (13)	3% (3)	4% (5)	2% (21)
Sydney	1% (7)	1% (2)	1% (1)	1% (10)
Other (New South Wales)	<1% (3)	1% (1)	2% (2)	1% (6)
Perth	<1% (3)	0% (0)	2% (2)	1% (5)

	Condition			
	Environmentally displaced people	Environmental refugee	Refugee	Total
Canberra	0% (0)	0% (0)	1% (1)	<1% (1)
Other (Australian Capital Territory)	<1% (3)	0% (0)	0% (0)	<1% (1)
Adelaide	<1% (3)	1% (1)	0% (0)	<1% (4)
Darwin	<1% (1)	0% (0)	0% (0)	<1% (1)
Hobart	0% (0)	0% (0)	2% (2)	<1% (2)
Other (Tasmania)	<1% (1)	0% (0)	0% (0)	<1% (1)
Unknown	3% (17)	1% (1)	2% (3)	2% (21)
ARIA+ Category*				
Major cities	5% (34)	7% (8)	9% (11)	6% (53)
Inner Regional	1% (5)	1% (1)	2% (3)	1% (9)
Outer regional	91% (587)	91% (105)	86% (103)	90% (795)
Remote	1% (5)	0% (0)	0% (0)	1% (5)
Very remote	0% (0)	0% (0)	0% (0)	0% (0)
Unknown	3% (17)	1% (1)	2% (3)	2% (21)

Note: Percentages are inexact due to rounding

** ARIA = Accessibility/Remoteness Index of Australia (see (Hugo Centre for Migration and Population Research, 2018))*

4.3.3 Materials

A 169-item online survey was developed for this study. The full version of the survey can be seen in Appendix A. The survey collected data on demographic factors, prejudicial attitudes and a range of predictor variables that are used within the ITT. The survey also included three fictional newspaper articles, one for each condition.

4.3.3.1 Demographics. Demographic data including gender, age, postcode, Australian citizenship, country of birth and education was collected.

4.3.3.2 Prejudicial attitudes. Prejudicial attitudes were assessed using the scale developed for the Integrated Threat Theory by W. G. Stephan and colleagues (W. G. Stephan et al., 1998). Previous studies have shown this scale to have good internal consistency (Cronbach's $\alpha = .83-.93$) (Aberson & Gaffney, 2009; Bizman & Yinon, 2001; Corenblum & Stephan, 2001; W. G. Stephan et al., 2002). However, there is limited studies which have investigated this scales validity.

To assess prejudicial attitudes, participants indicated the degree they felt a list of 12 distinct evaluative or emotional reactions (hostility, admiration, dislike, acceptance, superiority, affection, disdain, approval, hatred, sympathy, rejection and warmth) on an 11-point scale from 1 (Not at all) to 11 (Extremely). Positive evaluations were reversed scored. A single score was calculated by averaging item scores, with higher scores indicating higher levels of prejudicial attitudes. This scale had good internal consistency within the current sample (Cronbach's $\alpha = .90$).

4.3.3.3 Threat perceptions. The items used to assess symbolic and realistic threat perceptions were adapted from previous ITT research to suit the current study and the groups of interest (W. G. Stephan et al., 2002; W. G. Stephan & Renfro, 2002; W. G. Stephan et al., 1998). Based on the revised theory (W. G. Stephan & Renfro, 2002; W. G. Stephan et al., 2009) realistic and symbolic threats were assessed at both the individual and group levels. In total, 28 items were used to assess these four different forms of threat (realistic individual threats, realistic group threats, symbolic individual threats and symbolic group threats). These items were assessed on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Of these 28 items, nine were reverse scored. A single score for each threat variable was calculated by averaging item scores, with higher scores indicate greater threat perceptions. Table 5 displays an example item for each of the four forms of threat as well as the Cronbach's alpha coefficient for each form of threat. The realistic and symbolic threat perception scales had good internal consistency in the current sample.

Table 5: *Cronbach's alpha coefficients and item examples for threat perceptions.*

Threat variable	Cronbach's alpha	Example
Realistic individual threat	.81	Environmental refugees coming to Australia will pose a personal threat to my safety
Realistic group threat	.89	Environmental refugees pose a health hazard to Australians.
Symbolic individual threat	.86	Environmental refugees hold values that threaten my personal world views
Symbolic group threat	.85	The ethical views of environmental refugees poses a serious threat to the Australian culture.

4.3.3.4 Intergroup anxiety. Intergroup anxiety was assessed using the scale previously established by Stephan and colleagues (W. G. Stephan et al., 1998). This scale has been used extensively in the ITT literature and has been found to have good internal consistency (Cronbach's alpha = .83-.93) (Aberson & Gaffney, 2009; Corenblum & Stephan, 2001; W. G. Stephan et al., 2002). However, few studies have investigated the validity of this scale.

Intergroup anxiety was assessed by participants indicating the degree to which they would feel certain emotions (friendly, uncertain, awkward, fearful, safe, worried, anxious, comfortable,

threatened, at ease, nervous) when interacting with a member of the out-group on a five point Likert scale ranging from 1 (Not at all..... e.g. Awkward) to 5 (Extremely e.g. Awkward). Positive evaluations (e.g. friendly) were reversed scored. A single score was calculated by averaging item scores, with higher scores indicating higher levels of intergroup anxiety. This scale had good internal consistency with the current sample (Cronbach's $\alpha = .91$).

4.3.3.5 Negative stereotypes. Negative stereotypes were assessed using a negative stereotype index developed by Stephan and colleagues (W. G. Stephan & C. W. Stephan, 1993). This index has been used extensively in the ITT literature and studies using a similar scale have found inconsistent evidence for the internal consistency of this scale (Cronbach's $\alpha = .41-.79$) (Aberson & Gaffney, 2009; Bizman & Yinon, 2001; Corenblum & Stephan, 2001; Croucher, 2013). Furthermore, few studies have investigated the validity of this scale. Regardless, the current scale was selected as it has been used extensively in past research and will continue to be used in future research. The use of this scale is important to allow for comparisons across different studies as well as to provide evidence on the psychometric properties of this scale with the current study.

To assess negative stereotypes the participants were asked to indicate the percentage of the outgroup they thought possessed 15 different traits (frequency rating). The response format was a scale increasing from 0% in 10% increments up to 100%. The participants were then asked to indicate the favourability of each of these traits on a 10-point scale ranging from 1 (Extremely favourable) to 10 (Not at all favourable). To assist with interpretation of scores, the favourability scores were recoded as -5 (Extremely favourable) to +5 (Not at all favourable). The frequency rating for each trait was then multiplied by the participants' favourability rating for each trait. These figures were then summed and averaged to create a final stereotype index which represents the participant's view on the frequency of traits and how favourable these traits are. The range of responses for this index is -55 to +55. Positive scores indicate negative stereotypes while negative scores indicate positive stereotypes. Greater scores indicate greater levels of either positive or negative stereotypes. For instance, a score of +50 indicates the individual holds strong negative stereotypes towards the target person/group.

The traits used to assess negative stereotypes were selected based on previous research (W. G. Stephan et al., 2002) as well as from current traits which are commonly used to describe refugees in media, political and social forums within Australia (Klocker & Dunn, 2003; Lippi et al., 2017). The traits included: dangerous, untrustworthy, greedy, aggressive, unethical, dishonest, violent, lazy, uneducated, unsophisticated, radicalised, queue jumpers, selfish, illegal and criminality. This scale had good internal consistency within the current sample (Cronbach's $\alpha = .96$).

4.3.3.6 Empathy. Empathy was assessed using the scale implemented by Vescio et al. (2003). Vescio et al. (2003) found this scale to have good internal consistency (Cronbach's $\alpha = .89$). To assess empathy, the participants were asked to indicate the extent they experienced five emotions (sympathy, compassion, warm-hearted, tender and moved) towards the out-group on a 5-point Likert scale ranging from 1 (Not at all) to 5 (Extremely). Higher scores indicate higher levels of empathy, and ratings on the five emotions were averaged to create an empathy index. This scale had good internal consistency within the current sample (Cronbach's $\alpha = .95$).

4.3.3.7 Perceived intergroup conflict. Perceived intergroup conflict was assessed with four items that were adapted for this project from items used in previous research (Corenblum & Stephan, 2001; W. G. Stephan et al., 2002). These items asked the participants to indicate their level of agreement with statements about conflict between Australians and the out-group on a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Of these four items, two were reverse scored. A single score for intergroup conflict was calculated by finding the mean of the four items. Higher scores indicate higher levels of perceived intergroup conflict. A sample item is, 'In the past, there has been conflict between Australians and environmental refugees'. This scale had good internal consistency within the current sample (Cronbach's $\alpha = .74$).

4.3.3.8 Perceived status inequalities. Perceived status inequalities was assessed with three items that were adapted for this project from items used in previous research (Corenblum & Stephan, 2001; Tausch et al., 2009). These items asked the participants to indicate their level of agreement with statements about status differences between Australians and the out-group on a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Of the three items, one was reverse scored. A single score for status inequalities was calculated by totalling the three item scores and finding the average. Higher scores indicate the participant perceived higher levels of status inequalities between the two groups. A sample item is, 'There is a great difference between the social status of Australians and environmental refugees'. This scale had moderate internal consistency within the current sample (Cronbach's $\alpha = .59$). To improve the internal consistency, one item was removed from the total score calculation (*The position of environmentally displaced people within society is the same as that of Australians*). This increased Cronbach's α to .62.

4.3.3.9 Intergroup contact. For intergroup contact, the participants were asked two questions regarding their interactions with the out-group. The first question asked participants how many members of the out-group they know. The second question asked if participants had ever had contact with members of the out-group. If the participants responded yes to this second question, they were asked two further questions – how often they had contact with members of the out-group

(1-Very little to 4-Very often) and if they viewed this contact as negative or positive (1-Extremely negative to 5-Extremely positive). No total score was calculated for intergroup contact.

4.3.3.10 Intergroup knowledge. Intergroup knowledge was assessed in two different ways. First, perceived intergroup knowledge was assessed with two items that asked participants to indicate their level of agreement on a five-point Likert scale (1 Strongly disagree to 5 Strongly agree) to statements about their level of knowledge about the out-group and how much they have read about the out-group. Second, a more objective assessment of intergroup knowledge was gained which relied less on self-evaluation. The participants were presented with two factual statements about the out-group and asked to indicate their level of agreement on a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). One factual item asked about whether displaced people cause their own displacement, while the second asked about whether they are protected under international law. Total scores were calculated by summing the items scores and finding the average. Higher scores indicate higher levels of intergroup knowledge. The four items were found to have poor internal consistency within this sample (Cronbach's $\alpha = .24$). The low Cronbach's α for the assessment of intergroup knowledge will be explored in the next chapter.

4.3.3.11 In-group identification. In-group identification was assessed with four items that were adapted for this project from items used in previous research (Velasco González et al., 2008). These items asked the participants to indicate on a five-point Likert scale (1 Strongly disagree to 5 Strongly agree) how much they agreed with each statement. The items were adapted from the measures used in Velasco González et al. (2008), and asked the participants about their Australian identity. A sample item is 'Being Australian is an important part of how I see myself'. A single score was calculated by summing the four item scores and finding the average. Higher scores indicate higher levels of in-group identification. This scale had good internal consistency within the current sample (Cronbach's $\alpha = .83$).

4.3.3.12 Social dominance orientation. Social dominance orientation was assessed using the 8-item abbreviated version of the scale developed by Pratto et al. (1994). This scale assesses the degree to which someone prefers inequality among groups. It has been used extensively in intergroup research and has been found to have good internal consistency in a number of different samples (Cronbach's $\alpha .80-.89$) (Bäckström & Björklund, 2007; Ekehammar et al., 2004; Pratto et al., 1994; Snellman & Ekehammar, 2005). Furthermore, Pratto et al. (1994) found support for the predictive and discriminatory validity of this measure. To assess social dominance orientation participants indicated on a five-point Likert scale (1 Strongly disagree to 5 Strongly agree) how much they agreed to statements about group inequality. Four of the eight items were reverse scored. A single score was calculated by averaging item scores, with higher scores on this scale indicating

higher levels of preference for inequality amongst groups. A sample item is 'Some groups of people are simply inferior to other groups'. This scale had good internal consistency within the current sample (Cronbach's $\alpha = .87$).

4.3.3.13 Personal self-esteem. Personal self-esteem was assessed using the 10-item Rosenberg (1965) Self-Esteem Scale. Numerous studies have found the Rosenberg Self-Esteem Scale to have good psychometric properties in a number of different samples and across cultures (Martín-Albo, Núñez, Navarro, & Grijalvo, 2007; Robins, Hendin, & Trzesniewski, 2001; Schmitt & Allik, 2005). Participants indicated their level of agreement to statements about general feelings about the self on a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Five of the 10 items were reverse scored. Higher scores on this scale indicate higher levels of self-esteem, with a single personal self-esteem score calculated by summing item scores and calculating the average. An example item is 'On the whole, I am satisfied with myself.' This scale had good internal consistency within the current sample (Cronbach's $\alpha = .89$).

4.3.3.14 Collective self-esteem. Collective self-esteem was assessed using a modified version of the 14-item Collective Self-Esteem Scale developed by Luhtanen and Crocker (1992). This scale was found to be both a valid and reliable measure (Luhtanen & Crocker, 1992). To assess collective self-esteem the participants were asked to indicate on a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) how much they agreed to statements about their membership within Australian society. Six of the 14 items were reverse scored. A single score was calculated by summing items scores and then finding the average, with higher scores on this scale indicating higher levels of collective self-esteem. An example item is 'I often regret that I belong to the Australian Society.' This scale had good internal consistency within the current sample (Cronbach's $\alpha = .84$).

4.3.3.15 Right-wing authoritarianism. Right-wing authoritarianism was assessed using the 14-item Short Version Right-Wing Authoritarian Scale (Rattazzi et al., 2007). Rattazzi et al. (2007) presented evidence which indicates the Short Version Right-Wing Authoritarian Scale had both good validity and reliability. Participants were asked to indicate on a five-point Likert scale (1 Strongly disagree to 5 Strongly agree) their agreement to statements about authoritarianisms. Seven of the 14 items were reverse scored. A single score for right-wing authoritarianism was calculated by summing item scores and finding the average. Higher scores on this scale indicate higher levels of authoritarianism. An example item is 'What our country needs most is disciplined citizens, following national leaders in unity'. This scale had good internal consistency within the current sample (Cronbach's $\alpha = .84$).

4.3.3.16 Fictional newspaper articles. Three versions of a fictional newspaper article were used. These articles contained factual information about either political or environmentally displaced people, and were matched for content. The term used to refer to conventionally displaced people was *refugee*. Conventionally displaced people was the focus of one of the articles. Two articles focused on environmental displacement. While the content of both these articles was identical, different terms were used in order to test for the effect of the term ‘refugee’ on attitudes. The two different terms were *environmental refugee* and *environmentally displaced people*. All three of the articles first provided a brief definition of the type of displacement (political versus environmental), and then provided estimates of how many people will be displaced. The articles finished by stating displaced people will need to be relocated and Australia is suggested as a viable option for re-settlement.

4.3.4 Procedure

Ethics approval was obtained from the James Cook University Human Research Ethics Committee for this project (approval H6739). Participants were recruited via the James Cook University Psychology Research Participation pool using the SONA system; the James Cook University @JCU Communications newsletter, e-mail, information flyers, radio and social media.

Participants completed the survey online via the Qualtrics platform. Participants were first presented with the information sheet for the study (Appendix B) and asked if they consent to participate. They were also asked if they were Australian citizens. Given that this study is investigating Australian attitudes towards displaced people, those who indicated they were not Australian citizens were thanked and redirected to the end of the survey. The survey first collected demographic information. After the demographic data was collected the participants were randomly assigned to one of three conditions (*environmentally displaced people*, *environmental refugee*, and *refugee*). Once the participants were randomly assigned to a condition they were presented with one of three fictional newspaper articles. After being presented with the fictional newspaper article, the participants were presented with the remainder of the survey. Upon completion of the survey the participants were thanked for their time and awarded course credit where applicable. Non-university students did not receive compensation for their participation.

Both the *environmentally displaced people* and *environmental refugee* conditions presented information in terms of the out-group being those who are displaced due to environmental factors. The only difference between these conditions was the term used to describe the out-group. The third condition, *refugee*, presented information in terms of the out-group being political refugees. Therefore, the term and fictional newspaper article used in the *refugee* condition was different

compared to the *environmentally displaced people* and *environmental refugee* conditions. To ensure consistency across the conditions the fictional newspaper articles followed the same structure and layout, and contained comparable information. There were no other differences between the conditions.

Data collection for the *environmental refugee* and *refugee* conditions was stopped once approximately 180 participants were recruited to each condition. Going forward participants were only assigned to the *environmentally displaced people* condition. This was done as more participants were needed for the *environmentally displaced people* condition as this data was used for the structural equation modelling which is presented later in this thesis.

4.3.5 Data treatment and analysis

The data was downloaded from the Qualtrics platform. All data management and analyses was undertaken using the IBM SPSS software Version 23. In total, 1, 221 participant cases were downloaded. ANOVA analyses were conducted to examine differences between groups. Bivariate correlations were performed to determine the relationships that exist between the variables of interest. Confirmatory factor analyses were conducted to examine the psychometric validity of the measures used to assess the variables within this study. Furthermore, structural equation modelling was undertaken to model the variables of interest. The IBM SPSS Amos graphics package Version 25 was used to conduct the confirmatory factor analyses and structural equation modelling.

4.3.5.1 Missing data. Cases which were missing 100% of data on the independent and dependent variables were deleted (N=92). Furthermore, four more cases were removed as the participants were not Australian citizens. Upon further inspection it was found there was substantial missing data across items (ranging from <1% to 20%). Missing data was particularly apparent for items assessing prejudice. As prejudice is the outcome variable, missing data imputation methods were considered inappropriate on cases with more than 7 values missing on the twelve prejudice items. All cases with > 7 values missing on the twelve prejudice items were deleted (N = 242). In total, 883 cases remained. The remaining missing data was determined to be Missing Completely Random (MAR). As casewise deletion methods for dealing with missing data have been shown to be biased, particularly for data that is not missing completely at random (MCAR), it was decided only cases which had >90% of missing data on the remaining items would be deleted. Cases were screened and none were found to have >90% missing data. On the remaining data, missing values were imputed using the Full Information Maximum Likelihood method. This method is acceptable to use on data that is MAR. Furthermore, this method has been shown to be superior to other

missing data imputation methods as it introduces little to no bias in the data (Bennett, 2001; Enders & Bandalos, 2001).

Chapter 5: Study 1 Results and Discussion, Part 1 – Attitudes towards Environmentally Displaced People

5.1 Aims and Research Questions

The purpose of this chapter was to address the identified research gap regarding host country attitudes towards environmentally displaced people. In addressing this gap, this chapter answers the first primary research question of this project: *What perceptions does an Australian sample hold towards environmentally displaced people?* To answer this research question, the current chapter provides a description of how an Australian sample views environmentally displaced people and also investigates whether different terms for environmental displacement (*environmentally displaced people* and *environmental refugee*) affect participant attitudes. To gain further insight into how Australians view environmentally displaced people, this chapter also explores the sample's attitudes towards refugees and draws comparisons to the sample's attitudes towards environmentally displaced people. Given that threat perceptions are so apparent in Australian discourses, the Integrated Threat Theory (ITT) was used as the theoretical lens in which to do this.

5.2 Hypotheses

A number of hypotheses relating to the aims of this chapter were made. These hypotheses were based on the literature discussed so far in this thesis. The first hypothesis is based on a number of projects discussed in Chapter 2 which investigated Australian views towards refugees and asylum seekers. To summarise, Australian Newspan data showed in the periods from 2001 to 2004 35-50% of people thought all boats should be turned away and in 2009 46% of people thought the government was being too 'soft' on asylum seekers (Newspan & The Australian, 2002, 2004, 2009). Furthermore, cross-sectional surveys of Australian samples have shown that over half of the people being surveyed had negative/prejudicial attitudes and realistic and symbolic threat perceptions towards asylum seekers or refugees (Pedersen, Attwell, et al., 2005; Schweitzer et al., 2005). More representative surveys with larger stratified samples have shown similar proportions of people with negative views. This research has found around half of the participants showed support for assimilation, the governments hard-line approach to managing refugees and that people from ethnic, racial, cultural and religious minority groups should behave more like mainstream Australians (Blair et al., 2017; Markus & Dharmalingam, 2014). Furthermore, it appears approximately 10% of the population hold strong negative views, with Blair et al. (2017) finding that 11% of their sample self-identified as racist. Similarly, Markus and Dharmalingam (2014)

found that 10% of their sample held strong views and thought asylum seekers should be deported and placed in detention. This literature was used to form the first hypotheses of this chapter.

Hypothesis 1. It was hypothesised approximately 30-50% of the sample would hold moderately negative views towards both environmentally displaced people and refugees, with approximately 10% holding extreme negative views towards displaced people.

This chapter's second and third hypotheses were drawn from the discussions in Chapters 1, 2, and 3. As discussed in Chapter 2, refugees have been a prevalent topic in Australia's media and government discourses for many years and Australia has a long history of viewing displaced people in negative ways (Cooper et al., 2017; Lippi et al., 2017; Zetter, 2007). Furthermore, Australians have had a lot of exposure to refugees. In contrast, the issue of environmental displacement is a new and relatively unknown issue among many Australians and there has been little interaction between Australians and environmentally displaced people. Under the ITT framework, previous interactions and perceived intergroup relations can influence threat perceptions, prejudicial attitudes and discriminatory behaviour (W. G. Stephan & Renfro, 2002; W. G. Stephan & Stephan, 1996a, 1996b). As such, the absence of previous interactions may mean attitudes towards environmentally displaced people will be less negative compared to attitudes towards refugees. To add to this, Castles (2002) and Stavropoulou (2008) have suggested that using the term refugee will result in negative political and social responses. Zetter (2007) suggests the constant framing of refugees has politicised the term 'refugee' and impacted the meaning held within this term. Rather than the official definition for asylum seeker and refugee, the social meaning of these terms may now incorporate themes of illegality, threat and refugees as the 'other' (Lippi et al., 2017; Zetter, 2007). Given all these considerations it seems likely that changes in the social meaning of terms will also influence attitudes when the term refugee is used. The next two hypotheses were based on these considerations.

Hypothesis 2. It was predicted participants would view refugees more negatively compared to environmentally displaced people.

Hypothesis 3. It was predicted using the term *environmental refugee* would result in the participants reporting more negative attitudes compared to using the term *environmentally displaced people*.

The next two hypotheses draw on the discussion in Chapter 2 which outlines how the Australian government and media representation of asylum seekers and refugees predominantly focuses on ideas of national security and border protection (Blair et al., 2017; Canetti et al., 2016;

Lippi et al., 2017). Furthermore, a broad look at the government and media framing presented in Chapter 2 indicates the frames predominately focus on the threat refugees and asylum seekers pose to Australia as a whole, rather than the threats posed to individual Australians. Such frames of national security and border protection align with the concept of group based realistic threat perceptions as discussed in Chapter 3. The fourth and fifth hypotheses draw from these discussions.

Hypothesis 4. It was predicted the participants in each condition would hold stronger realistic threat perceptions compared to symbolic threat perceptions.

Hypothesis 5. It was predicted the participants in each condition would hold stronger group realistic and symbolic threat perceptions compared to individual realistic and symbolic threat perceptions.

The sixth and final hypothesis for this chapter is based on the findings that people with certain demographic factors have more negative attitudes. To reiterate, men, people who are older and people who are less educated have been found to have more negative attitudes towards displaced people (Blair et al., 2017; Markus & Dharmalingam, 2014; McKay et al., 2012; Pedersen, Attwell, et al., 2005; Schweitzer et al., 2005).

Hypothesis 6. It was predicted participants who were male, older and who had a lower educational level would hold more negative attitudes towards environmentally displaced people compared to females, younger participants and those who have undertaken higher levels of education.

5.3 Results

Table 6 displays the descriptive data for this sample's views towards displaced people. Across all the variables (excluding empathy), mean scores were low to moderate. This suggests the sample, on average, did not hold strong negative views towards displaced people. Furthermore, the mean scores for empathy were high. This would again suggest the sample, on average, did not feel negatively towards displaced people. Also shown in Table 6 is that participant views towards *refugees* were consistently more negative compared to participant views towards *environmentally displaced people* and *environmental refugees*. Last, views towards environmentally displaced people when the term *environmentally displaced people* was used tended to be slightly more negative compared to when the term *environmental refugee* was used.

Table 6: Means and standard deviations $M(SD)$ for the dependent variables across the three conditions.

Variable	Condition			
	Env. dis. people N = 648	Env. refugee N = 115	Refugee N = 120	Total N = 883
Prejudice ¹	3.88(1.75)	3.63(1.82)	4.09(1.82)	3.87(1.82)
Negative stereotypes ⁴	10.98(10.15)	11.31(9.38)	14.03(11.06)	11.44(10.22)
Realistic group ³	2.71(.79)	2.59(.83)	2.75(.98)	2.70(.82)
Realistic individual ³	2.42(.73)	2.32(.77)	2.51(.85)	2.42(.75)
Symbolic group ³	2.61(.68)	2.49(.74)	2.68(.92)	2.61(.73)
Symbolic individual ³	2.05(.70)	1.95(.70)	2.07(.80)	2.04(.71)
Intergroup anxiety ²	3.48(1.55)	3.33(1.50)	3.68(1.84)	3.49(1.58)
Empathy ²	7.01(2.08)	7.02(2.04)	6.66(2.34)	6.96(2.11)
Conflict ³	3.25(.62)	3.17(.68)	3.62(.65)	3.29(.65)
Status inequalities ³	3.01(.84)	3.04(.83)	3.14(.96)	3.03(.86)
Self-reported knowledge ³	2.41(.85)	2.41(.90)	2.93(1.00)	2.48(.89)
Actual knowledge ³	3.45(.57)	3.39(.61)	3.72(.80)	3.48(.62)

Note: ¹ = 11-point scale, ²=10-point scale, ³ = 5-point Likert scale, ⁴ = negative stereotype index ranges from -55 to +55

5.3.1 Frequency data.

The distribution of the data for each dependent variable was examined across the three conditions. The distributions were examined to gain greater insight into the pattern of the participants' views as well as to enable in-depth comparison of this study's findings with the patterns within the literature. Participant scores for each variable were coded from negligible or low negative views to high or extreme negative views. This was done for each variable by splitting the range of scores for that variable into meaningful categories. For instance, prejudice had a range of 1-11, with higher scores indicating greater prejudicial attitudes. To gain a meaningful understanding of the distribution of prejudicial attitudes, four categories were created by splitting the range into four approximately equal parts. The lowest total scores were then labelled as being negligible prejudicial attitudes, the highest total scores were labelled as being extreme prejudicial attitudes and scores in the middle were either coded as low or high depending on whether they fell lower or higher on the prejudice scale. Refer to Appendix C for frequency tables for the below figures.

5.3.1.1 Prejudicial attitudes. Figure 5 displays the percentage of people in each condition (*environmentally displaced people*, *environmental refugee* and *refugee*) who held either negligible prejudicial attitudes, low prejudicial attitudes, high prejudicial attitudes or extreme prejudicial attitudes. On average across the three conditions 12% of the participants held high prejudicial attitudes while 2% held extreme prejudicial attitudes. Comparison of the pattern across the conditions suggests that more people held more negative views towards refugees compared to people displaced due to environmental factors (18% versus 12%). Furthermore, an extra 3% of people held high or extreme prejudicial attitudes when the term *environmentally displaced people* was used compared to the term *environmental refugee*.

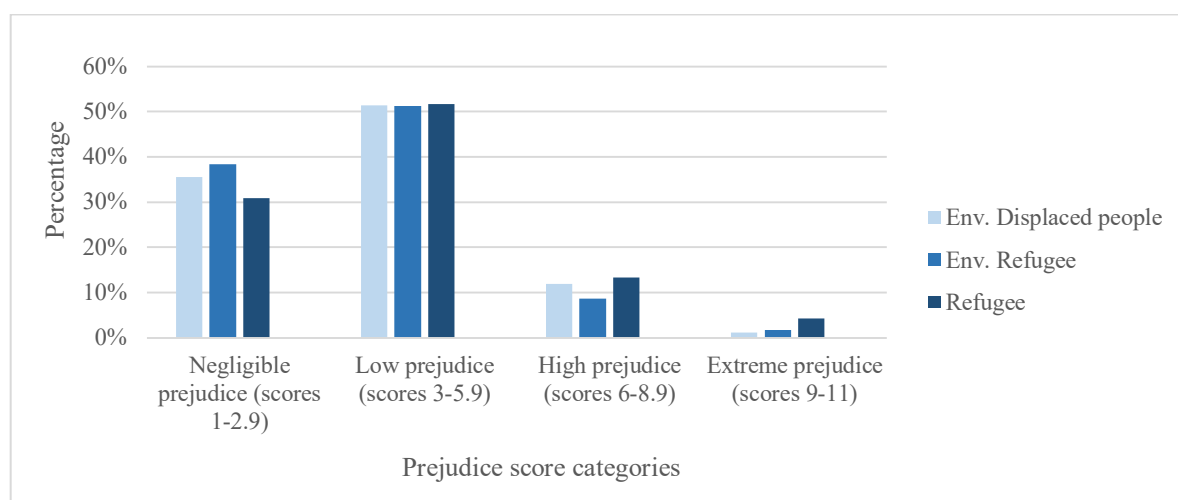


Figure 5. Percentage of participants' prejudice scores categorised from negligible prejudices to extreme prejudices across the three conditions.

5.3.1.2 Negative Stereotypes. Figure 6 displays the percentage of people in each condition who held either no negative stereotypes, low negative stereotypes, high negative stereotypes or extreme negative stereotypes. As indicated previously in Table 6, the majority of the participants did not hold strong negative stereotypical views towards displaced people. However, on average across the three conditions 13% of the participants held high negative stereotypes while 2% held extreme negative stereotypes. Examination of the patterns across the conditions suggests that more people held more negative views towards refugees compared to people displaced due to environmental factors (24% versus 14%). Furthermore, an extra 3% of people held high or extreme negative stereotypes when the term *environmental refugee* was used compared to the term *environmentally displaced people*.

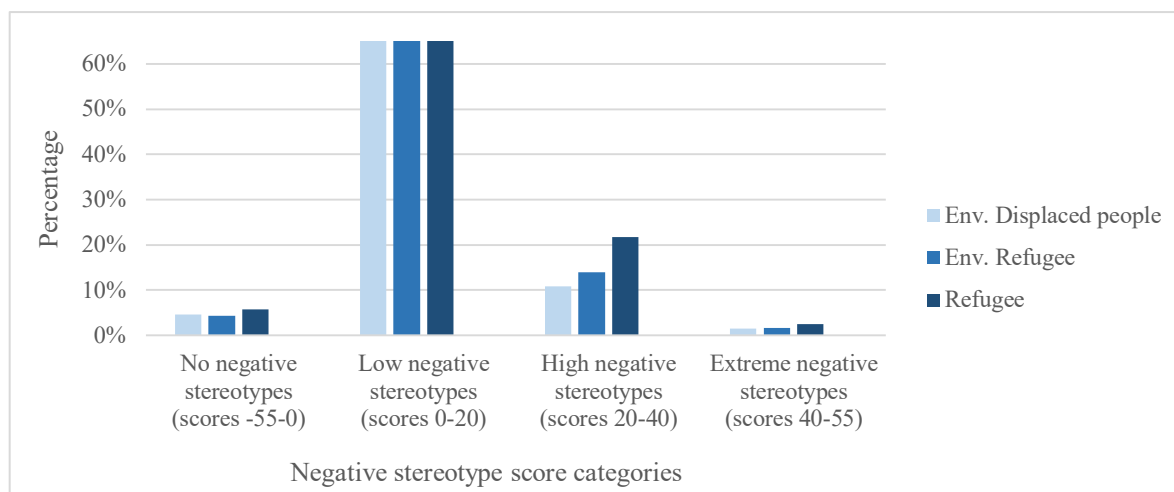


Figure 6. Percentage of participants' negative stereotype scores categorised from no negative stereotypes to extreme negative stereotypes across the three conditions.

5.3.1.3 Realistic individual threat perceptions. Figure 7 displays the percentage of people in each condition who held either negligible realistic individual threat perceptions, low realistic individual threat perceptions, moderate realistic individual threat perceptions or strong realistic individual threat perceptions. As indicated previously in Table 6 the majority of the participants did not hold strong realistic individual threat perceptions towards displaced people. However, on average across the three conditions 22% of the participants held moderate realistic individual threat perceptions while 3% held strong realistic individual threat perceptions. Examination of the patterns across the conditions suggests that fewer participants held moderate or strong realistic individual threat perceptions when the term *environmental refugee* (18%) was used compared to the term *environmentally displaced people* (26%) and *refugee* (27%).

5.3.1.4 Realistic group threat perceptions. Figure 8 displays the percentage of people in each condition who held either negligible realistic group threat perceptions, low realistic group threat perceptions, moderate realistic group threat perceptions or strong realistic group threat perceptions. On average across the three conditions 35% of the participants held moderate realistic group threat perceptions while 6% held strong realistic group threat perceptions. Examination of the pattern across the conditions suggests that approximately 40% of the participants held moderate and strong realistic group threat perceptions regardless of the condition or term used.

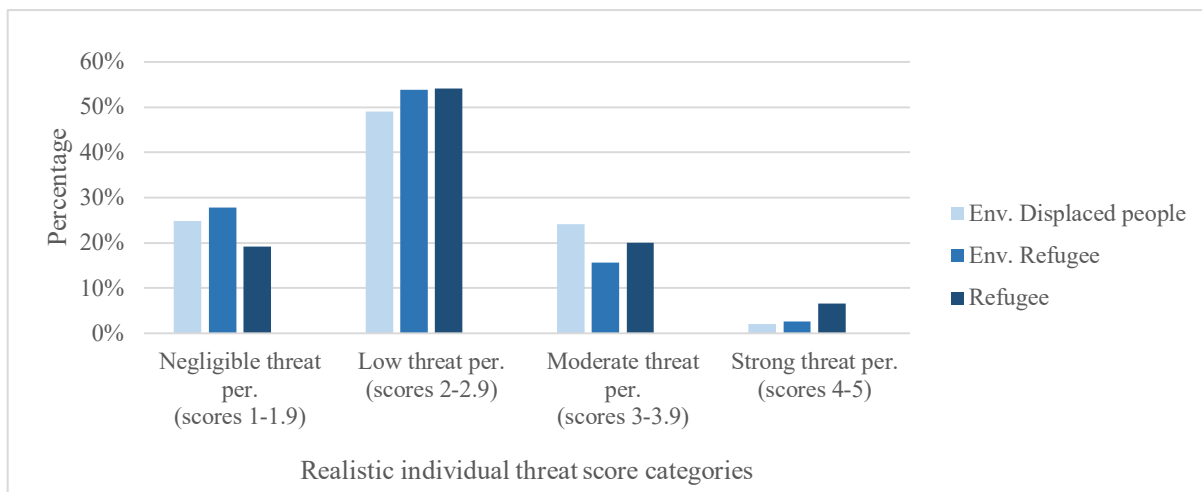


Figure 7. Percentage of participants' realistic individual threat scores categorised from negligible threat perceptions to strong threat perceptions across the three conditions.

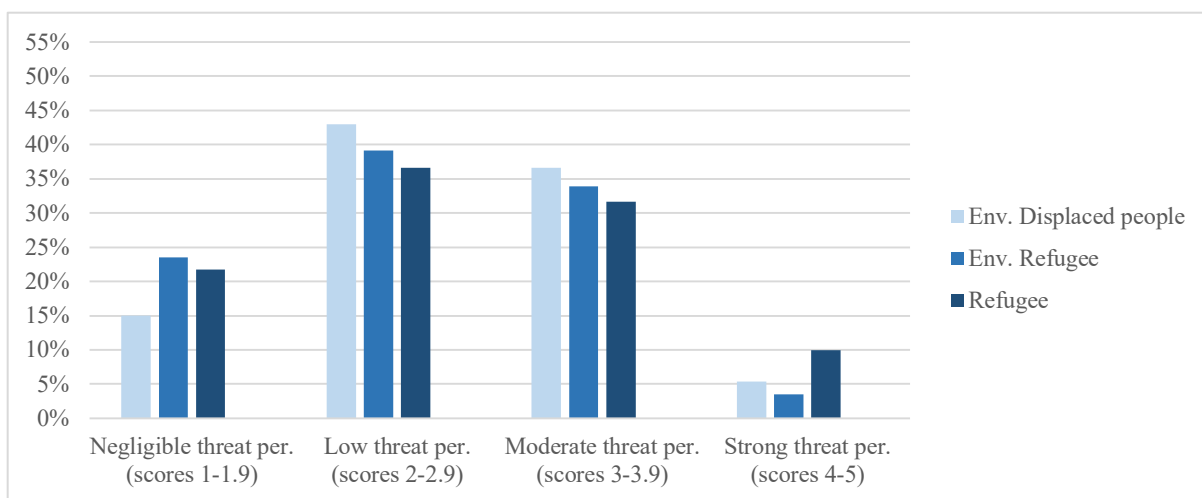


Figure 8. Percentage of participants' realistic group threat scores categorised from negligible threat perceptions to strong threat perceptions across the three conditions.

5.3.1.5 Symbolic individual threat perceptions. Figure 9 displays the percentage of people in each condition who held either negligible symbolic individual threat perceptions, low symbolic individual threat perceptions, moderate symbolic individual threat perceptions or strong symbolic individual threat perceptions. On average across the three conditions 13% of the participants held moderate symbolic individual threat perceptions while 1% held strong symbolic individual threat perceptions. Examination of the pattern across the conditions suggests that fewer participants held moderate or strong realistic individual threat perceptions when the term

environmental refugee (10%) was used compared to the term *environmentally displaced people* (13%) and *refugee* (18%).

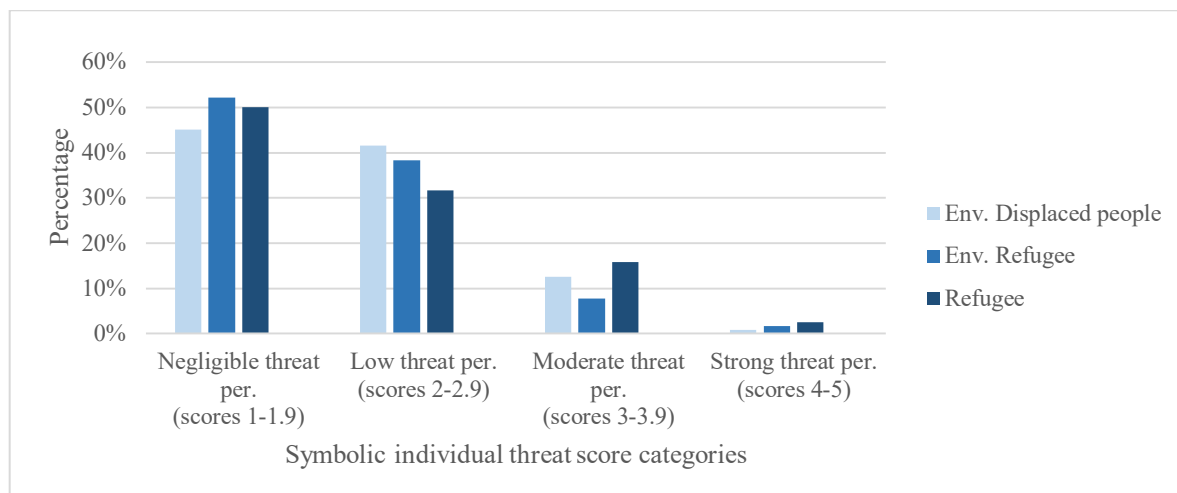


Figure 9. Percentage of participants' symbolic individual threat scores categorised from negligible threat perceptions to strong threat perceptions across the three conditions.

5.3.1.6 Symbolic group threat perceptions. Figure 10 displays the percentage of people in each condition who held either negligible symbolic group threat perceptions, low symbolic group threat perceptions, moderate symbolic group threat perceptions or strong symbolic group threat perceptions. On average across the three conditions 30% of the participants held moderate symbolic group threat perceptions while 4% held strong symbolic group threat perceptions. Examination of the pattern across the conditions suggests that fewer participants held moderate or strong realistic individual threat perceptions when the term *environmental refugee* (16%) was used compared to the term *environmentally displaced people* (34%) and *refugee* (40%). Additionally, more participants in the *refugee* condition held strong threat perceptions (8%) compared to the *environmentally displaced people* (3%) and *environmental refugee* (2%) conditions.

5.3.1.7 Feelings of Intergroup Anxiety. Figure 11 displays the percentage of people in each condition who felt either low levels of anxiety, moderate levels of anxiety or high levels of anxiety about interacting with displaced people. On average across the three conditions 31% of the participants held moderate levels of anxiety while 5% held high levels of anxiety. Examination of the pattern across the conditions suggests that fewer people felt high levels of anxiety about interacting with displaced people when the term *environmental refugee* (3%) was used compared to the terms *environmentally displaced* (5%) and *refugee* (8%).

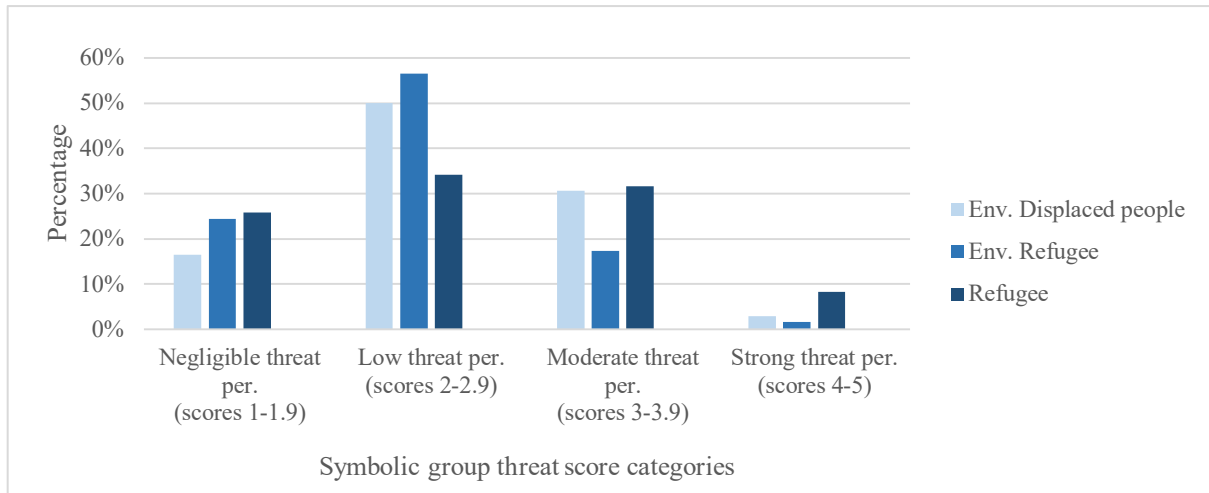


Figure 10. Percentage of participants' symbolic group threat scores categorised from negligible threat perceptions to strong threat perceptions across the three conditions.

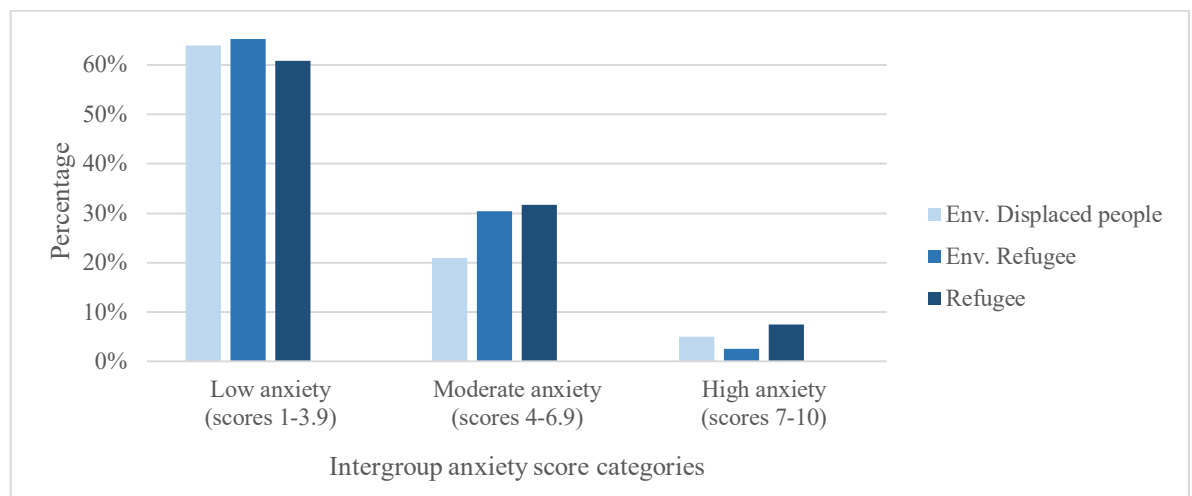


Figure 11. Percentage of participants' intergroup anxiety scores categorised from low anxiety to high anxiety across the three conditions.

5.3.1.8 Feelings of Empathy. Figure 12 displays the number of people in each condition who felt either negligible feelings of empathy, low feelings of empathy, high feelings of empathy or extreme feelings of empathy. On average across the three conditions 48% of the participants held high feelings of empathy while 21% held extreme feelings of empathy. Comparison across the conditions suggests that the participants in the *refugee* condition felt less empathy towards displaced people compared to the participants in the *environmentally displaced people* and *environmental refugee* conditions.

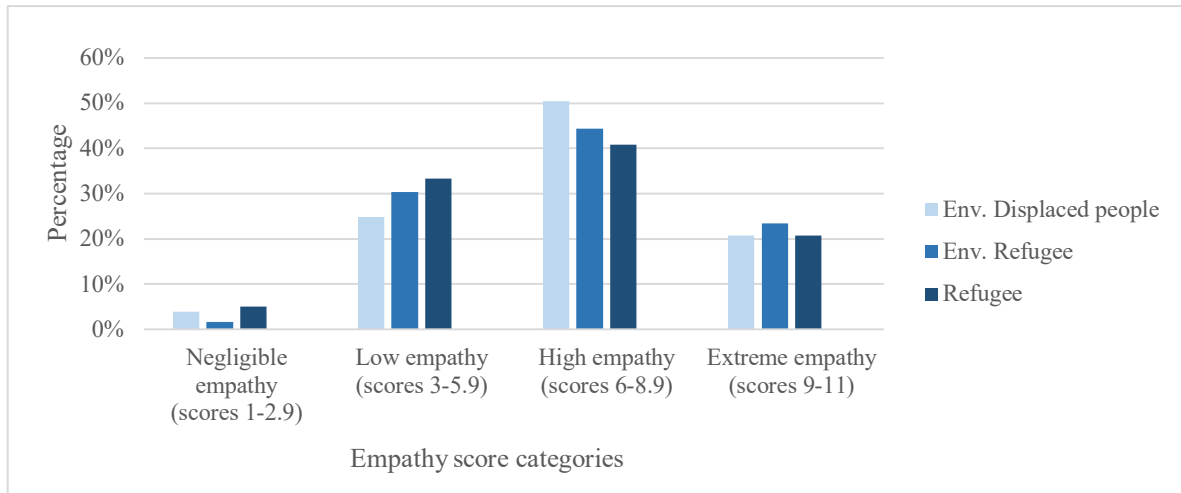


Figure 12. Percentage of participants' empathy scores categorised from negligible empathy to extreme empathy across the three conditions.

5.3.1.9 Perceptions of Conflict. Figure 13 displays the percentage of people in each condition who perceived either negligible conflict, low conflict, moderate conflict or strong conflict between Australians and displaced people. On average across the three conditions 54% of the participants perceived moderate levels of conflict while 20% held strong perceptions of conflict. Examination of the pattern across the conditions suggests that the participants in the *refugee* condition perceived greater conflict compared to the participants in the *environmentally displaced people* and *environmental refugee* conditions.

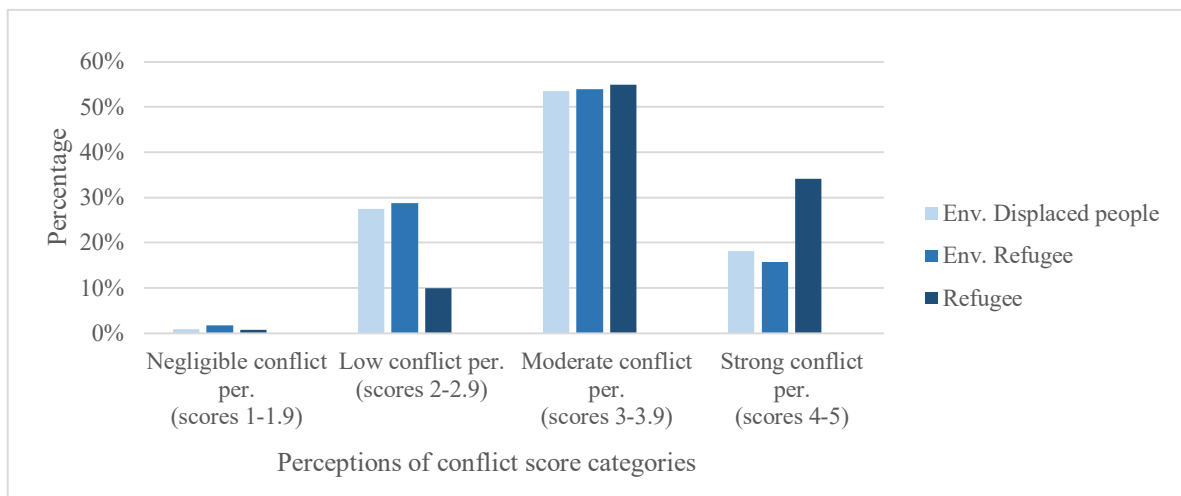


Figure 13. Percentage of participants' intergroup conflict scores categorised from negligible conflict perceptions to strong conflict perceptions across the three conditions.

5.3.1.10 Perceptions of Status Inequalities. Figure 14 displays the percentage of people in each condition who perceived either negligible status inequalities, low status inequalities, moderate status inequalities or strong status inequalities between Australians and displaced people. On average across the three conditions 44% of the participants perceived moderate levels of status inequalities while 23% held strong perceptions of status inequalities. Examination of the pattern across the conditions suggests that the participants in the *refugee* condition perceived less status inequalities compared to the participants in the *environmentally displaced people* and *environmental refugee* conditions.

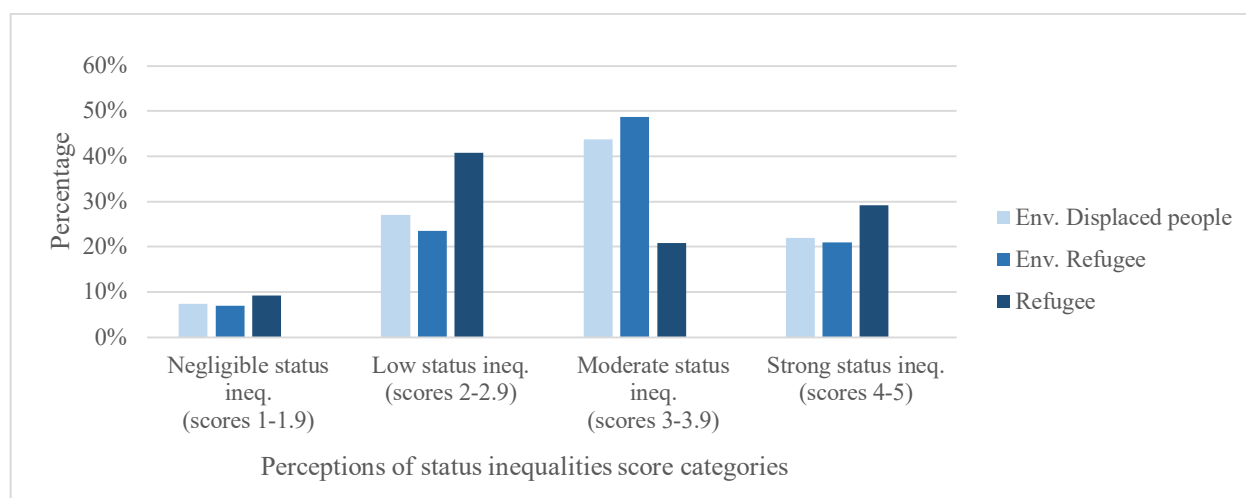


Figure 14. Percentage of participants' status inequality scores categorised from negligible status inequality perceptions to strong status inequality perceptions across the three conditions.

5.3.1.11 Knowledge. Initially, the assessment of knowledge was intended to be based on the total of four items – two items which assessed self-reported knowledge and two items which assessed knowledge of factual statements. However, after examining the distribution and patterns within the knowledge data it became clear that the self-reported items assessed a different concept to the two items which assessed knowledge about factual statements. As such, knowledge was split into self-reported knowledge and actual knowledge. When comparing Figure 15 and Figure 16 it appears people have higher actual knowledge compared to self-reported knowledge.

One likely reason is because the statements used to assess actual knowledge could be considered common knowledge. If more difficult statements were used, actual knowledge may more closely resemble self-reported knowledge. In terms of comparisons of perceived knowledge, more participants in the *refugee* condition who thought they had excellent knowledge (24%) compared to participants in the *environmentally displaced people* (7%) and *environmental refugee*

(9%) conditions. Similarly, there were more participants in the *refugee* condition who had excellent actual knowledge (44%) compared to participants in the *environmentally displaced people* (32%) and *environmental refugee* (29%) conditions.

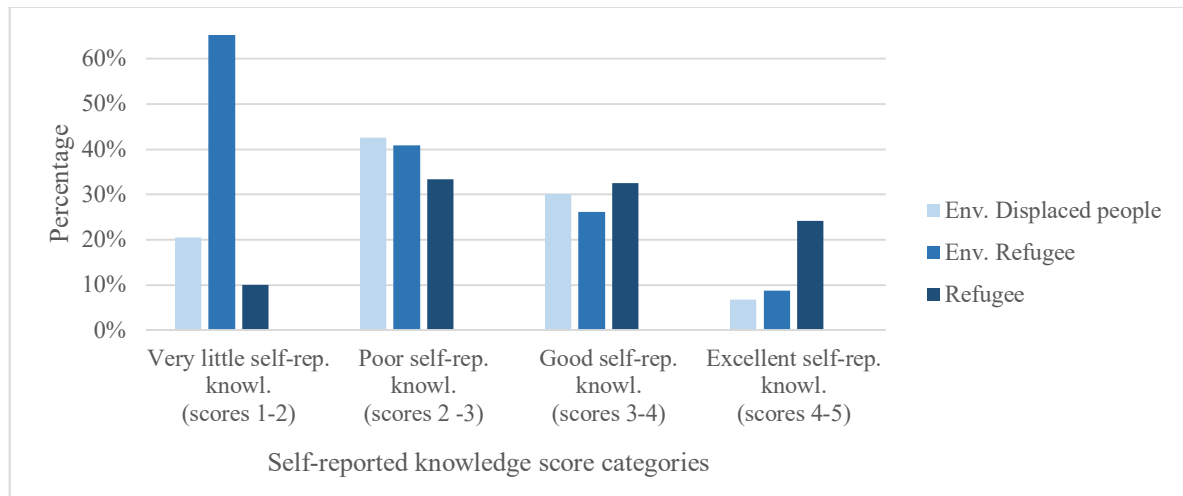


Figure 15. Percentage of participants' self-reported knowledge scores categorised from very little knowledge to excellent knowledge across the three conditions.

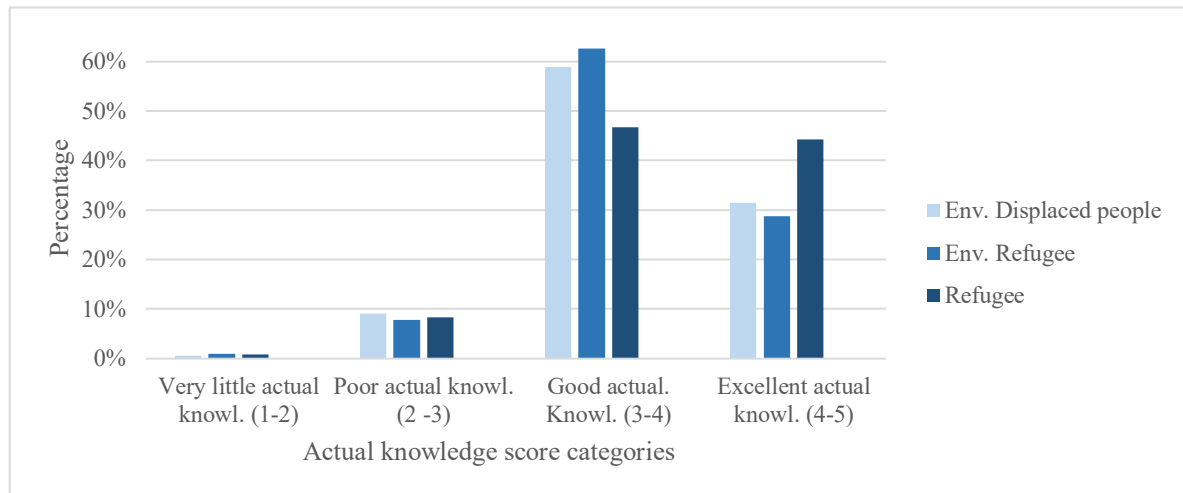


Figure 16. Percentage of participants' actual knowledge scores categorised from very little knowledge to excellent knowledge across the three conditions.

5.3.2 Condition comparison

A series of one-way ANOVAs were conducted to determine if views towards displaced people differed across the three conditions – *environmentally displaced people* (N = 648), *environmental refugees* (N = 115) and *refugees* (N = 120) (refer to Appendix N for ANOVA output). The descriptive data for the following analyses can be found in Table 6. Where the

assumption of Levene's test of homogeneity was not met, Welch's robust test of equality of means was reported. There were significant differences in mean scores between the three conditions for negative stereotypes (Welch's $F_{(2, 205.04)} = 3.93, p = .021, \eta^2 = .01$), conflict ($F_{(2, 880)} = 19.56, p < .000, \eta^2 = .04$), self-reported knowledge ($F_{(2, 880)} = 17.65, p < .000, \eta^2 = .04$) and actual knowledge (Welch's $F_{(2, 191.44)} = 6.92, p = .001, \eta^2 = .02$). No significant differences were detected for prejudice, empathy, threat perceptions, intergroup anxiety and perceptions of status inequalities (all p 's $> .05$, all $\eta^2 < .005$).

Post hoc Bonferroni and where appropriate Games-Howell tests indicated participants in the *refugee* condition reported significantly higher ratings of negative stereotypes towards the target group compared to participants in the *environmentally displaced people* condition (3.05, 95% CI [.48, 5.61], $p = .015$). Furthermore, participants in the *refugee* condition held significantly higher perceptions of conflict compared to participants in the *environmentally displaced people* (.37, 95% CI [.22, .52]) and *environmental refugee* (.45, 95% CI [.26, .65]) conditions (p 's $< .001$). Lastly, participants in the *refugee* condition had significantly higher self-reported and actual knowledge compared to participants in both the *environmentally displaced people* (.51, 95% CI [.30, .72], $p < .001$; .26, 95% CI [.08, .44], $p = .002$) and *environmental refugee* (.52, 95% CI [.24, .79], $p < .001$; .32, 95% CI [.10, .54], $p = .002$) conditions.

5.3.3 Realistic and symbolic threat comparison

A series of one-way repeated measures ANOVAs were conducted to examine if there were significant differences in this sample's perceptions of realistic individual threats, realistic group threats, symbolic individual threats and symbolic group threats (refer to Appendix N for ANOVA output). These analyses were conducted only on the data from the *environmentally displaced people* and *environmental refugees* conditions. The *refugee* condition data was excluded as attitudes towards environmentally displaced people were of primary interest to the current project. Including the *refugee* condition data would have given skewed results on how the sample perceives environmentally displaced people. The assumption of sphericity was violated, as assessed by Mauchly's test of sphericity ($\chi^2(5) = 97.26, p < .001$). Therefore, a Greenhouse-Geisser correction was applied ($\epsilon = .930$). There was a significant difference in participant responses across the four different threat types ($F_{(2.79, 2124.98)} = 511.00, p < .001$, partial $\omega^2 = .40$).

Post hoc analyses with Bonferroni adjustments revealed that the participants had significantly higher levels of *realistic* individual ($M = 2.41, SD = .73$) and group ($M = 2.69, SD = .80$) threat perceptions compared to *symbolic* individual ($M = 2.03, SD = .70$) and group ($M = 2.59, SD = .69$) threat perceptions (all p 's $< .001$, 95% CI [.33, .42] and [.06, .15] respectively).

Furthermore, *group* realistic and symbolic threat perceptions were significantly higher than *individual* realistic and symbolic threat perceptions (all p 's <.001, 95% CI [.24, .33] and [.51, .60] respectively). The participants had significantly higher realistic group threat perceptions compared to symbolic individual threat perceptions (p <.001, 95% CI [.61, .72]). Last, the participants had significantly higher symbolic group threat perceptions compared to realistic individual threat perceptions (p <.001, 95% CI [.13, .23]).

5.3.4 Gender comparison

The participants' self-identified gender was used to examine whether there was a difference in views towards environmentally displaced people across genders. Again, these analyses were conducted only on the combined data from the *environmentally displaced people* and *environmental refugees* conditions as this was of primary interest to this project. Out of 762 participants who indicated their gender, 255 identified as males, 501 identified as females and 6 identified as either non-binary or transgender. As the sample for people who identified as either non-binary or transgender was too small, they were not included in the following analysis. Table 7 presents the means and standard deviations for males and females across the dependent variables.

Table 7: Means and standard deviations $M(SD)$ for gender across the dependent variables.

	Male	Female
Prejudice	4.42(1.90)	3.53(1.59)
Negative stereotypes	11.43(12.61)	10.86(8.17)
Empathy	6.25(2.03)	7.40(1.98)
Realistic Individual	2.59(.71)	2.31(.72)
Symbolic Individual	2.23(.77)	1.92(.62)
Realistic group	2.86(.80)	2.61(.78)
Symbolic group	2.76(.72)	2.50(.66)
Intergroup anxiety	3.79(1.65)	3.27(1.42)
Status	3.14(.85)	2.95(.82)
Conflict	3.19(.66)	3.27(.61)
Self-reported knowledge	2.53(.87)	2.34(.83)
Actual knowledge	3.29(.65)	3.53(.52)

A series of one-way ANOVAs were conducted to determine if views towards displaced people differed across genders (refer to Appendix N for ANOVA output). Where the assumption of

Levene's test of homogeneity was not met, Welch's robust test of equality of means was reported. Males reported significantly higher mean scores for prejudice (.89, Welch's $F_{(1, 440.67)} = 41.73, p < .001, \eta^2 = .06$), realistic individual threats (.29, $F_{(1, 754)} = 27.21, p < .001, \eta^2 = .03$), symbolic individual threats (.30, Welch's $F_{(1, 425.04)} = 29.34, p < .001, \eta^2 = .04$), realistic group threats (.26, $F_{(1, 754)} = 17.86, p < .001, \eta^2 = .04$), symbolic group threats (.26, $F_{(1, 754)} = 24.90, p < .001, \eta^2 = .03$), intergroup anxiety (.52, Welch's $F_{(1, 451.24)} = 18.70, p < .001, \eta^2 = .03$), status inequality perceptions (.19, $F_{(1, 754)} = 8.42, p = .004, \eta^2 = .01$) and self-reported knowledge (.19, $F_{(1, 754)} = 8.43, p = .004, \eta^2 = .01$) compared to females. Females reported significantly higher levels of empathy (1.16, $F_{(1, 754)} = 56.56, p < .001, \eta^2 = .07$) and actual knowledge (.24, Welch's $F_{(1, 424.18)} = 25.95, p < .001, \eta^2 = .04$) compared to males. No significant differences for negative stereotypes and conflict perceptions were detected (all p 's $> .05$, all $\eta^2 < .004$).

5.3.5 Education comparison.

To examine if views towards environmentally displaced people differed based on the education level of the individual, the participants were categorised into four groups – 1) those whose highest level of education was primary or secondary school (N = 694), 2) those whose highest level of education was TAFE or VET (N = 11), 3) those whose highest level of education was an undergraduate university degree (N = 24), and 4) those whose highest level of education was a postgraduate university degree (N = 34). Again, these analyses were conducted only on the combined data from the *environmentally displaced people* and *environmental refugees* conditions as this was of primary interest to this project. Table 8 presents the means and standard deviations for each education level across the dependent variables.

A series of one-way ANOVAs were conducted to determine if views towards environmentally displaced people differed across the different educational levels (refer to Appendix N for ANOVA output). Where the assumption of Levene's test of homogeneity was not met, Welch's robust test of equality of means was reported. There was a significant difference in mean scores between the four education levels for self-reported knowledge (Welch's $F_{(3, 29.97)} = 3.58, p = .025, \eta^2 = .01$) and perceptions of status inequalities ($F_{(3, 759)} = 2.73, p = .043, \eta^2 = .01$). However, post hoc Bonferroni and where appropriate Games-Howell tests did not detect any significant differences between the different education levels for both self-reported knowledge and perceptions of status inequalities (all p 's $> .05$). No other significant differences were detected across the other variables (all p 's $> .05$).

Table 8: Means and standard deviations $M(SD)$ for the different levels of completed education across the dependent variables.

	Primary/High School	TAFE/VET	Undergraduate degree	Postgraduate degree
Prejudice	3.84(1.71)	4.21(1.75)	4.21(2.76)	3.43(2.02)
Negative stereotypes	10.89(9.60)	16.30(15.58)	12.35(13.97)	11.27(12.91)
Empathy	6.99(2.02)	6.24(2.76)	7.27(2.43)	7.49(2.63)
Realistic Individual	2.41(.70)	2.81(.98)	2.19(1.11)	2.38(.96)
Symbolic Individual	2.03(.67)	2.13(.97)	2.16(1.03)	2.00(.93)
Realistic group	2.71(.75)	2.82(1.18)	2.30(1.18)	2.58(1.11)
Symbolic group	2.59(.65)	2.75(.98)	2.50(1.15)	2.58(.97)
Intergroup anxiety	3.46(1.50)	3.74(2.16)	3.48(1.71)	3.38(2.00)
Status	3.02(.83)	3.45(.72)	2.69(1.03)	2.85(.78)
Conflict	3.26(.60)	3.55(.70)	2.86(1.06)	3.04(.71)
Self-reported knowledge	2.39(.83)	3.00(.77)	2.77(.92)	2.56(1.20)
Actual knowledge	3.46(.56)	3.09(.66)	3.13(.81)	3.43(.73)

5.3.6 Age analysis.

In order to determine if age was related to attitudes towards environmentally displaced people Pearson's bivariate correlations were conducted. Table 9 displays the correlations between age and attitudes towards displaced people. Inspection of the correlations indicate there were no strong relationships between age and any of the attitudes towards environmentally displaced people for this sample. It is important to note there was an unexpected negative relationship between age and prejudice suggesting that as age increases prejudice decreases. However, this relationship was very weak and the significance value is likely due to the sample size.

5.4 Discussion

The primary purpose of this chapter was to examine an Australian sample's perceptions of environmentally displaced people. The following discussion interprets the presented results in terms of the hypotheses made and the environmental displacement, Australian context and ITT literature covered in previous chapters. Furthermore, this discussion provides insights into what the current sample's views may mean for environmentally displaced people in Australia.

Table 9: *Pearson's bivariate correlations between age and attitudes.*

	Age
Prejudice	-.075*
Empathy	.096**
Negative Ster.	.014
Intergroup Anxiety	-.062
Realistic Individual	-.046
Symbolic Individual	.026
Realistic Group	-.044
Symbolic Group	.006

Note: * = $p < .05$

The first hypothesis for this chapter predicted that approximately 30-50% of the sample would hold moderate negative views towards both environmentally displaced people and refugees, with approximately 10% holding extreme negative views towards displaced people. This hypothesis was based on previous studies which have identified such patterns in Australia (Blair et al., 2017; Markus & Dharmalingam, 2014; Newspoll & The Australian, 2002, 2004, 2009; Pedersen, Attwell, et al., 2005; Schweitzer et al., 2005). The frequency data from the current sample indicates this hypothesis and the literature behind it is partially supported. For feelings of intergroup anxiety, realistic group threat perceptions, symbolic group threat perceptions, and perceptions of conflict and status inequalities similar patterns as those predicted emerged. This suggests more than a third of the current sample felt moderately to highly anxious about interacting with displaced people, and perceived displaced people to pose a moderate to strong threat to Australia's economy, safety, healthcare, educational and social systems as well as a threat to Australian values and way of life. Of particular note are the pattern of findings for conflict and status inequalities. Of all the ITT variables, the participant's negative perceptions were highest for conflict and status inequalities. That is, 54% and 44% of the sample held moderate conflict and status inequality perceptions respectively. Furthermore, 20% and 23% of the sample held strong conflict and status inequality perceptions respectively. This suggests a large proportion of the sample perceives there is great conflict and status differences between Australians and displaced people.

However, for prejudice, negative stereotypes and symbolic individual threat perceptions less than 13% of the participants held moderate negative views and less than 2% held strong/extreme negative views. For realistic individual threat perceptions these proportions were slightly higher (22% of participants held moderate views and 3% holding strong views), but still

less than the expected amount. Results for realistic individual and symbolic individual threat perceptions likely occurred as the Australian government and media dialogues on displaced people are typically focused on group based threats to Australia, rather than threats to the individual. As such, individual threat perceptions are not as high as group threat perceptions. This is explored in further detail later in this discussion.

The nature of the measures used may explain the lower than expected proportions of people with moderate to extreme prejudicial attitudes and negative stereotypes. To specify, the measures which assessed both prejudice and negative stereotypes included strong, highly salient terms. For instance, the prejudice measure asked participants if they felt hatred, superiority and rejection towards displaced people. In addition, the negative stereotypes measure asked the participants if displaced people are greedy, aggressive and radicalised. These terms may be too overtly negative or salient to detect the more subtle forms of prejudice and negative stereotypes. Indeed, as discussed in Chapter 3, a distinction between classical and modern prejudice has been made in the prejudice literature (McConahay et al., 1981; Sears, 1988; Swim et al., 1995). Classical prejudice is more overt and openly hostile. This form of prejudice is characterised by individuals unashamedly expressing their prejudiced views. In contrast, modern prejudice is conceptualised as being more covert and subtle. Modern prejudice is characterised by the denial that discrimination of minority groups still occurs, resentment towards minority groups receiving distinct attention, and antipathy towards minority demands (Akrami et al., 2000; Pedersen, Attwell, et al., 2005; Sears, 1988). As such, the results from this study may suggest the measures which assessed prejudice and negative stereotypes were too overtly discriminatory and did not detect prejudicial attitudes and perceptions of negative stereotypes in those individuals who did not hold strong overt views, but rather held more moderate subtle prejudicial and stereotypical views. As such, the 13.4% and 14.4% of the participants who reported high and extreme prejudicial attitudes and negative stereotypes respectively may align with the 10% and 11% of people with strong negative views identified in Blair et al. (2017) and Markus and Dharmalingam's research.

Overall, this study's findings indicate a substantial proportion (ranging from 13% for prejudice to 74% for perceptions of conflict) of the participants in the current sample held moderate to strong/extreme negative views towards displaced people. However, directly generalising these findings from the current sample to the Australian population would be overly simplistic and inappropriate as the sample for the current study was not representative as the current sample comprised predominantly young, female undergraduate students.

While the above discussion focuses on views towards displaced people as a whole, there were some notable differences between the sample's views towards environmentally displaced

people and refugees who have been displaced due to non-environmental factors (political or religious persecution). This study's second hypothesis predicted that participants would view refugees more negatively than they would view environmentally displaced people. The pattern in the current study's descriptive data indicated that the participants consistently held more negative attitudes towards refugees compared to environmentally displaced people. Additionally, the ANOVA analyses identified two significant differences: 1) perceptions of negative stereotypes were significantly higher towards refugees compared to environmentally displaced people, and 2) perceptions of intergroup conflict were significantly higher towards refugees compared to both environmentally displaced people and environmental refugees.

These results suggest attitudes towards refugees, compared to attitudes towards environmentally displaced people, are typically more negative which supports this chapter's second hypothesis. This finding can be explained using the ITT. Under the ITT framework, previous interactions and perceived intergroup relations can influence threat perceptions, prejudicial attitudes and discriminatory behaviour (W. G. Stephan & Renfro, 2002; W. G. Stephan & Stephan, 1996a, 1996b). In Australia the issue of environmental displacement is not widely known. Within this study's sample, the majority of the participants (70%) reported they have had no contact with environmentally displaced people. As such, the absence of previous interactions with environmentally displaced people may explain why attitudes towards environmentally displaced people were less negative compared to attitudes towards refugees. However, it is important to not overstate the observed pattern of differences and to note that the differences in attitudes towards refugees and environmentally displaced people were not large, with most of the differences in mean scores being non-significant.

The third hypothesis for this chapter predicted that the term *environmental refugee*, rather than *environmentally displaced people*, would result in the participants reporting more negative attitudes. This hypothesis was formed from the arguments made by a number of scholars who suggested the negative framing of refugees in Australian discourses has politicised the term 'refugee', which will lead to negative political and social responding when the term is used (Castles, 2002; Lippi et al., 2017; Stavropoulou, 2008; Zetter, 2007). However, inspection of the frequency data and mean scores indicates the opposite occurred. The participants held stronger prejudicial attitudes, all four threat perceptions, intergroup anxiety and perceptions of conflict when the term *environmentally displaced people* was used compared to when the term *environmental refugee* was used. However, no significant differences in mean scores were detected.

One explanation as to why the sample held slightly more negative views when the term *environmentally displaced people* was used may be related to familiarity biases. More specifically,

a large body of research suggests that people respond more positively when they are familiar with the information (Moons, Mackie, & Garcia-Marques, 2009; Sluckin, Hargreaves, & Colman, 1982; Teigen, 1985). As 'refugee' is a well-known, familiar term and *environmentally displaced people* is an unfamiliar term this may explain the unexpected results. Another explanation may be people respond differently when the term 'refugee' was used in the context of environmental displacement. That is, perhaps the negative meaning assigned to the term 'refugee' as identified by Lippi et al. (2017) and Zetter (2007) is context specific and only applies when the 'refugee' term is used to refer to those displaced due to more typical reasons such as war and religious persecution. Unfortunately, without further research which specifically investigates the effects of the term 'refugee', only speculation can be made at this point. More research is needed to correctly identify exactly why the participants held slightly more negative attitudes when the term *environmentally displaced people* was used.

In terms of implications, it seems as though using the term *environmental refugee*, rather than *environmentally displaced people*, when referring to those displaced by environmental factors may be related to marginally lower negative attitudes. However, as explored in Chapter 1, there are a number of issues with using the term 'refugee'. Foremost of which is that the term 'refugee' is a legal term which implies rights that cannot be legally provided to those displaced by environmental factors (UNHCR, 2006). One might consider the reduction in negative attitudes when the term 'refugee' was used as reason to use this term going forward. However, the term 'refugee' is misleading and inaccurate. Furthermore, it is unlikely the small mean difference observed in the current study will have any meaningful positive outcomes for environmentally displaced people. Thus, the known issues with using the term 'refugee' outweighs the potential benefits. It is thus not recommended the term 'refugee' is used at this point in time.

Regardless of the term used, the current study found that 40% of the participants perceived environmentally displaced people to pose a threat to Australia and the Australian people. The fourth and fifth hypotheses for this chapter predicted that the participants would hold stronger realistic and group threat perceptions compared to symbolic and individual threat perceptions. The findings from the current study supported these hypotheses. More specifically, the participants held significantly higher realistic group and individual threat perceptions compared to symbolic group and individual threat perceptions, respectively. Furthermore, these analyses also indicated that the participants perceived environmentally displaced people to pose a greater threat to Australia as a group rather than to themselves as individuals. These findings indicate that this sample perceives environmentally displaced people to pose the greatest threat to Australia's economy, the physical safety of Australian people and to the Australian educational, healthcare and social systems. This

study's sample perceived environmentally displaced people to pose the lowest threat to one's own values, world views, moral standards and personal identity.

These findings support the hypotheses made and were to be expected given the framing of displaced people in Australia. To specify, the Australian government and media have focused on ideas of national security and border protection when discussing refugees and asylum seekers (Blair et al., 2017; Canetti et al., 2016; Lippi et al., 2017). Furthermore, politicians such as Pauline Hanson regularly comment on refugees and asylum seekers taking jobs, being provided for with government payments and placing a strain on Australian resources and systems (ABC, 2016b). Additionally, common false beliefs about refugees and asylum seekers align with the realistic threats concept (Pedersen & Hartley, 2017). Such framing and false beliefs predominately focus on the threat refugees and asylum seekers pose to Australia as a whole, rather than the threats posed to individual Australians.

Another explanation for the participants' lower symbolic threat perceptions in this study may be the expected origin and culture of environmentally displaced people. To explain, symbolic threats refer to perceived group differences in moral norms, values, worldviews, attitudes and standards (C. W. Stephan & Stephan, 2000; W. G. Stephan et al., 2000; W. G. Stephan & Stephan, 1996b). In Australia, such concerns are typically linked with Muslims and the introduction of Sharia Law (Australian Broadcasting Corporation [ABC], 2016b; Perth Now, 2018; Sibson, 2018). As environmentally displaced people are not necessarily Muslims and the environmentally displaced people expected to come to Australia are from the Pacific islands which have predominantly Christian populations, it stands to reason why the symbolic threat of environmentally displaced people is of less concern to the current sample.

As discussed in Chapter 2, host country threat perceptions have been linked with the acculturation and/or integration outcomes of displaced people. Florack et al. (2003) found that high perceptions of threat were linked with views of exclusion (displaced people should leave the host country) by the host community, whereas moderate threat perception levels have been associated with assimilation (displaced people should become more like us) and segregation (displaced people should be kept separate to us) views. Integration (interacting with and accepting displaced people and their culture) of displaced people was endorsed when there were low threat perceptions. Furthermore, Canetti-Nisim et al. (2008) also found out-group threat perceptions to be related to exclusionary attitudes. Particularly important for this research, they found perceived threats to security to be a much stronger predictor of negative exclusionary attitudes towards an out-group than other forms of threat.

When Florack et al. (2003) and Canetti-Nisim et al.'s (2008) findings are considered in light of the current study's results, insight into how environmentally displaced people may be received into Australia can be gained. To explain, average scores for all four threat perceptions fell in the low threat perception range. This could be interpreted to indicate that environmentally displaced people will be accepted and integrated into Australian society by the majority of the population (Florack et al., 2003). However, it cannot be ignored that 40% of the sample perceived environmentally displaced people to pose a moderate to strong realistic threat to Australia. According to Canetti-Nisim et al.'s (2008) findings this would suggest negative exclusionary attitudes will be apparent within Australia. Together, this indicates a similar political and social situation to what is currently occurring in Australia with the refugee and asylum seeker issue may also emerge with environmentally displaced people. That is, currently there is great social and political tension in regards to whether refugees and asylum seekers should be allowed into Australia, how many should be allowed to enter the country, and the ways in which asylum seeker cases are processed (see Chapter 2). If Australian perceptions towards environmentally displaced people are similar to those towards refugees, as the current findings are suggesting, it seems likely there will also be division in Australian politics, media and public discourses on how to assist and process environmentally displaced people. Considering the current context in Australia regarding asylum seekers and refugees, it would not be surprising if this is the case. However, it is likely environmental displacement will only become of great concern if there is a substantial number of people to be environmentally displaced. As covered in Chapter 1, it is unclear and difficult to determine exactly how many people will be environmentally displaced and where they will be displaced to. Nevertheless, the evidence does indicate environmental displacement will increase within the coming decades (Institute of Policy Studies, 2010; Reuveny, 2007; Wilkinson et al., 2016).

So far, the results for empathy and knowledge have not been discussed. The findings for empathy, a positive out-group attitude, mirror the findings for the negative out-outgroup attitudes discussed above. More specifically, the majority of the sample (70%) reported moderate to strong feelings of empathy towards displaced people. However, 30% of the sample reported low feelings of empathy. These findings match the findings for negative out-group attitudes, which found that for most out-group attitudes the majority did not have strong views against displaced people. However, there was a proportion of the sample who did perceive displaced people negatively (average of 35% across all out-group attitudes, range = 13%-74%). Not surprisingly, the frequency data indicates that more people reported higher levels of empathy towards environmentally

displaced people compared to refugees. This supports the hypothesis that the participants would hold fewer negative views towards environmentally displaced people compared to refugees.

Finally, the findings for both self-reported and actual knowledge present some interesting insights into the sample's awareness of human displacement. To begin with, for both refugees and environmentally displaced people it appears the sample was aware displacement is not the primary cause of the displaced person and were also aware of the legal protection granted to the target group. In addition, both the mean scores and frequency data for self-reported and actual knowledge indicate that the sample both thought they knew and actually knew more about refugees than they did about environmentally displaced people. This finding is likely due to environmentally displaced people being a less known form of displacement. Another finding for knowledge emerged from the gender comparison results. Females reported they knew significantly less about displaced people compared to men, but when measured on actual knowledge females reported significantly higher mean scores than men. This suggests for future work that self-reported knowledge should not be used as a proxy for actual knowledge, especially when comparing groups.

The last hypothesis for this chapter was based on whether an individual's gender, age and educational level were related to their out-group attitudes. Previous research has found men, individuals who are older and those who are less educated have reported more negative attitudes towards displaced people (Blair et al., 2017; Markus & Dharmalingam, 2014; McKay et al., 2012; Pedersen, Attwell, et al., 2005; Schweitzer et al., 2005). In line with previous research the gender comparisons for this study showed on average men scored significantly higher on prejudicial attitudes, all four threat perceptions, intergroup anxiety and status inequalities as well as reporting significantly lower levels of empathy compared to females. Conversely, analyses for educational levels and age did not suggest people with a non-tertiary education and who were older had greater negative out-group attitudes. However, these results should be interpreted cautiously. The sample was predominantly a young, undergraduate student sample. Thus, the sample did not accurately capture the views of people with non-tertiary educations and older individuals. While this is a limitation for all the findings in this study, it is particularly relevant to the educational level and age findings which should only be applied to undergraduate student populations.

5.5 Chapter Summary

This chapter has examined how the sample views both environmentally displaced people and refugees across several different out-group attitudes. Overall, it appears the majority of the sample did not hold strong negative views towards environmentally displaced people. However, there was consistently a substantial proportion of the sample ($\approx 35\%$) who held strong negative

views towards both environmentally displaced people and refugees. Furthermore, there was a trend in the data to suggest the current sample viewed refugees more negatively than environmentally displaced people, but this trend was for the most part not significant. In addition, the use of the term 'refugee' to refer to environmentally displaced people appeared to marginally reduce negative responding towards environmentally displaced people. Lastly, it was found realistic group threats were perceived to be the greatest threat posed by both environmentally displaced people and refugees.

While the current findings provide insight into how an Australian sample perceives environmentally displaced people, no insight can be gained into what out-group attitudes lead to prejudice towards environmentally displaced people. Additionally, this chapter has not addressed any of the theoretical gaps and issues with the ITT that were identified in Chapter 3. The purpose of the following two chapters are to explore these gaps. Specifically, the next chapter examines the psychometric properties of the ITT variables and explores some of the measurement issues of the negative stereotypes construct.

Chapter 6: Study 1 Results and Discussion, Part 2 – Examining the Psychometric Properties of the Integrated Threat Theory Variables

6.1 Aims and Research Questions

There is limited research which has directly examined the psychometric properties of the operationalisation of ITT variables, especially the validity of the measures which are commonly employed to assess ITT constructs. As such, the purpose of this chapter was to analyse the validity and reliability of the measures used in this study as well as the broader Integrated Threat Theory (ITT) literature. In doing this, the current chapter in part addresses the second primary research question of this project: *Is the Integrated Threat Theory an appropriate framework to understand and predict prejudicial attitudes towards environmentally displaced people?* This chapter focuses on the assessment of the validity and reliability of the measures used to assess prejudice, negative stereotypes, intergroup anxiety and the four realistic and symbolic threat measures. These variables are of primary interest as the measures used in this study are comparable to the measures used across the ITT literature. Thus, an analysis of these measures can be applied to previous research and can also be used to inform future work in this area.

6.2 Statistical Criteria for Establishing Construct Validity

The construct validity of the scales was assessed in two ways: 1) examining the relationships between the ITT variables and 2) undertaking confirmatory factor analyses on the ITT scales. Assessing convergent validity involves comparing the scale of interest to other variables or measures that assess a similar construct. To establish convergent validity, similar variables should be strongly related to each other (Streiner & Norman, 1989). For this study, strong positive correlations between prejudice, negative stereotypes and realistic and symbolic threats would indicate that higher levels on one variable tend to be related to higher levels on the other variables, which would suggest these variables have convergent validity. Usually, moderate correlations (.3 - .7) are considered adequate to establish convergent validity. Correlations higher than .8 could indicate the measures or variables are too similar and not measuring distinct constructs.

Second, confirmatory factor analyses (CFA) were conducted on each variable using maximum likelihood estimation within the AMOS program. Within the literature and for this study all of the variables are conceptualised as single factor constructs. As such, for all of the following factor structures a single factor model was expected. To establish construct validity through factor analysis all factor loadings should be greater than .32. Furthermore, good model fit indices indicate support for construct validity of the variables. In order to determine if the tested factor structures

have acceptable model fit a number of model fit indices were consulted. Following is a brief description of the model fit indices that were used as well as the values or ranges which indicate good model fit.

First, the Chi-square statistic tests the hypothesis that there is no significant difference between the implied variances and covariances and the empirical sample variances and covariances. Good model fit as indicated by the Chi-square statistic would be a p value greater than .05 (Hooper, Coughlan, & Mullen, 2008). However, there are a number of limitations with the Chi-Square fit statistic as an accurate measure of model fit (Bollen & Long, 1992; Hooper et al., 2008). One such limitation is the requirement for normally distributed data. To overcome this limitation Bollen-Stine bootstrap p (Bollen & Stine, 1992) with 500 iterations was used where appropriate. Next, the Root Mean-Square Error Approximation (RMSEA) is a measure of how well the model would fit the population's covariance matrix and takes into account sample size, which accounts for some of the limitations of the Chi-square statistic. An RMSEA value of less than .06 indicates fair fit (Hooper et al., 2008; Schreiber, 2008). There are also two significance tests based on the RMSEA statistic. First is PCLOSE, tests the hypothesis that the RMSEA value is due to chance. If this value is greater than .05 it can be concluded that the model is a close representation of the data. Second is a ninety percent confidence interval. In a well-fitting model the upper limit should be less than .08 while the lower limit should be close to 0 (Hooper et al., 2008; Kline, 2016). The Root Mean-square Residual (RMR) is a measure of the difference between the residuals of the sample covariance matrix and the hypothesised covariance model. As the RMR can be affected by the order of magnitude of the scales of the observed variable the Standardised Root Mean-Square Residual (SRMR) is a more meaningful indicator of model fit. Optimally, well-fitting models should have SRMR values less than .05, however values of up to .08 are acceptable (Hooper et al., 2008; Schreiber, 2008). The Goodness-of-fit (GFI) and Adjusted Goodness-of-fit (AGFI) statistics are indices which assess how closely the model replicates the observed covariance matrix. For well-fitting models GFI values should be greater than .95 and AGFI values should be greater than .90 (Hooper et al., 2008). Table 10 presents a summary of the described fit indices.

6.3 Statistical Criteria for Establishing Internal Consistency Reliability

The internal consistency of a scale is defined as the extent to which the items in the scale appear to measure a common characteristic (Aron, Aron, & Coups, 2006). Internal consistency is often assessed using the Cronbach's alpha coefficient. Generally, a Cronbach's alpha coefficient higher than .7 is recommended and indicates the scale has good internal consistency reliability (DeVillis, 2003; Kline, 2005). However, Cronbach's alpha coefficient can be inflated when there

are a large number of items in the scale (A. Field, 2018; Kline, 2016). It is thus important to also consider the item-total correlations when examining the internal consistency of a scale. Item-total correlations $<.3$ were taken to indicate that a particular item was not measuring the same construct as the other items in the scale.

Table 10: *Summary of indices for assessing acceptable model fit.*

Fit index name	Abbrev.	Acceptable level	Purpose
Chi-square	χ^2	$p > .05$	Tests the hypothesis that there is no difference between the implied variances and covariances and the empirical sample variances and covariances.
Root Mean-Square Error Approximation	RMSEA	RMSEA $<.06$ PCLOSE $> .05$ 90% RMSEA CI = $\approx 0 - <.08$	A measure of how well the model would fit the population's covariance matrix.
Standardised Root Mean-Square Residual	SRMR	SRMR $<.08$	A measure of the difference between the residuals of the sample covariance matrix and the hypothesised covariance model.
Goodness-of-fit and Adjusted Goodness-of-fit	GFI AGFI	GFI $>.95$ AGFI $>.90$	Measure how closely the model replicates the observed covariance matrix.

6.4 Data Treatment

Only participants within the *environmentally displaced people* and *environmental refugee* conditions were included in the analysis (N=763). The *refugee* condition data was not included as it was not the primary focus of this project. Furthermore, including this data may have introduced confounding variability as refugees are a different form of displaced person compared to environmentally displaced people. Missing data was treated using Full Information Maximum Likelihood methods. For full details on missing data treatment, refer to the study's method in Chapter 4 (section 4.3.5). Inspection of the data determined it was not multivariate normal. As such, the Bollen and Stine (1992) bootstrapping post hoc adjustment which accounts for non-normality was run on the models. As recommended by Arbuckle (2016), 500 bootstrap samples were run.

6.5 Results

Bivariate correlation analyses were conducted to examine the relationships between all the variables included in Study 1. The Pearson's correlation coefficients are displayed in Table 11. Prejudice correlated as expected with the realistic and symbolic threat perceptions and intergroup anxiety. These correlations suggest that prejudice, symbolic and realistic threats and intergroup anxiety have convergent validity. Correlations between realistic group, realistic individual, realistic group and symbolic group threat perceptions were high ($>.8$). This suggests these scales were measuring very similar constructs, which is as expected given they were all assessing threat. However, negative stereotypes only correlated weakly the other variables. The weak correlations between negative stereotypes and the other variables suggests the measure for negative stereotypes lacks convergent validity. This is explored further in the negative stereotypes section below.

Table 11: *Pearson's correlation coefficients between prejudice, negative stereotypes, intergroup anxiety and threat perceptions.*

	1	2	3	4	5	6	7
1. Prejudice	1						
2. Negative stereotypes	.295**	1					
3. Intergroup anxiety	.705**	.206**	1				
4. Realistic individual	.679**	.321**	.600**	1			
5. Symbolic individual	.740**	.245**	.654**	.788**	1		
6. Realistic group	.704**	.373**	.592**	.809**	.727**	1	
7. Symbolic group	.727**	.417**	.582**	.740**	.788**	.801**	1

Note: ** correlations significant at the .01 level

6.5.1 Prejudice

6.4.1.1 Confirmatory factor analysis of the prejudice scale. To examine the construct validity of the prejudice measure, a CFA was conducted. The factor structure used in the CFA can be seen in Figure 17. Model fit indices from the CFA indicate the 12 items used to assess prejudice have poor model fit ($\chi^2 = 2862.83$, $df = 24$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .261, PCLOSE = .000, 90% RMSEA CI = .253-269; SRMR = .211; GFI = .488; AGFI = .261). Poor model fit suggests that the factor model does not adequately represent the relationships amongst the variables. This indicates the measure for prejudice has poor construct validity.

Inspection of the sample correlations (refer to Appendix D) indicated there appeared to be two factors. The hostility, dislike, superiority, disdain, hatred and rejection items all positively correlated together (r 's $>.52$), whereas the admiration, acceptance, affection, approval, sympathy and warmth items were positively correlated together (r 's $>.48$). However, closer inspection of the items suggests there was not two factors, but rather there was a method effect.

A method effect can occur when some of the items in a multi-factor survey are positively worded and some of the items are negatively worded. This can result in some of the correlations amongst the items being due to the positive and negative wording of the items being interpreted differently and resulting in different participant responding, rather than the underlying first-order factor (prejudice). This appeared to be occurring with the prejudice measure as all the positively worded items correlated together while all the negatively worded items correlated together. This suggests the positive or negative wording of the items influenced the participants' responding. To account for the variability introduced into the data because of the positive and negative wording, two factors were added into the model. One for positively worded items and one for negatively worded items. Adding factors into the model to account for the method effect substantially improved the model fit. However, model fit was still poor ($\chi^2 = 276.46$, $df = 41$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .087, PCLOSE = .000, 90% RMSEA CI = .077-.097; SRMR = .025; GFI = .939; AGFI = .883). Items with the lowest variance explained by the factor were removed. Furthermore, the modification indices produced by AMOS were consulted and error covariances were added where appropriate. The removal of the items with the lowest variance explained by the factor (hostility, superiority, disdain and sympathy) resulted in a factor structure with good fit ($\chi^2 = 14.03$, $df = 6$, $p = .029$; Bollen-Stine Bootstrap $p = .102$; RMSEA = .042, PCLOSE = .635, 90% RMSEA CI = .012-.071; SRMR = .006; GFI = .995; AGFI = .976). Furthermore, all factor loadings were adequate ($>.4$). The final factor structure can be seen in Figure 18. The good model fit indices for this final factor structure suggests these remaining items were good measures for prejudice and together these items have good construct validity.

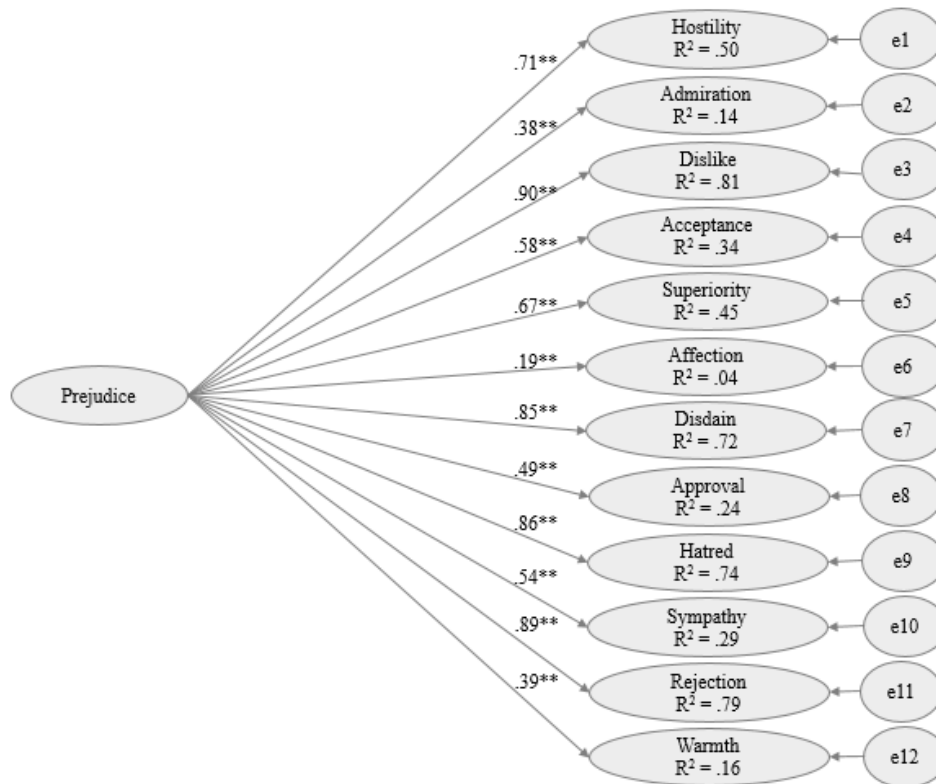


Figure 17. Original factor structure for the prejudice measure. Standardised factor loadings shown.

** = $p < .001$.

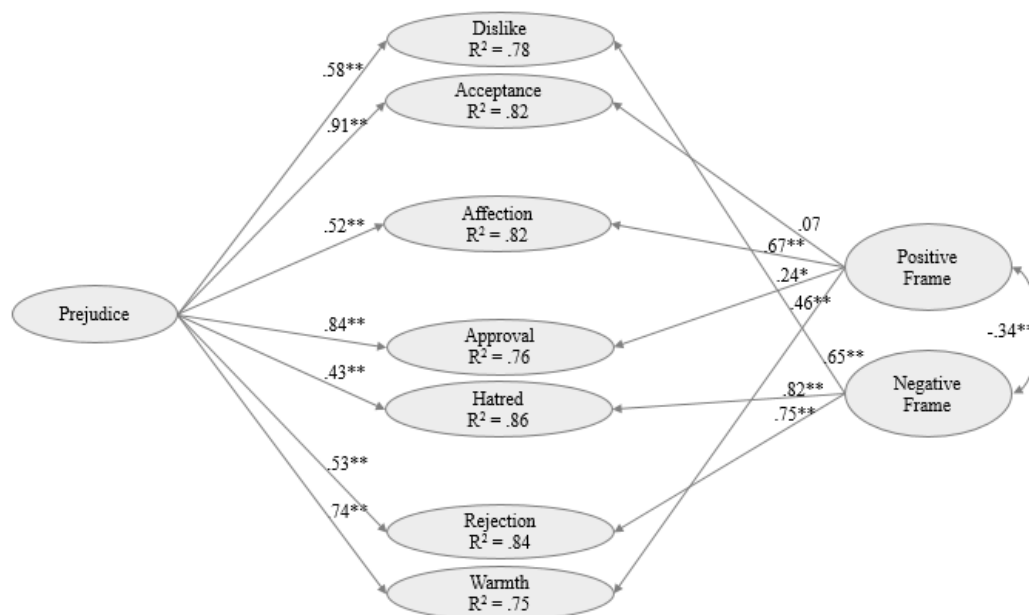


Figure 18. Revised factor structure for the prejudice measure with standardised factor loadings shown. * = $p < .05$, ** = $p < .01$.

6.5.1.2 Internal consistency of the prejudice scale. Internal consistency of the original and revised prejudice scale was satisfied with a Cronbach's alpha coefficient of .90 and .86 respectively. Furthermore, all items had satisfactory item-total correlations ($>.3$). Table 12 displays the item-total correlations and Cronbach's alpha if item deleted values for the original and revised scale.

Table 12: *Internal consistency of the original and revised prejudice scale.*

Item	Original scale		Revised scale	
	Corrected item-total correlations	Cronbach's alpha if item deleted	Corrected item-total correlations	Cronbach's alpha if item deleted
Hostility	.557	.900		
Admiration	.588	.899		
Dislike	.730	.892	.631	.842
Acceptance	.769	.889	.778	.819
Superiority	.502	.902		
Affection	.451	.906	.491	.863
Disdain	.637	.896		
Approval	.718	.892	.754	.822
Hatred	.615	.897	.507	.857
Sympathy	.708	.892		
Rejection	.681	.894	.584	.847
Warmth	.662	.895	.684	.833

6.5.1.3 Discussion of the prejudice measure. While the Cronbach's alpha coefficient indicated that the items within the prejudice measure were internally consistent, the CFA of the prejudice measure indicated that in its original state the measure did not have construct validity. Furthermore, the correlations between the items indicated a method effect was occurring. The addition of two factors to account for the method effect as well as the removal of four items resulted in a factor structure which did have construct validity. These findings suggest that the prejudice measure should be used cautiously, and review of this scale is needed. More specifically, further investigation into why the method effect occurred as well as whether this effect is present with different samples and in different group contexts would be insightful. Inspection of the frequency distribution of the positively and negatively worded items indicated that different patterns of participant responding was present. Generally, the participants did not indicate they felt strong negative emotions (e.g. hatred) towards environmentally displaced people, thus resulting in a

positively skewed distribution. In contrast, the distribution of the participants' responses to positive emotions (e.g. admiration) was typically more evenly distributed.

Looking at the literature which differentiates between two different forms of prejudice – modern and classical prejudice – can provide an explanation for the observed differences in the participants responding to the negatively and positively worded items. The distinction between these two forms of prejudice was covered in Chapter 3. To reiterate, classical prejudice is thought to be more overt and openly hostile form of prejudice, whereas modern prejudice is conceptualised as being more covert and subtle (Akrami et al., 2000; Pedersen, Attwell, et al., 2005; Sears, 1988). Given the negatively worded items were strongly hostile, it seems likely the negatively worded items were tapping a more classical form of prejudice whereas the positive items may have been tapping the modern form of prejudice. As such, the frequency distributions for the negative and positive items suggest the sample may hold more modern forms of prejudice, rather than the classical form of prejudice. The possibility of this was already identified in the previous chapter, where it was noted the participants mean score and frequency data for the prejudice measure was lower than expected based on previous findings and were also lower than the other out-group attitudes in the current study. In future work, the ITT prejudice measure should be compared to other prejudice measures to determine whether it is assessing a more classical or modern form of prejudice. Furthermore, given modern prejudice is the more common form of prejudice in current times, future research using this measure of prejudice should be careful not to underestimate the prejudice levels in their sample.

6.5.2 Negative stereotypes As noted previously, the negative stereotypes index had weak correlations with prejudice, intergroup anxiety, empathy and symbolic and realistic threat perceptions. Ratings of negative stereotypes were expected to have strong correlations with ratings on these variables. The conceptualisation, measurement and data for the negative stereotypes variable was inspected to understand why negative stereotypes were not correlating as predicted. First, it is important to reiterate how negative stereotypes were measured. Participants were asked to indicate the percentage of the outgroup they thought possessed certain traits (frequency rating). The participants were also asked to indicate the favourability of each of these traits (favourability rating). The frequency rating for each trait was then multiplied by the participants' favourability rating for each trait. These figures were then summed and averaged to create a final stereotype index which represents the participants' view on the prevalence of traits and how favourable these traits are. To inspect the data, the frequency and favourability ratings were examined separately.

Inspection of the frequency and favourability rating distributions indicate that while there was some spread in the data for the frequency rating, there was very little spread in the favourability ratings (refer to Appendix N). The majority of the participants (75%) scored the traits as extremely unfavourable. Bivariate correlations were conducted between the frequency rating, favourability rating, prejudice, intergroup anxiety, empathy and symbolic and realistic threats. As per Table 13, it can be seen that the correlations between the frequency rating and the other variables were strong and in the expected direction. However, the correlations between the favourability rating and the other variables were weak. This suggests the favourability rating is the cause for the weak correlations between the negative stereotype index (which is the combination of the frequency and favourability ratings) and prejudice, intergroup anxiety, empathy and symbolic and realistic threats. As such, only the frequency ratings will be used in subsequent analyses.

Table 13: *Pearson's correlation coefficients between trait frequency ratings and favourability ratings with prejudice, empathy, intergroup anxiety, and realistic and symbolic threats.*

	Frequency rating	Favourability rating
Frequency rating	1	
Favourability rating	.437**	1
Prejudice	.736**	.367**
Empathy	-.460**	-.171**
Intergroup Anxiety	.637**	.358**
Realistic Individual	.642**	.257**
Symbolic Individual	.693**	.356**
Realistic Group	.637**	.192**
Symbolic Group	.647**	.169**

Note: ** correlations significant at the .01 level

6.5.2.1 Confirmatory factor analysis of the negative stereotypes scale. To examine the construct validity of the negative stereotypes measure, a CFA was conducted on the 15 items used to measure negative stereotypes – only the frequency ratings, and not the favourability ratings, were included in the CFA. The factor structure used in the CFA can be seen in Figure 19. Model fit indices from the CFA indicate the 15 items used to assess negative stereotypes have poor model fit ($\chi^2 = 1321.14$, $df = 90$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .134, PCLOSE = .000, 90% RMSEA CI = .128-.140; SRMR = .034; GFI = .801; AGFI = .735). Poor model fit suggests

that the factor model does not adequately represent the relationships amongst the variables. This indicates the measure for negative stereotypes had poor construct validity.

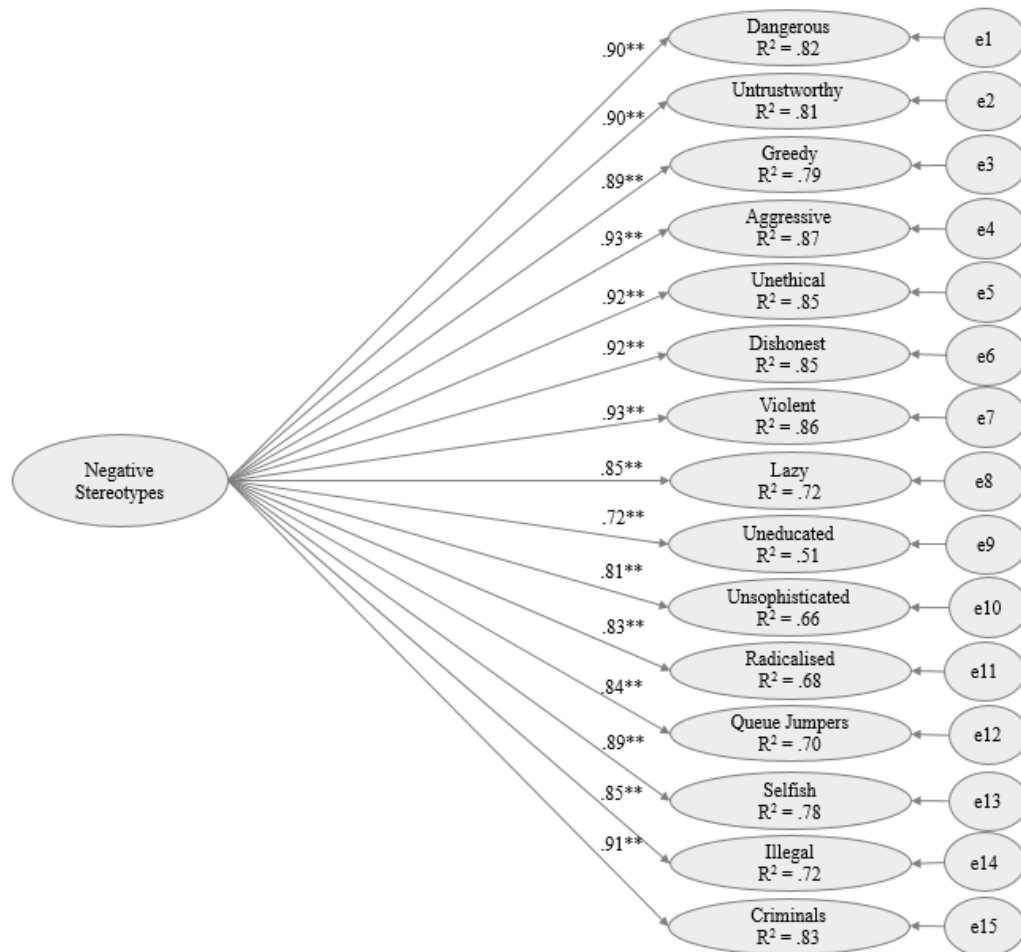


Figure 19. Original factor structure of the negative stereotypes measure. Standardised factor loadings shown. * = $p < .01$, ** = $p < .001$.

To improve model fit items with the lowest variance explained by the factor were removed. Furthermore, the modification indices produced by AMOS were consulted and error covariances were added where appropriate. The removal of ten of the items (untrustworthy, greedy, lazy, uneducated, unsophisticated, radicalised, queue jumpers, selfish, illegal and criminals) which had the lowest variance explained by the negative stereotypes factor resulted in a factor structure with good fit ($\chi^2 = 4.06$, $df = 3$, $p = .255$; Bollen-Stine Bootstrap $p = .643$; RMSEA = .022, PCLOSE = .802, 90% RMSEA CI = .000-.068; SRMR = .003; GFI = .998; AGFI = .989). Inspection of the sample correlations (Appendix D) indicate there was a single factor structure and all items intercorrelate well ($> .8$). Furthermore, all factor loadings were adequate ($> .9$). The final factor

structure can be seen in Figure 20. The good model fit indices for this final factor structure suggests these remaining items were good measures for negative stereotypes and together these final items have good construct validity.

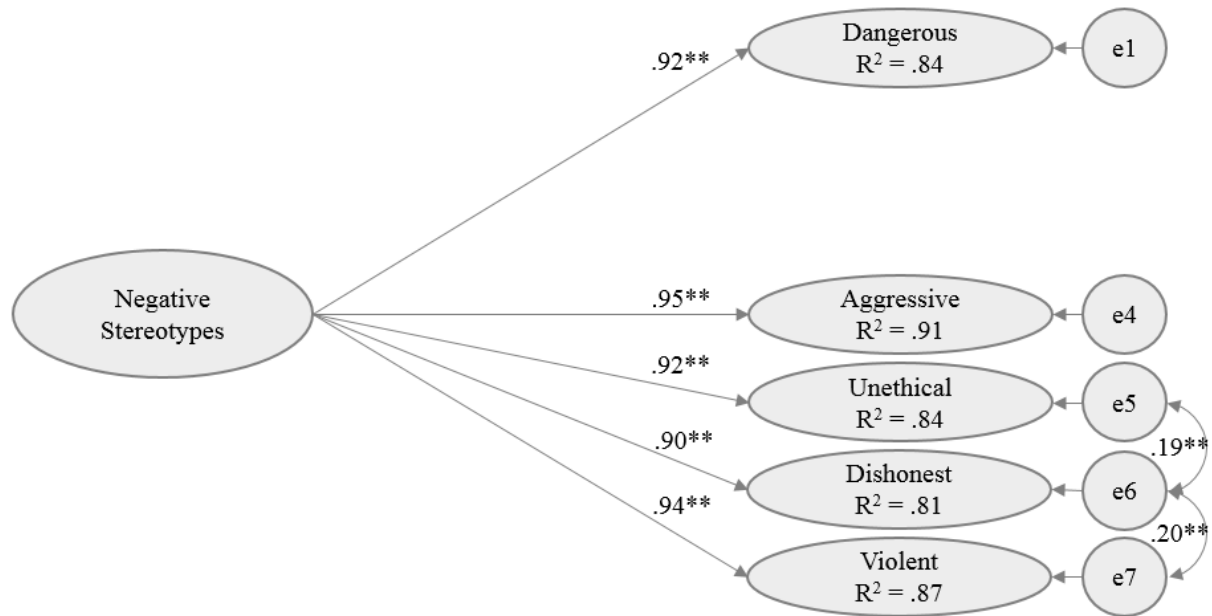


Figure 20. Revised factor structure for the negative stereotypes measure with standardised factor loadings and error covariances. * = $p < .01$, ** = $p < .001$.

6.5.2.2 Internal consistency of the negative stereotypes scale. Internal consistency of the original and revised negative stereotypes scale was satisfied with a Cronbach's alpha coefficient of .98 and .97 respectively. All items had satisfactory item-total correlations ($>.3$). Table 14 displays the item-total correlations and Cronbach's alpha if item deleted values.

6.5.2.3 Discussion of the negative stereotypes measure. To begin with, it is important to dissect the observed distribution and correlations of the favourability ratings. As noted above, the favourability ratings were not included in the CFA and will subsequently not be included in the following chapter's modelling analyses. This was considered necessary as there were only weak relationships between the favourability ratings and the other out-group attitudes. However, there were strong correlations between the frequency ratings and assessments of out-group attitudes. What this demonstrates is that the favourability ratings of the stereotypical traits *were not* related to the other out-group attitudes, while the participants' views that displaced people have stereotypical traits *were* related to the other out-group attitudes. As such, combining the favourability ratings with the frequency ratings would have distorted the clear relationship between the participants' views

Table 14: *Internal consistency of the original and revised negative stereotypes scale*

Item	Original		Revised	
	Corrected item-total correlations	Cronbach's alpha if item deleted	Corrected item-total correlations	Cronbach's alpha if item deleted
Dangerous	.882	.977	.892	.964
Untrustworthy	.878	.977		
Greedy	.874	.977		
Aggressive	.910	.977	.929	.958
Unethical	.906	.977	.905	.961
Dishonest	.906	.977	.899	.962
Violent	.905	.977	.921	.959
Lazy	.838	.978		
Uneducated	.729	.980		
Unsophisticated	.827	.978		
Radicalised	.823	.978		
Queue Jumpers	.842	.978		
Selfish	.883	.977		
Illegal	.848	.978		
Criminals	.901	.977		

that displaced people have stereotypical traits and the other out-group attitudes. This would have resulted in flawed conclusions regarding the relationship with negative stereotypes and the other ITT variables. Given the frequency ratings are a more distinct assessment of negative stereotypes, it is argued that the removal of the favourability ratings was necessary in order to have a more accurate assessment of the negative stereotypes construct.

This issue with the favourability rating not correlating with the other out-group variables demonstrates an important issue with the use of favourability ratings to assess negative stereotypes. To explain, typically traits used to assess negative stereotypes in ITT research are often strong negative traits. Also standard in the ITT research measurement of negative stereotypes is favourability ratings. Assessing favourability ratings adds an evaluative component to the stereotypes measure and can allow for interpretations of whether the stereotypes are perceived to be negative or positive (D. J. Schneider, 2004). However, most people would rate strongly negative trait words, such as those typically used in ITT research, as extremely unfavourable. This results in a distribution of scores that are highly skewed and contain low variability. When the favourability

score is then added to the frequency score, the lack of variability may limit or interfere with the measures predictive capacity, which is what appears to have occurred in the current study. Thus, when all the traits in the negative stereotypes scale are objectively positive or negative, the use of a favourability rating should be carefully examined. Where the favourability rating may be most useful is if trait words that have an ambiguous or subjective favourability were to be used. For instance, different people would rate the trait 'conservative' differently, which would add both variability and value to the measure.

Given these considerations, the use of the favourability ratings, especially when undertaking modelling analyses, should be carefully applied and examined. The statistical acceptability of favourability ratings is dependent on the research and should not be used routinely without careful inspection of the data. In cases where the favourability rating does interfere with modelling analyses, such as the current study, the evaluative nature of the participants' negative stereotypes can still be gleaned by examining the frequency distribution of the participants' favourability ratings. That is, the participants' favourability ratings can be examined separately to the frequency ratings to examine whether the participants perceive the trait to be favourable or unfavourable. Skewed distributions suggest the trait is generally perceived as either favourable or unfavourable, whereas a normal distribution would indicate the favourability of the trait is viewed differently by different participants. The value of favourability ratings is most apparent when the trait's favourability ratings are normally distributed as this demonstrates the favourability of these traits is ambiguous. This ambiguity needs to be accounted for to determine if the stereotypes are negative or positive. Given all the traits in the current study were rated as extremely unfavourable, the addition of the favourability ratings was not necessary to account for the ambiguity of the traits favourability.

Of note, the traits remaining in the final factor structure tend to align with two concepts at face value – the physical threat of the out-group members (dangerous, aggressive and violent) and the morality of the out-group members (unethical and dishonest). These concepts align with realistic and symbolic threats, which demonstrates the theoretical overlap between threats and negative stereotypes. As covered in Chapter 3, within the ITT negative stereotypes were originally conceptualised as a form of threat. More specifically, in their original conceptualisation of negative stereotypes W. G. Stephan and Stephan (1996b) argued that when negative stereotypes (e.g. aggression, dishonesty) are assigned to groups, people will hold threatening expectations about the out-group's behaviour. Thus, negative stereotypes lead people to feel threatened by out-group members. However, in Chapter 3 a theoretical overlap between this conceptualisation of negative stereotypes and threat was identified. To reiterate, the expected threat posed by common negative

stereotypes is comparable to the threat concepts within the ITT. For example, if an individual holds the negative stereotype that displaced people are aggressive, under the ITT conceptualisation of negative stereotypes they will then feel threatened that displaced people will act aggressively towards them. However, this threat perception directly aligns with the realistic threat construct, which includes threat to one's physical safety (W. G. Stephan & Stephan, 1996b). What this example suggests is that if stereotypes do in fact lead to threatening expectations as originally hypothesised (W. G. Stephan & Stephan, 1996b), it is likely these threats are realistic or symbolic threats. As such, the conceptualisation of negative stereotypes within the ITT as a unique threat variable seems theoretically problematic. A sounder interpretation may be that negative stereotypes can act as a predictor of realistic and symbolic threats. Indeed, as discussed in Chapter 3, in later revisions of the ITT W.G. Stephan and colleagues re-conceptualised negative stereotypes as an antecedent of threat, rather than constituting a separate threat on their own (W. G. Stephan & Renfro, 2002; W. G. Stephan et al., 2009). When considering the traits used to assess negative stereotypes in the current and broader ITT research, there is clear overlap between negative stereotypes and the threat concepts. What remains to be clarified is whether negative stereotypes and realistic and symbolic threats are in fact distinct constructs and if so, which comes first.

Lastly, it needs to be noted that the negative stereotypes held by in-group members are highly dependent on contextual factors, such as prior intergroup contact and conflict. For instance, host country citizen perceptions of negative stereotypes towards environmentally displaced people are very different to the perceptions of negative stereotypes held between males and females. As such, the negative stereotype trait words will vary for each group context. The trait words used in the current project are thus different to trait words used in other ITT research. Therefore, the construct validity of the current negative stereotypes measure can only be applied to research which investigates attitudes between host country citizens and displaced people in Australia and used similar trait words.

6.5.3 Intergroup anxiety

6.5.3.1 Confirmatory factor analysis of the intergroup anxiety scale. To examine the construct validity of the intergroup anxiety measure, a CFA was conducted on the 11 items used to measure intergroup anxiety. The factor structure used in the CFA can be seen in Figure 21. Model fit indices from the CFA indicate the 11 items used to assess intergroup anxiety have poor model fit ($\chi^2 = 1375.66$, $df = 44$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .199, PCLOSE = .000, 90% RMSEA CI = .190-.208; SRMR = .104; GFI = .714; AGFI = .572). Poor model fit suggests

that the factor model does not adequately represent the relationships amongst the variables. This indicates the measure for intergroup anxiety has poor construct validity.

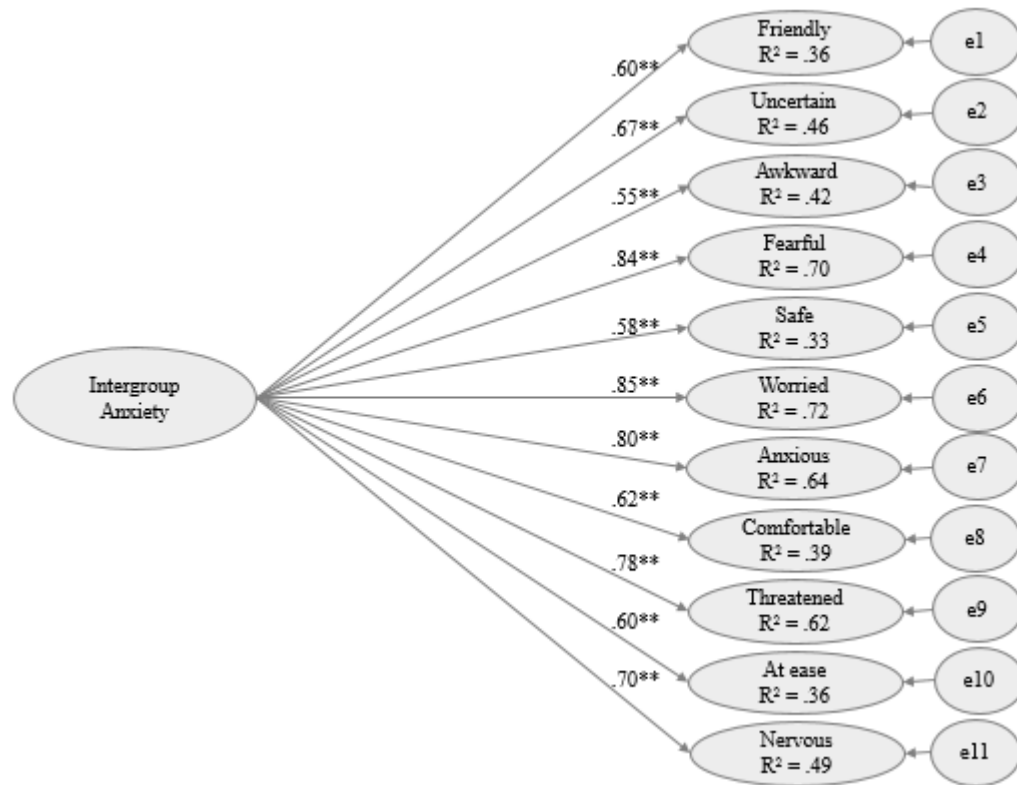


Figure 21. Original factor structure of the intergroup anxiety measure. Standardised factor loadings shown. * = $p < .01$, ** = $p < .001$.

To improve model fit items with the lowest variance explained by the factor were removed. Furthermore, the modification indices produced by AMOS were consulted and error covariances were added where appropriate. The removal of six items with the lowest variance explained by the factor (friendly, uncertain, awkward, safe, comfortable and at ease) resulted in a factor structure with good fit ($\chi^2 = 7.11$, $df = 3$, $p = .069$; Bollen-Stine Bootstrap $p = .347$; RMSEA = .042, PCLOSE = .552, 90% RMSEA CI = .000-.084; SRMR = .010; GFI = .996; AGFI = .981). Inspection of the sample correlations (refer to Appendix D) indicates there is a single factor structure and all items correlate well together ($>.5$). Furthermore, all factor loadings were adequate ($>.6$). The final factor structure can be seen in Figure 22. The good model fit indices for this final factor structure suggests these remaining items are good measures for intergroup anxiety and together these final items have good construct validity.

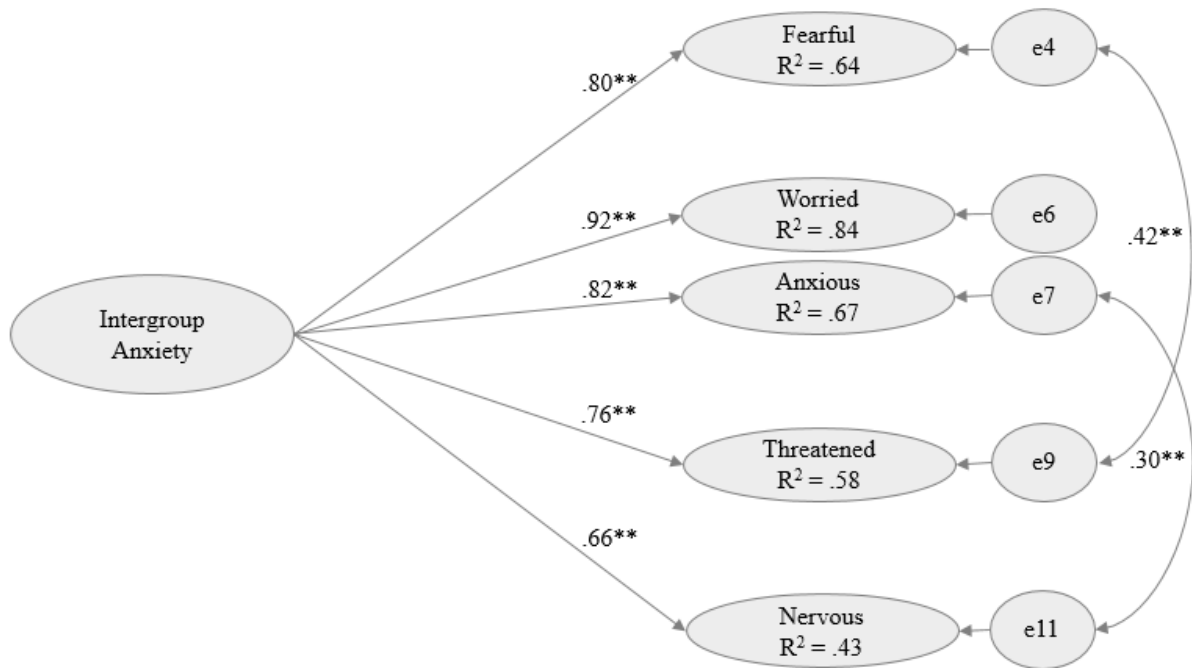


Figure 22. Revised factor structure for the intergroup anxiety measure with standardised factor loadings and error covariances. * = $p < .01$, ** = $p < .001$.

6.5.3.2 Internal consistency of the intergroup anxiety scale. Internal consistency of the original and revised intergroup anxiety scale was satisfied with a Cronbach's alpha coefficient of .91 and .90 respectively. All items had satisfactory item-total correlations ($>.3$). Table 15 displays the item-total correlations and Cronbach's alpha if item deleted values.

6.5.3.3 Discussion of the intergroup anxiety measure. While the Cronbach's alpha coefficient indicated that the items within the intergroup anxiety measure were internally consistent, the CFA of the intergroup anxiety measure indicated that in its original state the measure did not have appropriate construct validity. The removal of six of the items and the addition of error covariances between the fearful and threatened, and anxious and nervous items resulted in a factor structure with good model fit. It was noted that all the positively worded items were removed. As such, it was thought there may be a method effect present. To investigate this the sample correlations were inspected and indicated a method effect was not occurring. What the removal of the positive items suggests is that the positive words friendly, safe, comfortable and at ease do not accurately capture the factor of intergroup anxiety. These findings suggest that this intergroup anxiety measure should be used cautiously, and review of this scale is needed. More specifically, the final factor structure found above should be tested in different samples to determine if this factor structure has construct validity across samples.

Table 15: *Internal consistency of the original and revised intergroup anxiety scale*

Item	Original		Revised	
	Corrected item-total correlations	Cronbach's alpha if item deleted	Corrected item-total correlations	Cronbach's alpha if item deleted
Friendly	.603	.910		
Uncertain	.648	.908		
Awkward	.615	.910		
Fearful	.760	.903	.786	.874
Safe	.604	.910		
Worried	.769	.902	.814	.866
Anxious	.729	.903	.786	.873
Comfortable	.676	.906		
Threatened	.701	.905	.745	.882
At ease	.643	.908		
Nervous	.651	.908	.663	.902

6.5.4 Realistic individual threats

6.5.4.1 Confirmatory factor analysis of the realistic individual threats scale. To examine the construct validity of the realistic individual threat measure, a CFA was conducted on the seven items used to measure realistic individual threats. The factor structure used in the CFA can be seen in Figure 23. Model fit indices from the CFA indicate the 7 items used to assess realistic individual threats have poor model fit ($\chi^2 = 314.83$, $df = 14$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .168, PCLOSE = .000, 90% RMSEA CI = .152-.184; SRMR = .083; GFI = .894; AGFI = .788). Poor model fit suggests that the factor model does not adequately represent the relationships amongst the variables. This indicates the measure for realistic individual threats had poor construct validity.

To improve model fit items with the lowest variance explained by the factor were removed. Furthermore, the modification indices produced by AMOS were consulted and error covariances were added where appropriate. The removal of three items with the lowest variance explained by the factor (economic loss, access to education and access to property) resulted in a factor structure with good fit ($\chi^2 = .30$, $df = 1$, $p = .586$; Bollen-Stine Bootstrap $p = .549$; RMSEA = .000, PCLOSE = .826, 90% RMSEA CI = .000-.078; SRMR = .003; GFI = 1.00; AGFI = .998). Inspection of the sample correlations (refer to Appendix D) indicate there is only one factor with all items correlating

adequately ($>.4$). Furthermore, all factor loadings were adequate ($>.5$). The final factor structure can be seen in Figure 25. The good model fit indices for this final factor structure suggests these remaining items are good measures for realistic individual threats and together these final items have good construct validity.

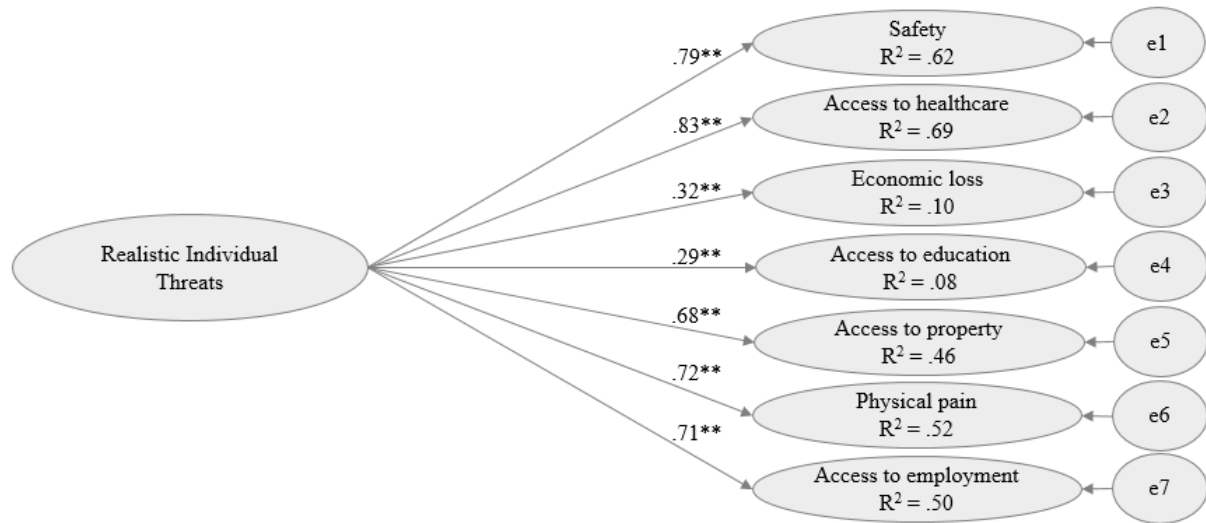


Figure 23. Original factor structure of the realistic individual threats measure. Standardised factor loadings shown. * = $p < .01$, ** = $p < .001$. Full item statements can be seen in Appendix A.

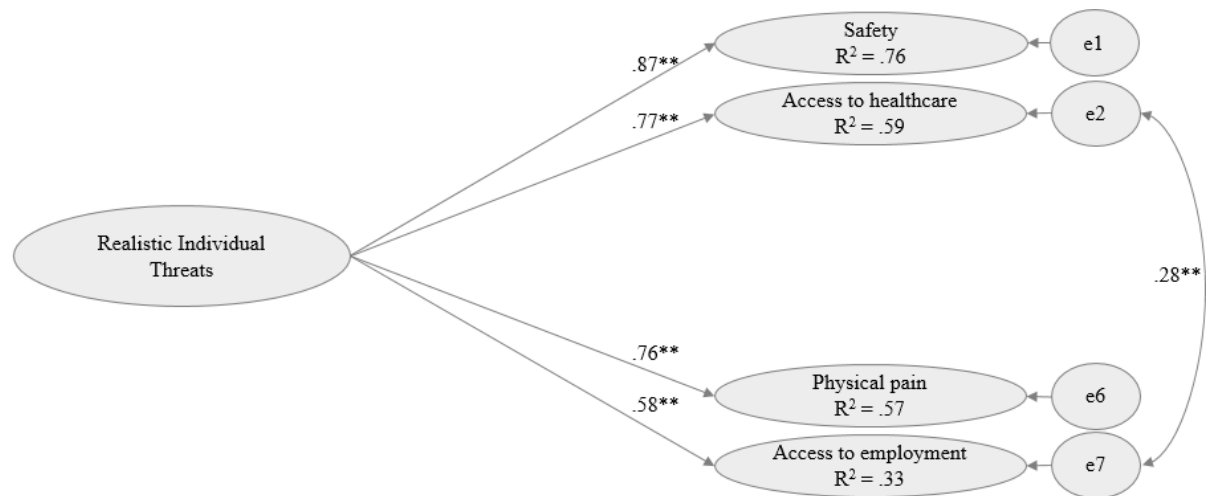


Figure 24. Revised factor structure for the realistic individual threat measure with standardised factor loadings and error covariances. * = $p < .01$, ** = $p < .001$. Full item statements can be seen in Appendix A.

6.5.4.2 Internal consistency of the realistic individual threats scale. Internal consistency of the original and revised realistic individual threat scale was satisfied with a Cronbach's alpha

coefficient of .80 and .84 respectively. All items had satisfactory item-total correlations ($>.3$). Table 16 displays the item-total correlations and Cronbach's alpha if item deleted values.

Table 16: *Internal consistency of the original and revised realistic individual threat scale.*

Item	Original		Revised	
	Corrected item-total correlations	Cronbach's alpha if item deleted	Corrected item-total correlations	Cronbach's alpha if item deleted
Safety	.658	.757	.732	.772
Access to healthcare	.697	.747	.740	.766
Economic loss	.374	.806		
Access to education	.328	.823		
Access to property	.556	.773		
Physical pain	.614	.766	.648	.809
Access to employment	.626	.759	.589	.839

6.5.5 Realistic group threats

6.5.5.1 Confirmatory factor analysis of the realistic group threats scale. To examine the construct validity of the realistic group threat measure, a CFA was conducted on the seven items used to measure realistic group threats. The factor structure used in the CFA can be seen in Figure 25. Model fit indices from the CFA indicate the 7 items used to assess realistic group threats have poor model fit ($\chi^2 = 70.08$, $df = 14$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .073, PCLOSE = .013, 90% RMSEA CI = .056-.090; SRMR = .029; GFI = .975; AGFI = .951). Poor model fit suggests that the factor model does not adequately represent the relationships amongst the variables. This indicates the measure for realistic group threats had poor construct validity.

To improve model fit items with the lowest variance explained by the factor were removed.

Furthermore, the modification indices produced by AMOS were consulted and error covariances were added where appropriate. The removal of two items with the lowest variance explained by the factor (health hazard and education) resulted in a factor structure with good fit ($\chi^2 = 5.75$, $df = 4$, $p = .219$; Bollen-Stine Bootstrap $p = .409$; RMSEA = .024, PCLOSE = .832, 90% RMSEA CI = .000-.064; SRMR = .009; GFI = .997; AGFI = .989). Inspection of the sample correlations (refer to Appendix D) indicate there is a single factor structure and all items correlate adequately ($>.4$).

Furthermore, all factor loadings were adequate ($>.6$). The final factor structure can be seen in Figure 26. The good model fit indices for this final factor structure suggests these remaining items are

good measures for realistic group threats and together these final items have good construct validity.

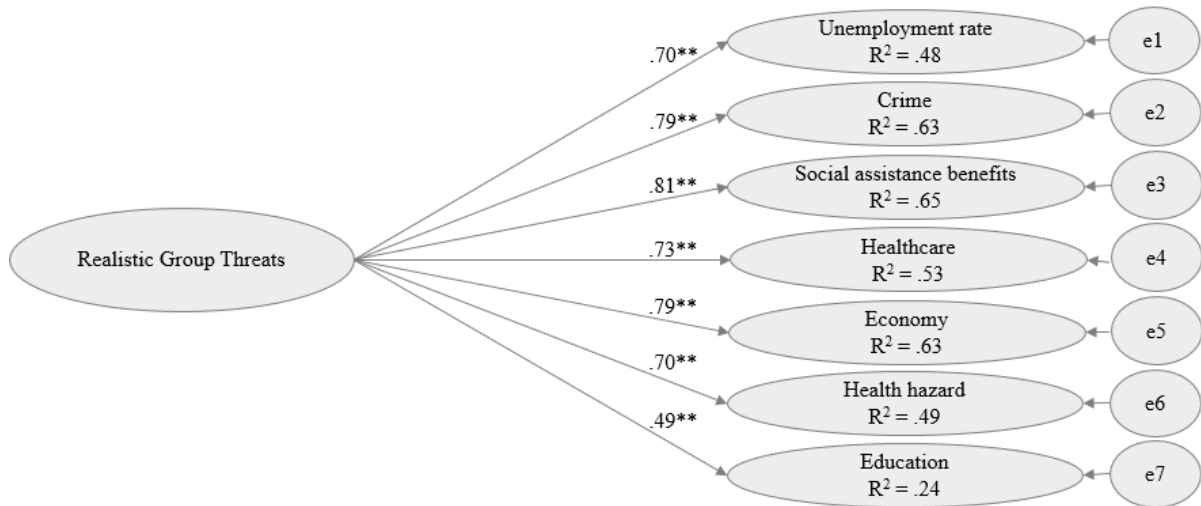


Figure 25. Original factor structure of the realistic group threats measure. Standardised factor loadings shown. * = $p < .01$, ** = $p < .001$. Full item statements can be seen in Appendix A.

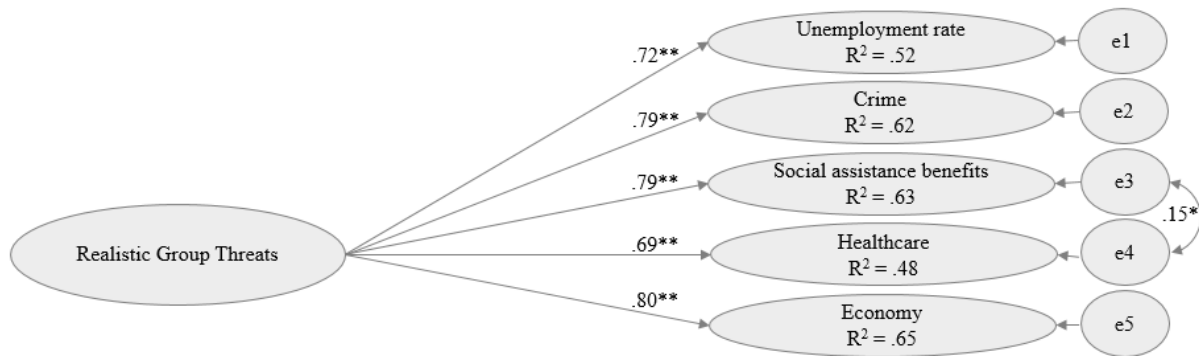


Figure 26. Revised factor structure for the realistic group threat measure with standardised factor loadings and error covariances. * = $p < .01$, ** = $p < .001$. Full item statements can be seen in Appendix A.

6.5.5.2 Internal consistency of the realistic groups threats scale. Internal consistency of the original and revised realistic group threat scale was satisfied with a Cronbach's alpha coefficient of .88 and .88 respectively. All items had satisfactory item-total correlations ($> .3$). Table 17 displays the item-total correlations and Cronbach's alpha if item deleted values.

Table 17: *Internal consistency of the original and revised realistic group threats scale.*

Item	Original		Revised	
	Corrected item-total correlations	Cronbach's alpha if item deleted	Corrected item-total correlations	Cronbach's alpha if item deleted
Unemployment rate	.637	.867	.660	.859
Crime	.736	.854	.719	.844
Social assistance benefits	.745	.852	.746	.837
Healthcare	.688	.860	.660	.858
Economy	.735	.854	.731	.841
Health hazard	.651	.865		
Education	.469	.886		

6.5.6 Symbolic individual threats

6.5.6.1 Confirmatory factor analysis of the symbolic individual threats scale. To examine the construct validity of the symbolic individual threat measure, a CFA was conducted on the seven items used to measure symbolic individual threats. The factor structure used in the CFA can be seen in Figure 27. Model fit indices from the CFA indicate the 7 items used to assess symbolic individual threats have poor model fit ($\chi^2 = 252.10$, $df = 14$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .149, PCLOSE = .000, 90% RMSEA CI = .134-.166; SRMR = .051; GFI = .899; AGFI = .797). Poor model fit suggests that the factor model does not adequately represent the relationships amongst the variables. This indicates the measure for symbolic individual threats had poor construct validity.

To improve model fit items with the lowest variance explained by the factor were removed. Furthermore, the modification indices produced by AMOS were consulted and error covariances were added where appropriate. The removal of three items with the lowest variance explained by the factor (self-esteem, Australian identity and humiliation) resulted in a factor structure with good fit ($\chi^2 = .065$, $df = 1$, $p = .798$; Bollen-Stine Bootstrap $p = .816$; RMSEA = .000, PCLOSE = .921, 90% RMSEA CI = .000-.061; SRMR = .001; GFI = 1.00; AGFI = 1.00). Inspection of the sample correlations (refer to Appendix D) indicate there is a single factor structure and all items correlate well together ($>.6$). Furthermore, all factor loadings were adequate ($>.7$). The final factor structure can be seen in Figure 28. The good model fit indices for this final factor structure suggest these remaining items are good measures for symbolic individual threats and together these final items have good construct validity.

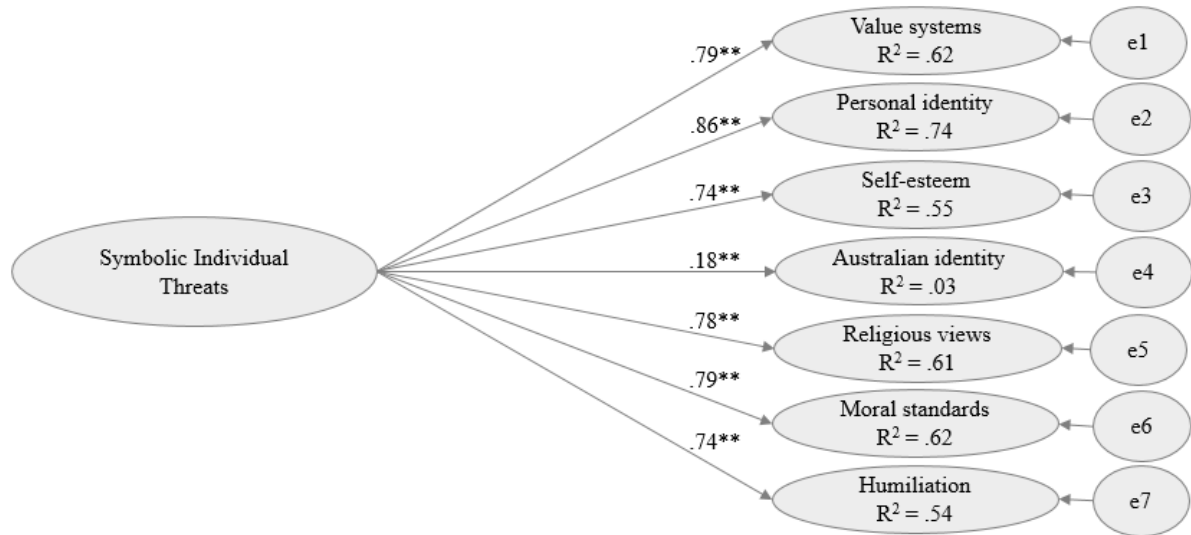


Figure 27. Original factor structure of the symbolic individual threats measure. Standardised factor loadings shown. * = $p < .01$, ** = $p < .001$. Full item statements can be seen in Appendix A.

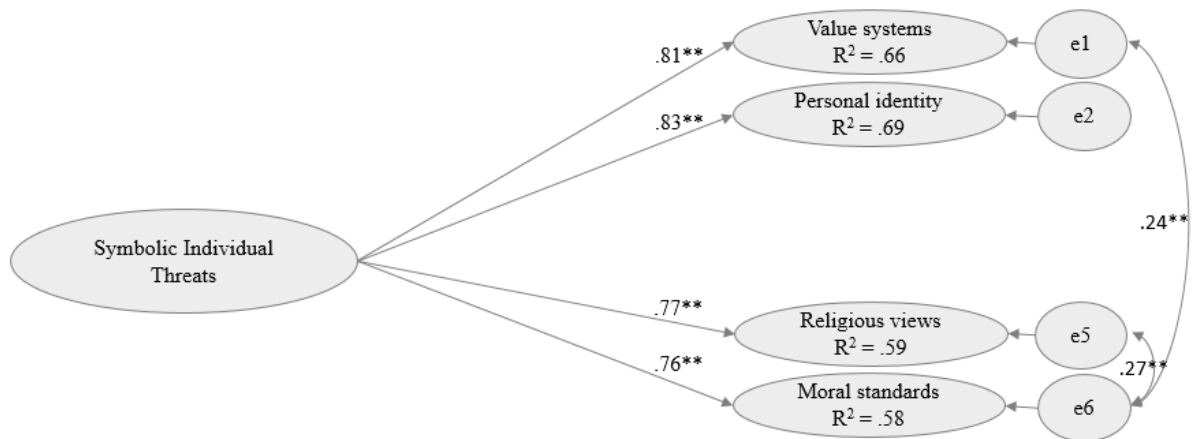


Figure 28. Revised factor structure for the symbolic individual threat measure with standardised factor loadings and error covariances. * = $p < .01$, ** = $p < .001$. Full item statements can be seen in Appendix A.

6.5.6.2 Internal consistency of the symbolic individual threats scale. Internal consistency of the original and revised symbolic individual threat scale was satisfied with a Cronbach's alpha coefficient of .86 and .89 respectively. All items had satisfactory item-total correlations ($>.3$). Table 18 displays the item-total correlations and Cronbach's alpha if item deleted values.

Table 18: *Internal consistency of the original and revised symbolic individual threats scale.*

Item	Original		Revised	
	Corrected item- total correlations	Cronbach's alpha if item deleted	Corrected item- total correlations	Cronbach's alpha if item deleted
Value systems	.738	.827	.763	.852
Personal identity	.784	.822	.733	.864
Self-esteem	.659	.841		
Australian identity	.174	.902		
Religious views	.735	.828	.742	.860
Moral standards	.746	.826	.781	.845
Humiliation	.665	.840		

6.5.7 Symbolic group threats

6.5.7.1 Confirmatory factor analysis of the symbolic group threats scale. To examine the construct validity of the symbolic group threat measure, a CFA was conducted on the seven items used to measure symbolic group threats. The factor structure used in the CFA can be seen in Figure 29. Model fit indices from the CFA indicate the 7 items used to assess symbolic group threats have poor model fit ($\chi^2 = 201.67$, $df = 14$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .133, PCLOSE = .000, 90% RMSEA CI = .117-.149; SRMR = .066; GFI = .920; AGFI = .840). Poor model fit suggests that the factor model does not adequately represent the relationships amongst the variables. This indicates the measure for symbolic group threats had poor construct validity.

Items with the lowest variance explained by the factor were removed in order to improve model fit. Furthermore, the modification indices produced by AMOS were consulted and error covariances were added where appropriate. The removal of three items with the lowest variance explained by the factor (moral standards, way of life and work values and beliefs) resulted in a factor structure with good fit ($\chi^2 = 3.75$, $df = 2$, $p = .153$; Bollen-Stine Bootstrap $p = .214$; RMSEA = .034, PCLOSE = .612, 90% RMSEA CI = .000-.087; SRMR = .009; GFI = .998; AGFI = .988). Inspection of the sample correlations (refer to Appendix D) indicate there is a single factor structure and all items correlate well together ($>.5$). Furthermore, all factor loadings were adequate ($>.6$). The final factor structure can be seen in Figure 30. The good model fit indices for this final factor structure suggests these remaining items are good measures for symbolic group threats and together these final items have good construct validity.

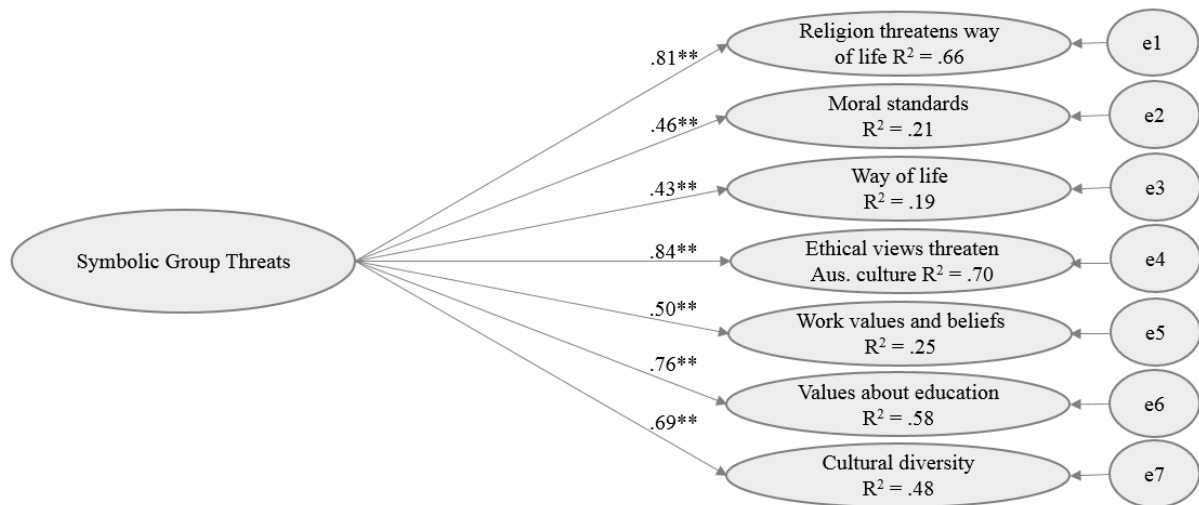


Figure 29. Original factor structure of the symbolic group threats measure. Standardised factor loadings shown. * = $p < .01$, ** = $p < .001$. Full item statements can be seen in Appendix A.

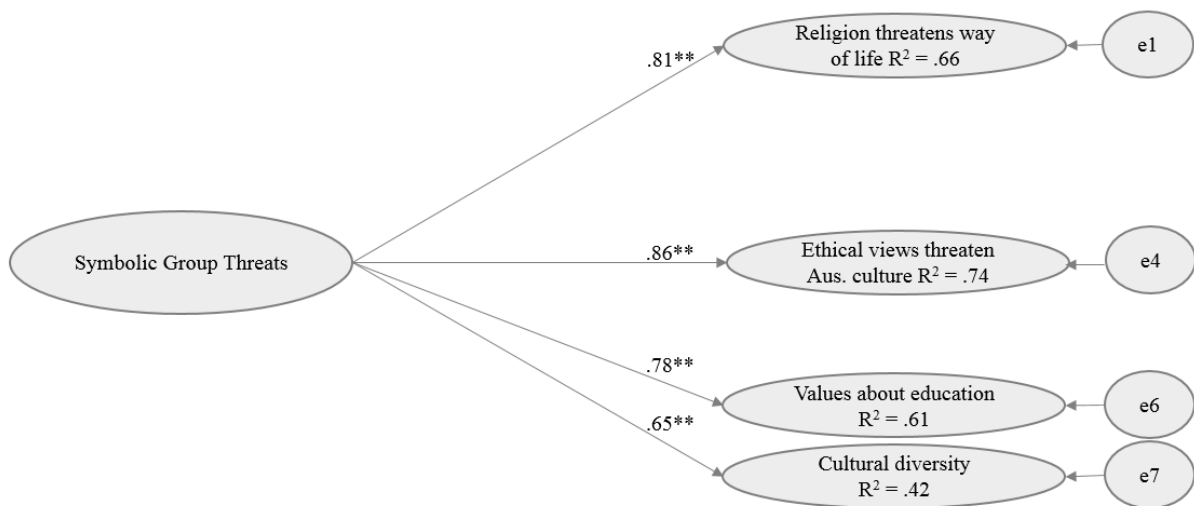


Figure 30. Revised factor structure for the symbolic group threat measure with standardised factor loadings and error covariances. * = $p < .01$, ** = $p < .001$. Full item statements can be seen in Appendix A.

6.5.7.2 Internal consistency of the symbolic group threats scale. Internal consistency of the original and revised symbolic group threat scale was satisfied with a Cronbach's alpha coefficient of .84 and .86 respectively. All items had satisfactory item-total correlations ($>.3$). Table 19 displays the item-total correlations and Cronbach's alpha if item deleted values.

Table 19: *Internal consistency of the original and revised symbolic group threats scale.*

Item	Original		Revised	
	Corrected item- total correlations	Cronbach's alpha if item deleted	Corrected item- total correlations	Cronbach's alpha if item deleted
Religion	.707	.794	.739	.802
Moral standards	.473	.831		
Way of life	.428	.842		
Ethical views	.713	.794	.764	.791
Values of beliefs	.515	.826		
Values of education	.637	.807	.705	.818
Cultural diversity	.665	.802	.605	.856

6.5.8 Discussion of the four threat measures. Like negative stereotypes, the items included to assess threat perceptions are dependent on the research and the context between the groups. As such, the current CFA findings for the four threat variables can only be directly applied to research which investigates attitudes between host country citizens and displaced people in Australia and uses similar items. The items used in this research were based on items used in previous studies, but were modified to suit the context of this study. For all four threats, the inclusion of all of the seven items resulted in poor model fit indicating the factor model was not adequately representing the relationships between the variables. The removal of items and the addition of error covariances for all four threats resulted in factor structures with good fit, indicating the remaining items for each threat variable were good measures of the underlying threat construct.

Examining the specific items remaining in the final factor structure for each threat variable provides insight into what the sample perceives as threatening. For realistic individual threat perceptions, the remaining items were regarding safety, physical pain, access to healthcare and access to employment. What was not as important to this sample in terms of realistic individual threats was personal economic loss or access to education and property. These findings align with the characteristics of the sample. More specifically, the sample was predominantly young university students. As such, they already have access to education and would likely not be concerned about access to property or economic loss at this stage of their lives. An older working sample may perceive these threats differently, especially regarding access to property and economic loss. Similarly, for realistic group threat perceptions, the items remaining in the final factor structure were regarding the Australian unemployment rate, national crime, social assistance benefits, the Australian healthcare system and the Australian economy. In contrast, the items removed from the

factor structure were regarding environmentally displaced people posing a health hazard to Australia and placing a drain on the education system. Again, the lack of concern regarding threats to education align with the sample. When considering the broader Australian education context, it seems reasonable that threats to education would not be of primary concern. That is, education in Australia is openly accessible to all and is not a 'rare resource'.

It is interesting to consider the items which were removed and remaining in the factor structures for both realistic group and individual threat perceptions. That is, the items which best captured the realistic threat constructs were those relating to the threat environmentally displaced people pose to physical safety and pressure on Australian social, economic and healthcare systems. For both realistic individual and group threats the items relating to education were removed from the factor structure. This suggests that for this sample, concerns about environmentally displaced people posing a threat to their own education and the Australian education system did not adequately contribute to the realistic threat construct. When considering these findings in the context of the Australian government and media dialogues, the above results are not surprising. As covered in Chapter 2, displaced people are framed to pose a threat to national security and border protection (Blair et al., 2017; Canetti et al., 2016; Lippi et al., 2017). Furthermore, displaced people have also regularly been accused by politicians as being a threat to Australia's social, economic and healthcare systems (ABC, 2016b). In contrast, it is noted education is not typically a focus in Australian dialogues. As such, the final factor structures found for realistic threats seamlessly align with the Australian context on displaced people.

Four items remained in the final factor structure for symbolic individual threat perceptions. Three of these items related to how one's way of life was threatened by the values, morals or religious views of environmentally displaced people, while one item was related to one's personal identity being threatened by environmentally displaced people. The items which were removed related to a threat to one's self-esteem and Australian identity. Four items remained in the final factor structure for symbolic group threat perceptions. Two of these items regarded the threat environmentally displaced people pose to the Australian culture, one item referred to the religion of environmentally displaced people threatening the Australian way of life, while the last item looked at the how the education values of environmentally displaced people might damage the Australian education system. When comparing the items across the two symbolic threat perceptions, it becomes clear the threat environmentally displaced people's religion and values pose to the Australian way of life is central to both the symbolic individual and group threat construct. Again, this is consistent with the Australian political and media dialogue. The religion of displaced people, specifically when it is concerned with Muslims, is regularly mentioned as something that threatens

the Australian culture and way of life in public Australian dialogue (Perth Now, 2018; Sibson, 2018). Similarly, politicians often make statements regarding the values of displaced people not being compatible with the Australian culture and people (Leach, 2003; Lippi et al., 2017).

6.6 Chapter Summary

The purpose of this chapter was to examine the construct validity and internal consistency reliability of the ITT prejudice, negative stereotypes, intergroup anxiety and threat constructs. Overall, all of the constructs had good internal consistency reliability. However, confirmatory factor analyses found none of the constructs in their original factor structure had acceptable construct validity. While the modifications to the factor structures resulted in acceptable model fit for all constructs, the CFA results indicated researchers should be aware of the validity issues with the measures for prejudice, negative stereotypes, intergroup anxiety and threats. Specifically, as the same items are used across research regardless of group context for prejudice and intergroup anxiety, these measures should be more thoroughly reviewed. As the items used to assess negative stereotypes and threat perceptions are dependent on the context under investigation, the onus for ensuring construct validity for the stereotypes and threat measures falls on individual researchers, which has often not occurred.

All of the final factor structures were shown to have good fit and can be used as a basis for further testing of the measures construct validity. The final factor structures were used to model the variables within the ITT. This modelling was undertaken to determine if the ITT is appropriate to use in the context of environmentally displaced people and to gain an understanding of the variables which contribute to prejudicial attitudes towards environmentally displaced people. The following chapter presents the ITT modelling rationale, research questions, hypotheses, modelling process, results and discussion.

Chapter 7: Study 1 Results and Discussion, Part 3 - Modelling the Integrated Threat Theory in the Context of Environmentally Displaced People

7.1 Identified Research Gaps

As discussed in Chapter 3, there are several theoretical gaps and questions regarding the structure of the Integrated Threat Theory (ITT) variables. Four of these identified gaps are particularly relevant to this chapter. From reviewing the literature it appears most studies investigating the ITT have only looked at a subset of the model variables, with very few investigating the entire theory at any one time. As such, research which undertakes statistical modelling of all the variables within the ITT is needed to further understand the relationships between the variables. Additionally, there is conflicting evidence as to the position of negative stereotypes within the theory (Corenblum & Stephan, 2001; Curşeu et al., 2007; W. G. Stephan et al., 2002). Further testing of this is required to determine if stereotypes are an antecedent to the other threats, a direct predictor of prejudice or a mediating variable between threat perceptions and prejudice. Furthermore, W. G. Stephan and Renfro (2002) developed a revised ITT structure which distinguishes between group level and individual level threat perceptions as well as incorporating greater contextual antecedent variables like social dominance orientation, right-wing authoritarianism and self-esteem. Very few studies have investigated whether this revised structure is more effective than the original. Scholars have also suggested the addition of affective variables within the ITT would be beneficial for understanding intergroup relations (Riek et al., 2006; Wirtz et al., 2015). Empathy was identified as such a variable given its' role in improving intergroup relations (Bäckström & Björklund, 2007; Finlay & Stephan, 2000; W. G. Stephan & Finlay, 1999; Vanman, 2016). Last and perhaps most importantly, the ITT has not been tested in the context of environmentally displaced people. It is therefore unknown whether the ITT framework is effective for understanding intergroup relations between host country citizens and environmentally displaced people.

7.2 Aims and Research Questions

The following chapter aims to address the above identified research gaps. In doing this, the following chapter will present results that will help answer the second primary research question for this project: *Is the Integrated Threat Theory an appropriate framework to understand and predict prejudicial attitudes towards environmentally displaced people?* As such, this study also aimed to test the efficacy of the ITT variables for predicting prejudicial attitudes towards environmentally

displaced people in an Australian context. To address these aims, several secondary research questions were recognized. These include:

- Do symbolic and realistic threat perceptions, intergroup anxiety, negative stereotypes, empathy and the contextual variables significantly predict Australian prejudicial attitudes towards environmentally displaced people?
- Which of the ITT variables are the strongest predictors of prejudicial attitudes towards environmentally displaced people?
- Do negative stereotypes act as an antecedent to the other threats, as a direct predictor of prejudice, as a mediating variable between threats and prejudice or as an outcome variable?
- Are W.G. Stephan and Renfro's (2002) revisions of the ITT model effective for predicting prejudice? More specifically:
 - Is there a distinction between individual and group based threat perceptions?
 - Do social dominance orientation, right-wing authoritarianism and collective and personal self-esteem significantly contribute to the ITT?
- Does empathy significantly contribute to the ITT?
- How does empathy relate to the other variables within the ITT?

7.3 Alternate Models

Four alternative models were tested and compared to answer the research question regarding the position of negative stereotypes within the ITT model. These alternate models were selected for testing based on the literature covered in Chapter 3. The first model (Model 1) tested the position of negative stereotypes as an antecedent to threat perceptions and a mediator between the contextual variables (e.g. intergroup contact) and realistic and symbolic threats. Aberson and Gaffney (2009) and W. G. Stephan et al. (2002) both found support for this model structure. Furthermore, in their revisions of the ITT W. G. Stephan and Renfro (2002) and W. G. Stephan et al. (2009) proposed stereotypes to be a cause or antecedent to threat perceptions, rather than a direct predictor of prejudice. In contrast, in the second model (Model 2) negative stereotypes, acting as a threat construct, were placed as a direct predictor of prejudice. This conceptualisation of prejudice is in line with the ITT's original framework which conceptualised negative stereotypes as a form of threat. This model structure has also been supported by a number of studies (Corenblum & Stephan, 2001; Velasco González et al., 2008; Wirtz et al., 2015). However, the conceptualisation of negative stereotypes as a threat is problematic as there is then little distinction between negative stereotypes and the realistic and symbolic threat constructs (refer to section 3.2.2). The next two alternate models have received less attention in the literature. However, previous modelling analyses have

found support for these model structures. As such, it was considered important to investigate these model structures within the current project. The third alternate model (Model 3) tested whether negative stereotypes acted as a mediator between threat perceptions and prejudicial attitudes. Curşeu et al. (2007) undertook research which returned evidence supporting negative stereotypes acting as a mediator. In the final model (Model 4) negative stereotypes were tested as an outcome variable alongside prejudice. While this model structure has received less support in the literature and has also been tested substantially less than other theory structures, both Aberson and Haag (2007) and Aberson and Gaffney (2009) have conducted structural equation modelling and have found good model fit with stereotypes acting as an outcome variable.

7.4 Hypotheses

Hypotheses for each of the above research questions were made based on the theoretical underpinnings of the ITT and evidence from the literature discussed earlier in this thesis. The first hypothesis was based on whether the ITT variables would predict Australian prejudicial attitudes towards environmentally displaced people. A substantial body of literature has found the ITT independent variables to successfully predict prejudicial attitudes towards refugees and immigrants (Murray & Marx, 2013; Schlueter et al., 2008; Schweitzer et al., 2005; W. G. Stephan et al., 2000; W. G. Stephan et al., 2005; W. G. Stephan & Stephan, 1996b; W. G. Stephan et al., 1998; Velasco González et al., 2008). This literature was used to form the first hypothesis for this chapter.

Hypothesis 1. It was hypothesised symbolic and realistic threat perceptions, intergroup anxiety, negative stereotypes, empathy and the contextual variables would significantly predict the Australian sample's prejudicial attitudes towards environmentally displaced people.

The next hypothesis was concerned with the position of negative stereotypes within the ITT. As discussed above, there are four alternate models which place negative stereotypes as either an antecedent to threats (Model 1), a direct threat predictor of prejudice (Model 2), as a mediator between threats and prejudice (Model 3) or as an outcome variable (Model 4). From reviewing the literature (Chapter 3), it appears Model 1 which places negative stereotypes as an antecedent to threat perceptions has received the most support. Thus, the following hypothesis was made.

Hypothesis 2. It was predicted Model 1 would fit the data better than Models 2, 3 and 4. Therefore, it was predicted negative stereotypes would fit best in the ITT as an antecedent to threat perceptions.

This chapter's third hypothesis was related to identifying which independent variables would be the strongest predictors of prejudicial attitudes towards environmentally displaced people. As discussed in Chapter 3, the variables that play a role in prejudicial attitudes are dependent on the context between the groups (W. G. Stephan & Stephan, 1996b). Considering this, in order to hypothesise which variables will be the strongest predictors of prejudice, the context of the groups under investigation needed to be considered. More specifically, as covered in Chapter 2, refugees and asylum seekers have been framed by the media and government to pose both realistic and symbolic threats to Australia and Australian people (Australian Broadcasting Corporation [ABC], 2016b; Leach, 2003; Lippi et al., 2017; McKay et al., 2011; Pauline Hanson's One Nation Political Party, 2015). Indeed, work conducted by Schweitzer et al. (2005) found both realistic and symbolic threats significantly predicted prejudicial attitudes towards refugees in an Australian sample. Thus, it seems likely Australians may generalise the framing of refugees and asylum seekers to other forms of displaced people, like environmentally displaced people. Furthermore, the results presented in Chapter 5 indicated that the current sample perceived environmentally displaced people to pose a threat to both symbolic and realistic threats. Realistic threats were of particular concern in the current sample. All of this was taken into consideration to make the following hypothesis.

Hypothesis 3. It was predicted realistic and symbolic threat perceptions would be the strongest predictors of prejudicial attitudes towards environmentally displaced people.

The final hypotheses for this chapter was related to empathy. As identified in Chapter 3, previous research has shown empathy to play a role in intergroup relations and prejudicial attitudes (Bäckström & Björklund, 2007; Finlay & Stephan, 2000; W. G. Stephan & Finlay, 1999; W. G. Stephan et al., 2005; Vanman, 2016). Furthermore, empathy has been shown to directly predict prejudicial attitudes (Bäckström & Björklund, 2007). The following hypotheses were based on this evidence.

Hypothesis 4. It was hypothesised empathy would act as a significant direct predictor of prejudicial attitudes.

Hypothesis 5. It was also expected empathy would be predicted by certain contextual variables. Specifically, it was expected that previous contact with environmentally displaced people would be related to increased levels of empathy. This hypothesis was based on the idea that contact with the out-group increases an individual's ability to relate to and empathize with the target individual (Pedersen & Hartley, 2015).

7.5 Data Treatment

Participants in the *refugee* condition (N=120) were removed from the analysis as the purpose of the modelling was to establish if the ITT is an effective model to use in the context of environmental displacement. Participants within both the *environmentally displaced people* and *environmental refugee* conditions were included in the analysis (N=763). This was seen as appropriate for two reasons. First, ANOVA analyses conducted in Chapter 5 revealed there were no significant mean differences between these two conditions across the dependent and independent variables. Second, people who are displaced due to environmental reasons are referred to in a number of different ways including environmentally displaced people and environmental refugees. Thus, using data from participants who have been exposed to these different terms enhances the generalisability of the results.

For structural equation modelling sample size is an important issue. While the required sample size depends on a number of different considerations, a general rule of thumb is the ratio of cases to parameter estimates should be optimally 20:1 and minimally 10:1, with a minimum sample size of 100 (Blunch, 2013; Kline, 2016). Therefore, with the current sample size of 763 no more than 76 parameters should be estimated, with the optimal number of parameters being 38. As the models to be tested have no more than 42 parameters and the final four models have 41 (Model 1), 35 (Model 2), 38 (Model 3) and 40 (Model 4) parameters, the current sample size was considered appropriate.

Missing data was treated using Full Information Maximum Likelihood methods. For full details on missing data treatment, refer to the study's method in Chapter 4 (section 4.3.5). Inspection of the data determined it was not multivariate normal. As such, the Bollen and Stine (1992) bootstrapping post hoc adjustment which accounts for non-normality was run on the models. As recommended by Arbuckle (2016), 500 bootstrap samples were run. Nevitt and Hancock (2001) have found the Bollen-Stine Bootstrapping estimates to have less bias compared to standard Maximum Likelihood estimates under conditions of non-normality with samples >100. Using Mahalanobis d-squared values, 79 cases were identified as multivariate outliers. Closer inspection of these outliers suggest they are valid sample responses from the population of interest. In fact, many of these outliers represent approximately 10% of the sample who hold strong negative views towards environmentally displaced people. As these cases were thought to be valid, it was seen as inappropriate to remove them from the analysis.

To make understanding the model description and interpretation easier, antecedent variables will be referred to as level 1 variables. Level 2 variables include realistic and symbolic threats, intergroup anxiety, negative stereotypes and empathy. Prejudice and all level 1 and 2

variables, excluding contact (quantity and quality) and actual knowledge, were latent constructs which were assessed using two or more items. The two items which measured actual knowledge did not correlate. As such, it seems inappropriate to combine them as a single construct in SEM. Thus, the two actual knowledge items were considered separately.

Given the complexity of the hypothesised model it would be unlikely to achieve good model fit if all the latent constructs' measurement items were included. To simplify the model, the Holmes-Smith and Rowe (1994) approach was used. This approach separates the estimation of the measurement and structural parts of the model and thus reduces the number of parameters which need to be estimated in the final model. First, composite scores were computed for the latent constructs (prejudice, empathy, negative stereotypes, anxiety, realistic and symbolic threats, in-group identification, conflict and status). These composite scores were based on the results of the confirmatory factor analyses presented in Chapter 6 (also refer to Appendix E for empathy CFA results). That is, the composite scores for each variable were calculated from the items which were retained in that variable's CFA. Furthermore, rather than simply totalling the item's scores and finding the average, the composite scores were calculated using the item's factor score regression weights computed during the CFA. The benefit of this technique is it does not assume equal weighting and allows for the composite score to be based on the weighting of the individual items. After the composite scores were calculated, the Munck (1979) approach was used to calculate the latent constructs' factor loadings and error variances. As a result of the above steps, single reflective indicators were used as the composite measure for the associated latent construct, rather than the construct's multiple items. Furthermore, the calculated factor loadings and error variances were fixed in the model. This again reduced the number of parameters to be estimated and increased the model's accuracy.

This process was not followed for social dominance orientation, right-wing authoritarianism, collective self-esteem, personal self-esteem, actual knowledge and contact quality. For social dominance orientation, right-wing authoritarianism, collective self-esteem and personal self-esteem a slightly different process was used as these are relatively established scales. As these variables have established psychometric properties, the composite score for these were calculated using each scales recommended process for calculating the unweighted average, rather than using the factor score regression weights. For knowledge and contact quality these variables were assessed with one item. Hence, they were entered into the model as observed variables.

7.6 Criteria for Model Fit

In order to determine if the tested models had acceptable model fit a number of model fit indices were consulted. Table 20 presents a summary of the relevant fit indices. For more information on the fit indices refer to Chapter 6 (section 6.2). In addition to the fit indices described in Chapter 6, the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) fit indices were also consulted as these indices are useful when wishing to compare alternate models. Models which have smaller AIC and BIC values are considered to be better fitting models (Schreiber, 2008).

Table 20: *Summary of indices for assessing acceptable model fit.*

Fit index name	Abbrev.	Acceptable level	Description
Chi-square	χ^2	$p > .05$	Tests the hypothesis that there is no difference between the implied variances and covariances and the empirical sample variances and covariances.
Root Mean-Square Error Approximation	RMSEA	RMSEA $< .06$ PCLOSE $> .05$ 90% RMSEA CI = $\approx 0 - < .08$	A measure of how well the model would fit the population's covariance matrix.
Standardised Root Mean-Square Residual	SRMR	SRMR $< .08$	A measure of the difference between the residuals of the sample covariance matrix and the hypothesised covariance model.
Goodness-of-fit and Adjusted Goodness-of-fit	GFI AGFI	GFI $> .95$ AGFI $> .90$	Assesses how closely the model replicates the observed covariance matrix.
Akaike Information Criterion and Bayesian Information Criterion	AIC BIC	N/A	Useful for comparing alternate models. The model which has the smallest AIC and BIC values is considered to be the better fitting model.

7.8 Structural Equation Modelling

Prior to modelling the variables, Pearson's correlations were performed on the new composite scores for all the variables. A correlation table with means and standard deviations is shown in Table 21. Inspection of Table 21 indicates prejudice correlated strongly with the level 2 variables in the expected directions. Furthermore, the level 2 variables also correlated with each other as expected. However, inspection of the level 1 variables indicated there were a number of variables which had weak correlations with prejudice and most of the level 2 variables. As these variables only had weak to no relationships with prejudice and the level 2 variables, they were not included in the modelling analyses. Remaining in the analyses were all level 2 variables as well as social dominance orientation, right-wing authoritarianism, contact quality and actual knowledge 1.

The variables within the ITT were modelled using Structural Equation Modelling (SEM) within the AMOS V25 program. Model parameters were estimated using the Maximum Likelihood (ML) procedure. As the relationships between all variables within the ITT are dependent on the context between the groups (W. G. Stephan & Stephan, 1996b) and there has been no prior research within the context under investigation, it was unclear exactly what paths between the variables would be strong predictors. Furthermore, the researcher did not want to overlook any relationships between the variables. It was also unknown how the addition of empathy into the model would affect relationships between the variables. As such the initial model specifications included paths for all possible and theoretically supported relationships.

For all four of the models to be tested, inspection of the *Beta* weights indicated suppression effects were occurring between level 2 variables and prejudice, particularly with the four realistic and symbolic threat variables. Such an effect is often due to issues with multicollinearity (Akinwande, Dikko, & Samson, 2015). As such, issues with multicollinearity were investigated. While VIF and tolerance values were within the appropriate range, the realistic group, symbolic group, realistic individual and realistic group threat variables all had coefficients greater than .7 and the symbolic individual and realistic individual threat variables had a correlation of .851. Inspection of the relationship between symbolic individual and realistic individual threats with prejudice indicated that symbolic individual threat ratings had a weaker relationship with scores for prejudice and would therefore be the weaker predictor out of the two variables. As such, the symbolic individual threat variable was removed from the model. Removal of symbolic individual threats resolved the multicollinearity issue.

Table 21: Means, standard deviations and Pearson's correlation coefficient between all dependent variables and prejudice.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Mean (SD)
1. Prejudice	1																			4.14(2.27)
2. Empathy	-.62**	1																		7.38(2.06)
3. Negative Stereo	.59**	-.47**	1																	3.17(2.03)
4. Intergroup Anx.	.51**	-.34**	.61**	1																2.83(1.78)
5. Real. Ind.	.65**	-.44**	.65**	.54**	1															2.07(.85)
6. Sym. Ind.	.63**	-.44**	.66**	.57**	.87**	1														1.98(.85)
7. Real. Grp.	.62**	-.39**	.57**	.47**	.76**	.70**	1													2.74(.88)
8. Sym. Grp.	.66**	-.45**	.62**	.51**	.78**	.81**	.78**	1												2.34(.88)
9. SDO	.67**	-.52**	.61**	.50**	.64**	.66**	.58**	.66**	1											2.05(.72)
10. RWA	.45**	-.33**	.45**	.38**	.56**	.55**	.53**	.56**	.57**	1										2.61(.58)
11. Contact-Qual	-.51**	.46**	-.37**	-.26**	-.40**	-.40**	-.40**	-.42**	-.41**	-.31**	1									3.77(.87)
12. Contact-Quant	.07*	-.12**	.18**	.13**	.15**	.16**	.10**	.14**	.07	.08*	0.02	1								1.52(1.04)
13. Act. Knowledge 1*	-.53**	.41**	-.59**	-.46**	-.61**	-.61**	-.50**	-.59**	-.61**	-.55**	.33**	-.05	1							4.13(.96)
14. Act. Knowledge 2	.09*	-.07*	.12**	.12**	.13**	.13**	.11**	.12**	.11**	.14**	-.13**	-.01	-.10**	1						2.75(.76)
15. In-group ID	.20**	-.12**	.22**	.20**	.31**	.31**	.37**	.34**	.20**	.30**	-.06	.06	-.22**	.02	1					3.23(.88)
16. Conflict	.15**	-.12**	.13**	.10**	.10**	.08*	.16**	.15**	.02	.08*	-.11**	.14**	-.09*	.13**	.04	1				3.42(.67)
17. Status inequalities	.32**	-.20**	.30**	.24**	.31**	.30**	.41**	.36**	.29**	.26**	-.24**	.03	-.29**	.04	.25**	.31**	1			3.10(.75)
18. Per. self-esteem	-.03	.03	-.02	-.14**	-.03	-.03	.01	-.01	-.07	-.02	.10**	.12**	.07	-.11**	.14**	.00	.04	1		3.51(.64)
19. Coll. self-esteem	.01	.06	.01	-.08*	.07	.03	.14**	.10*	-.06	.13**	.00	.05	.01	-.02	.58**	.06	.14**	.45**	1	3.60(.49)
20. Self-report knowl.	.01	-.05	.19**	.10**	.14**	.20**	.00	.15**	.14**	.06	.03	.41**	-.13**	-.09**	.00	.02	.01	.04	-.08*	2.41(.86)

Note: Only those variables that are bold were included in the following modelling analyses. SDO = social dominance orientation, RWA = right-wing authoritarianism. *Actual knowledge 1. was re-conceptualised as attributional thinking (see section 7.9.2).

7.8.1 Model 1 - Negative stereotypes as an antecedent to threat perceptions. The initial model specification for stereotypes as an antecedent can be seen in Figure 31. As shown in Figure 31, negative stereotypes was placed as an antecedent to realistic and symbolic threats and was mediating the relationship between the level 1 variables and realistic and symbolic threats. This initial model specification had poor model fit ($\chi^2 = 1935.17$, $df = 34$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .271, PCLOSE = .000, 90% RMSEA CI = .264-.281; SRMR = .260; GFI = .693; AGFI = .299; AIC = 1999.17, BIC = 2147.86). To improve model fit, the model was re-specified. First, all non-significant paths were removed. The modification indices produced by AMOS and described by Jöreskog and Sörbom (1984) were then consulted to add in pathways. Only paths which were theoretically sound were added based on the modification indices. With each path modification, path significance levels were reviewed and any new non-significant paths were removed from the model. During this process the Akaike Information Criterion (AIC) and Consistent Akaike Information Criterion (CAIC) indices were monitored to ensure the model was parsimonious. The re-specified model can be seen in Figure 32. Not displayed in Figure 32 is a covariance between the residuals for realistic individual threats and symbolic group threats. The theoretical basis of such a covariance is addressed in the discussion. The model fit indices suggest model fit was acceptable ($\chi^2 = 30.76$, $df = 25$, $p = .197$; Bollen-Stine Bootstrap $p = .327$, RMSEA = .017, PCLOSE = 1.00, 90% RMSEA CI = .000 - .036; SRMR = .013; GFI = .993, AGFI = .981; AIC = 112.76, BIC = 302.89).

Table 22 presents the standardised direct, indirect and total effects for the relationships between the variables in the re-specified model 1. Inspection of this table indicates social dominance orientation was the strongest predictor of prejudice (total standardised effect = .69). Social dominance orientation predicted prejudice directly, but also had indirect effects on prejudice through all level 2 variables. Social dominance orientation was also the strongest predictor of negative stereotypes. Other notable direct predictors of prejudice were contact, empathy and symbolic group threats. Importantly, realistic individual and realistic group threats did not have any direct effects on prejudice. Furthermore, in this model negative stereotypes was partially mediating the relationship between social dominance orientation, contact quality and actual knowledge and certain level 2 variables. Negative stereotypes was not acting as a mediator between right-wing authoritarianism and any level 2 variables. Other effects worth noting are the relationships between the level 2 variables. In this model realistic group threats had a direct effect on symbolic group threats and realistic individual threats. Furthermore, realistic individual threats directly predicted intergroup anxiety. The theoretical justification for such relationships is discussed further on in this chapter.

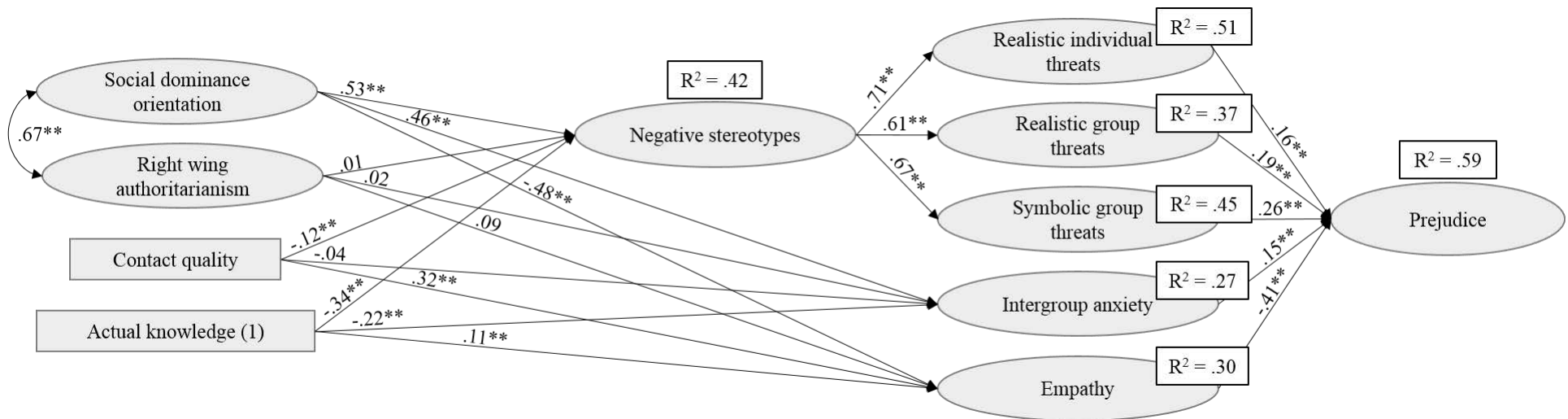


Figure 31. Model 1 - Original specified model with negative stereotypes as an antecedent to realistic and symbolic threat perceptions. Rectangles represent observed variables and ellipses represent latent variables. Standardised regression weights shown. * = $p < .05$, ** $p < .01$. Actual knowledge was re-conceptualised as attributional thinking (section 7.9.2).

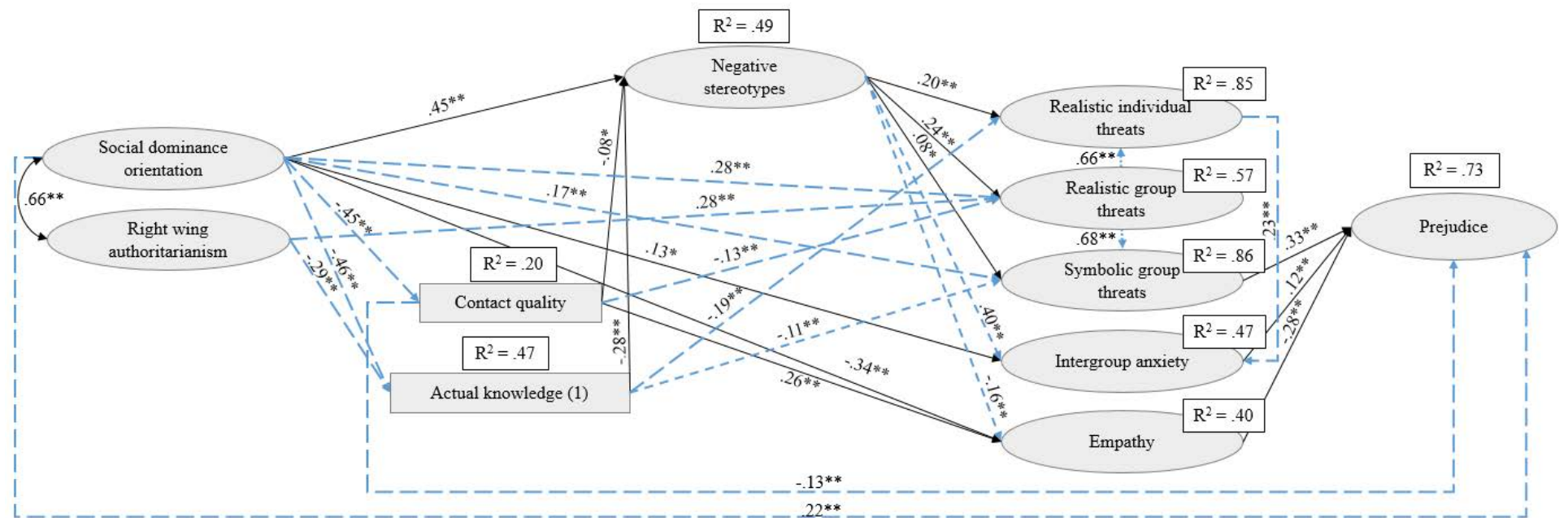


Figure 32. Re-specified Model 1 – Re-specified model with negative stereotypes as antecedent to realistic and symbolic threat perceptions. Rectangles represent observed variables and ellipses represent latent variables. Solid black lines indicate original paths. Dotted blue lines indicate re-specified paths. Non-significant paths not shown. Standardised regression weights shown. * = $p < .05$, ** $p < .01$. Actual knowledge was re-conceptualised as attributional thinking (section 7.9.2).

Table 22: *Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 1.*

Predictor															
Factor being predicted	SDO			RWA			Contact			Knowledge			Empathy		
	D	I	T	D	I	T	D	I	T	D	I	T	D	I	T
Contact	-.45	0	-.45	0	0	0	-	-	-	0	0	0	0	0	0
Knowledge	-.46	0	-.46	-.29	0	-.29	0	0	0	-	-	-	0	0	0
Empathy	-.34	-.22	-.56	0	-.01	-.01	.26	.01	.27	0	.05	.05	-	-	-
Anxiety	.13	.36	.49	0	.09	.09	0	-.06	-.06	0	-.18	-.18	0	0	0
Real. Ind.	0	.53	.53	0	.27	.27	0	-.11	-.11	-.19	-.10	-.29	0	0	0
Sym. Grp.	.17	.43	.60	0	.24	.24	0	-.11	-.11	-.11	-.07	-.18	0	0	0
Real. Grp.	.28	.21	.49	.28	.02	.30	-.13	-.02	-.15	0	-.07	-.07	0	0	0
Neg Stereo.	.45	.17	.61	0	.08	.08	-.08	0	-.08	-.28	0	-.28	0	0	0
Prejudice	.22	.47	.69	0	.09	.09	-.13	-.12	-.24	0	-.09	-.09	-.28	0	-.28

Predictor Cont.															
	Anxiety			Real. Ind.			Sym. Grp.			Real. Grp.			Neg. Stereo.		
	D	I	T	D	I	T	D	I	T	D	I	T	D	I	T
Contact	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Knowledge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empathy	0	0	0	0	0	0	0	0	0	0	0	0	-.16	0	-.16
Anxiety	-	-	-	.23	0	.23	0	0	0	0	.15	.15	.40	.08	.48
Real. Ind.	0	0	0	-	-	-	0	0	0	.66	0	.66	.20	.16	.36
Sym. Grp.	0	0	0	0	0	0	-	-	-	.68	0	.68	.08	.17	.25
Real Grp	0	0	0	0	0	0	0	0	0	-	-	-	.24	0	.24
Neg. Stereo.	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
Prejudice	.12	0	.12	0	.03	.03	.33	0	.33	0	.24	.24	0	.19	.19

Note: SDO = social dominance orientation, RWA = right-wing authoritarianism.

7.8.2 Model 2 - Negative stereotypes as a direct predictor of prejudice. The model specification for negative stereotypes as a direct predictor of prejudice can be seen in Figure 33. As shown in Figure 33, negative stereotypes was acting alongside the other level 2 variables, and all of the level 1 variables were hypothesized to predict each of the level 2 variables. This initial model had poor model fit ($\chi^2 = 1287.16$, $df = 24$, $p < .001$; Bollen-Stine Bootstrap $p = .002$, RMSEA = .263, PCLOSE = .000, 90% RMSEA CI = .251 - .275; SRMR = .217; GFI = .747, AGFI = .305; AIC = 1371.16, BIC = 1565.92). To improve model fit, the model was re-specified using the same steps described for Model 1. After this

initial re-specification, the model fit indices indicated the re-specified model had acceptable fit ($\chi^2 = 36.42$, $df = 25$, $p = .065$; Bollen-Stine Bootstrap $p = .172$, RMSEA = .024, PCLOSE = .997, 90% RMSEA CI = .000 - .041; SRMR = .015; GFI = .991, AGFI = .977). Review of the model paths revealed realistic individual threats did not significantly predict any other variable within the model. As such, realistic individual threats was removed from the model. Model fit in this third and final model was acceptable ($\chi^2 = 29.48$, $df = 20$, $p = .079$; Bollen-Stine Bootstrap $p = .170$, RMSEA = .025, PCLOSE = .992, 90% RMSEA CI = .000 - .043; SRMR = .014; GFI = .992, AGFI = .979; AIC = 99.48, BIC = 261.78). This final re-specified model can be seen in Figure 34. Again, to achieve model fit a covariance between the residuals for realistic individual threats and symbolic group threats was added. However, given individual realistic threats was removed from the model this covariance was not in the final model.

Table 23 presents the standardised direct, indirect and total effects for the relationships between the variables in the re-specified Model 2. Inspection of this table indicates social dominance orientation was again the strongest predictor of prejudice (total standardised effect = .71). As with Model 1, social dominance orientation predicted prejudice directly but also had indirect effects on prejudice through negative stereotypes, empathy, anxiety and realistic group and symbolic threats. In line with Model 1, other notable direct predictors of prejudice were contact, empathy and symbolic group threats. Realistic group threats did not directly predict prejudice, but rather had an indirect effect through symbolic group threats. Where this model differed to Model 1 was in the path from intergroup anxiety to realistic group threats. In Model 1 realistic group threats predicted intergroup anxiety whereas in Model 2 the inverse relationship occurred. Last, in the original specification of Model 2 negative stereotypes was a direct predictor of prejudice alongside the other level 2 variables. However, in this final model negative stereotypes was an outcome variable and did not contribute to the prediction of prejudice.

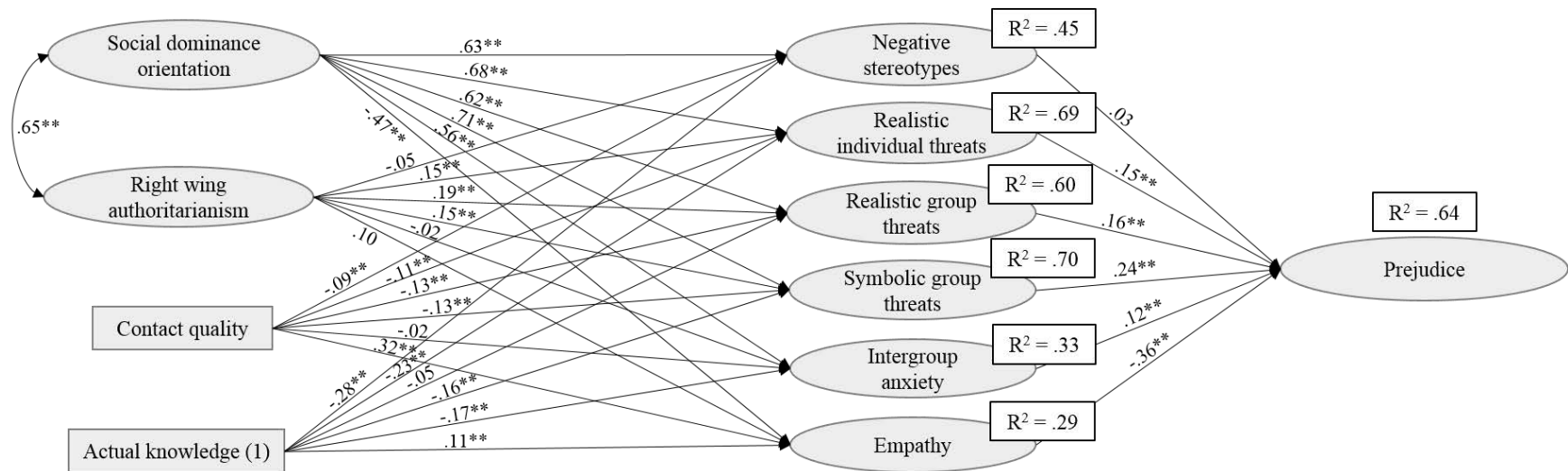


Figure 33. Alternate Model 2 - Original specified model with negative stereotypes as a direct predictor of prejudice. Rectangles represent observed variables and ellipses represent latent variables. Standardised regression weights shown. $* = p < .05$, $** p < .01$. Actual knowledge was re-conceptualised as attributional thinking (see section 7.9.2).

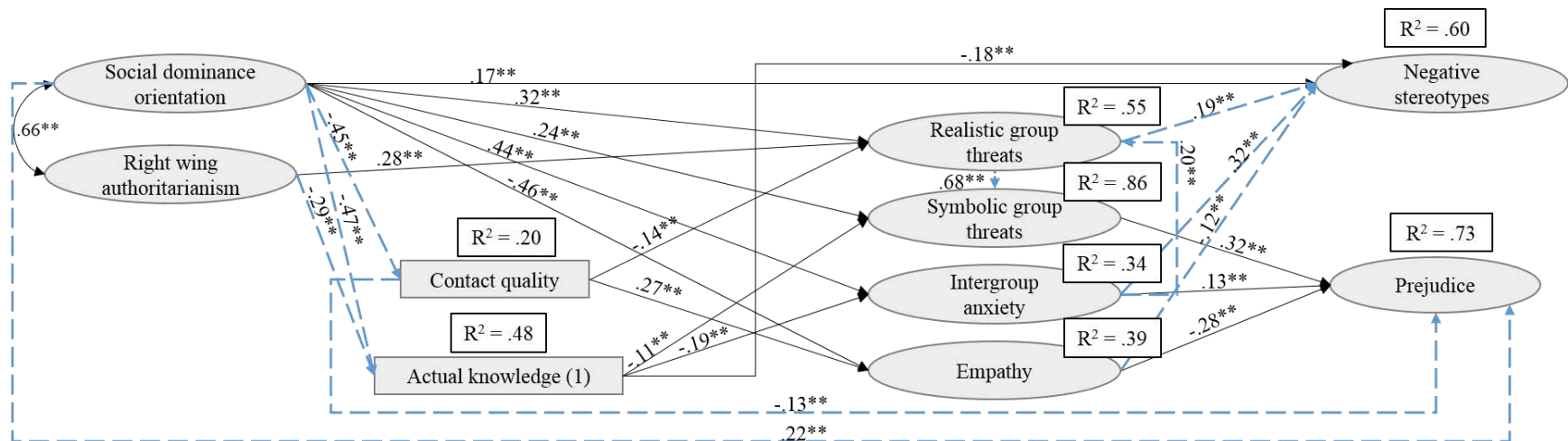


Figure 34. Re-specified alternate Model 2 – Re-specified model with negative stereotypes as a direct predictor of prejudice. Rectangles represent observed variables and ellipses represent latent variables. Solid black lines indicate original paths. Dotted blue lines indicate re-specified paths. Non-significant paths not shown. Standardised regression weights shown. $* = p < .05$, $** p < .01$. Actual knowledge was re-conceptualised as attributional thinking (see section 7.9.2).

Table 23: *Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 2.*

Predictor												
Factor being predicted	SDO			RWA			Contact			Knowledge		
	D	I	T	D	I	T	D	I	T	D	I	T
Contact	-.45	0	-.45	0	0	0	-	-	-	0	0	0
Knowledge	-.47	0	-.47	-.29	0	-.29	0	0	0	-	-	-
Empathy	-.46	-.12	-.58	0	0	0	.27	0	.27	0	0	0
Anxiety	.44	.09	.53	0	.05	.05	0	0	0	-.19	0	-.19
Sym. Grp.	.24	.38	.62	0	.23	.23	0	-.10	-.10	-.11	-.03	-.14
Real. Grp.	.31	.17	.48	.28	.01	.29	-.14	0	-.14	0	-.04	-.04
Neg. Stereo.	.17	.42	.59	0	.13	.13	0	-.06	-.06	-.18	-.07	-.25
Prejudice	.22	.48	.71	0	.08	.08	-.13	-.10	-.23	0	-.07	-.07

Predictor Cont.												
	Empathy			Anxiety			Sym. Grp.			Real. Grp.		
	D	I	T	D	I	T	D	I	T	D	I	T
Contact	0	0	0	0	0	0	0	0	0	0	0	0
Knowledge	0	0	0	0	0	0	0	0	0	0	0	0
Empathy	-	-	-	0	0	0	0	0	0	0	0	0
Anxiety	0	0	0	-	-	-	0	0	0	0	0	0
Sym. Grp.	0	0	0	0	.13	.13	-	-	-	.68	0	.68
Real. Grp.	0	0	0	.20	0	.20	0	0	0	-	-	-
Neg. Stereo.	-.12	0	-.12	.32	.04	.36	0	0	0	.19	0	.19
Prejudice	-.28	0	-.28	.13	.04	.17	.32	0	.32	0	.22	.22

Note: SDO = social dominance orientation, RWA = right-wing authoritarianism.

7.8.3 Model 3 - Negative stereotypes as a mediator between threats and prejudice. The model specification for stereotypes as a mediator can be seen in Figure 35. As shown in Figure 35, negative stereotypes was mediating the relationship between symbolic and realistic threats and prejudice. Furthermore, all level 1 variables were predicting all level 2 variables excluding negative stereotypes. This initial model had poor model fit ($\chi^2 = 1462.94$, $df = 28$, $p < .001$; Bollen-Stine Bootstrap $p = .002$, RMSEA = .259, PCLOSE = .000, 90% RMSEA CI = .248 - .271; SRMR = .227; GFI = .729, AGFI = .360; AIC = 1538.94, BIC = 1715.15). To improve model fit, the model was re-specified using the same steps described for Model 1. After re-specification the model fit indices suggested the model fit was acceptable ($\chi^2 = 38.46$, $df = 28$, $p = .090$; Bollen-Stine Bootstrap $p = .224$, RMSEA = .022, PCLOSE

= .999, 90% RMSEA CI = .000 - .038; SRMR = .016; GFI = .991, AGFI = .979; AIC = 114.46, BIC = 290.67). Review of the model paths revealed symbolic group threats did not significantly predict any other variable within the model. As such, symbolic group threats were removed from the model. Model fit was acceptable in this third and final model ($\chi^2 = 35.00$, $df = 22$, $p = .039$; Bollen-Stine Bootstrap $p = .124$, RMSEA = .028, PCLOSE = .998, 90% RMSEA CI = .006 - .044; SRMR = .015; GFI = .991, AGFI = .977; AIC = 101.00, BIC = 254.03). This final re-specified model can be seen in Figure 36. As with the other two models, a covariance between the residuals for realistic individual threats and symbolic group threats was added. However, given symbolic group threats were removed from the model this covariance was not in the final model.

Table 24 presents the standardised direct, indirect and total effects for the relationships between the variables in the re-specified Model 3. As with Models 1 and 2, social dominance orientation was again the strongest predictor of prejudice (total standardised effect = .70). Social dominance orientation predicted prejudice both directly and indirectly through empathy, intergroup anxiety and realistic individual and group threats. In line with both Models 1 and 2, other notable direct predictors of prejudice were contact and empathy. However, in contrast to Models 1 and 2, in the re-specified Model 3 realistic group threats were also directly predicting prejudice. In this model, realistic individual threats did not directly predict prejudice, but had a weak indirect effect on prejudice through intergroup anxiety. Last, in the original specification of Model 3 negative stereotypes was placed as a mediator between threat perceptions and prejudice. However, in the respecified Model 3 negative stereotypes was again found to be an outcome variable and did not contribute to the prediction of prejudice.

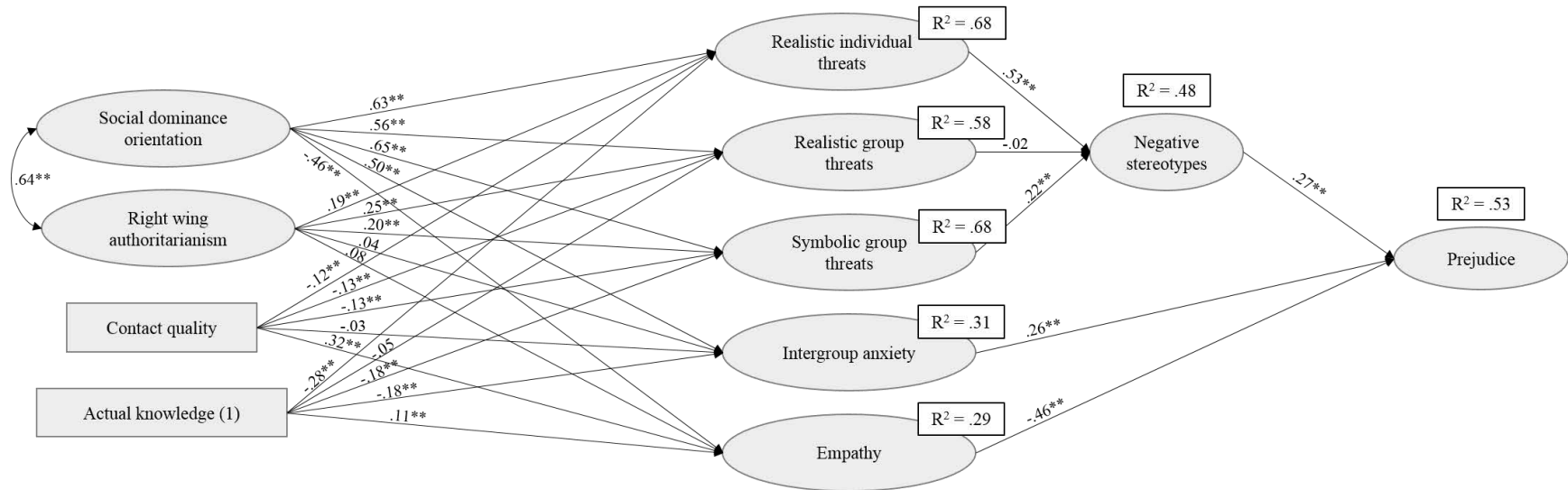


Figure 35. Alternate Model 3 - Original specified model with negative stereotypes as a mediator between prejudice and threat perceptions.

Rectangles represent observed variables and ellipses represent latent variables. Standardised regression weights shown. * = $p < .05$, ** $p < .01$.

Actual knowledge was re-conceptualised as attributional thinking (see section 7.9.2).

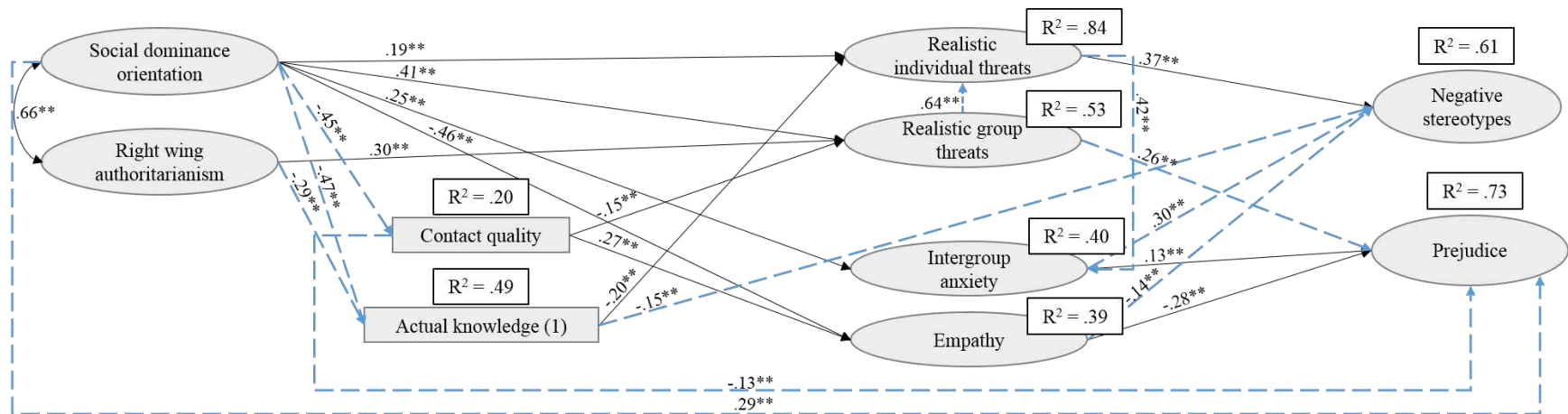


Figure 36. Re-specified alternate Model 3 - Re-specified model with negative stereotypes as a mediator between prejudice and threat perceptions.

Rectangles represent observed variables and ellipses represent latent variables. Solid black lines indicate original paths. Dotted blue lines indicate re-specified paths. Non-significant paths not shown. Standardised regression weights shown. * = $p < .05$, ** $p < .01$. Actual knowledge was re-conceptualised as attributional thinking (see section 7.9.2).

Table 24: *Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 3.*

Predictor												
Factor being predicted	SDO			RWA			Contact			Knowledge		
	D	I	T	D	I	T	D	I	T	D	I	T
Contact	-.45	0	-.45	0	0	0	-	-	-	0	0	0
Knowledge	-.47	0	-.47	-.29	0	-.29	0	0	0	-	-	-
Empathy	-.46	-.12	-.58	0	0	0	.27	0	.27	0	0	0
Anxiety	.25	.25	.50	0	.11	.11	0	-.04	-.04	0	-.09	-.09
Real. Ind.	.19	.40	.59	0	.25	.25	0	-.09	-.09	-.20	0	-.20
Real. Grp.	.41	.07	.48	.30	0	.30	-.15	0	-.15	0	0	0
Neg. Stereo.	0	.52	.52	0	.17	.17	0	-.09	-.09	-.15	-.10	-.25
Prejudice	.29	.41	.70	0	.09	.09	-.12	-.12	-.24	0	-.01	-.01

Predictor Cont.												
	Empathy			Anxiety			Real. Ind.			Real. Grp.		
	D	I	T	D	I	T	D	I	T	D	I	T
Contact	0	0	0	0	0	0	0	0	0	0	0	0
Knowledge	0	0	0	0	0	0	0	0	0	0	0	0
Empathy	-	-	-	0	0	0	0	0	0	0	0	0
Anxiety	0	0	0	-	-	-	.42	0	.42	0	.27	.27
Real. Ind.	0	0	0	0	0	0	-	-	-	.64	0	.64
Real. Grp.	0	0	0	0	0	0	0	0	0	-	-	-
Neg. Stereo.	-.14	0	-.14	.30	0	.30	.37	.13	.50	0	.32	.32
Prejudice	-.28	0	-.28	.13	0	.13	0	.05	.05	.26	.04	.30

Note: SDO = social dominance orientation, RWA = right-wing authoritarianism.

7.8.4 Model 4 - Negative stereotypes as an outcome variable. The original model specification for stereotypes as an outcome can be seen in Figure 37. As shown in Figure 37, negative stereotypes was placed as an outcome of the other ITT variables alongside prejudice. Furthermore, all level 1 variables were predicting all level 2 variables excluding negative stereotypes. This initial model had poor model fit ($\chi^2 = 1189.35$, $df = 24$, $p < .001$; Bollen-Stine Bootstrap $p = .002$, RMSEA = .252, PCLOSE = .000, 90% RMSEA CI = .240 - .265; SRMR = .214; GFI = .766, AGFI = .356; AIC = 1273.35, BIC = 1274.69). To improve model fit, the model was re-specified using the same steps described for Model 1. After re-specification, the model fit indices suggested the model fit was acceptable ($\chi^2 = 38.11$, $df = 26$, $p = .059$; Bollen-Stine Bootstrap $p = .168$, RMSEA = .025, PCLOSE = .997, 90% RMSEA CI = .000-.041; SRMR

= .014; GFI = .991, AGFI = .977; AIC = 118.11, BIC = 303.60). This final re-specified model can be seen in Figure 38. As with the other three models, to achieve model fit a covariance between the residuals for realistic individual threats and symbolic group threats was added.

Table 25 presents the standardised direct, indirect and total effects for the relationships between the variables in the re-specified Model 3. As with the previous three models, social dominance orientation was again the strongest predictor of prejudice (total standardised effect = .70). Social dominance orientation predicted prejudice both directly and indirectly through empathy, intergroup anxiety and the three threat variables. In line with all previous models, other notable direct predictors of prejudice were contact and empathy. Furthermore, in line with Models 1 and 2, symbolic group threats were also directly predicting prejudice. In this model, realistic individual threats did not contribute to prejudice at all, and realistic group threats contributed to prejudice indirectly through both symbolic group threats and intergroup anxiety. In the re-specified Model 4 negative stereotypes was an outcome variable as originally specified for Model 4.

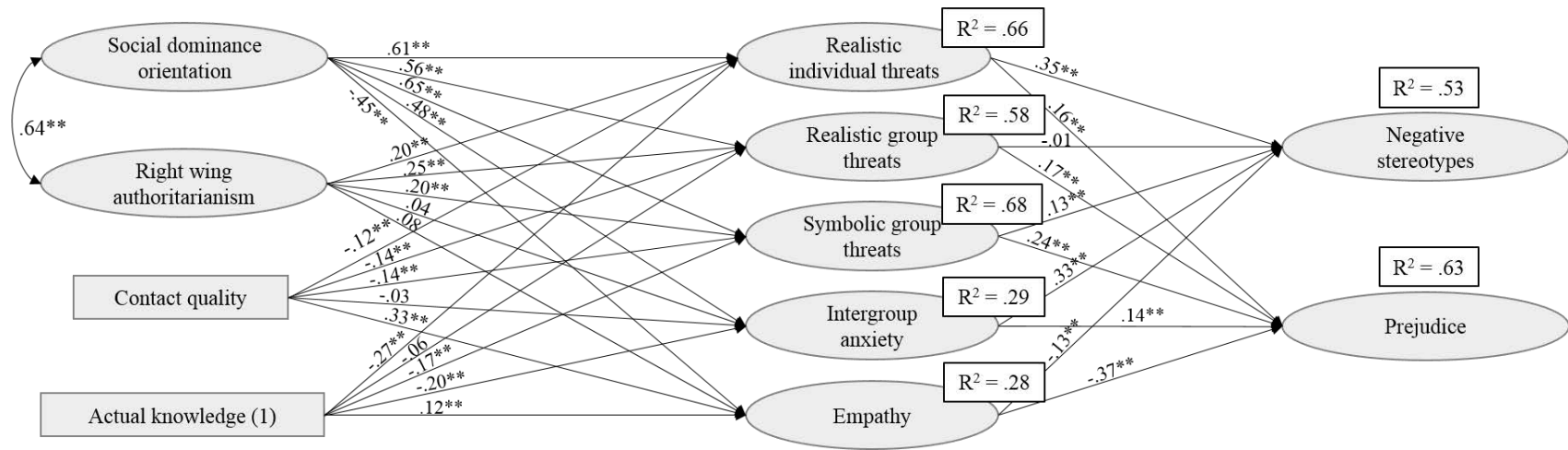


Figure 37. Alternate Model 4 - Original specified model with negative stereotypes as an outcome variable. Rectangles represent observed variables and ellipses represent latent variables. Standardised regression weights shown. * = $p < .05$, ** $p < .01$. Actual knowledge was re-conceptualised as attributional thinking (see section 7.9.2).

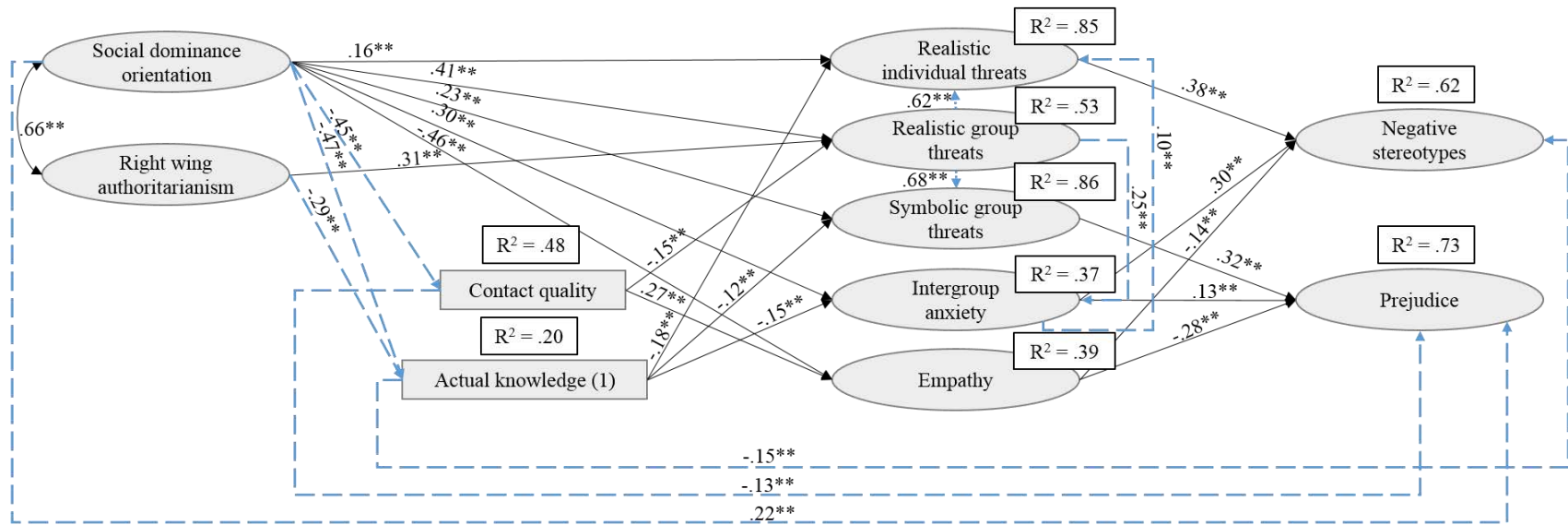


Figure 38. Re-specified alternate Model 4 - Re-specified model with negative stereotypes as an outcome variable. Rectangles represent observed variables and ellipses represent latent variables. Solid black lines indicate original paths. Dotted blue lines indicate re-specified paths. Non-significant paths not shown. Standardised regression weights shown. * = $p < .05$, ** $p < .01$. Actual knowledge was re-conceptualised as attributional thinking (see section 7.9.2).

Table 25: *Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 4.*

Predictor															
Factor being predicted	SDO			RWA			Contact			Knowledge			Empathy		
	D	I	T	D	I	T	D	I	T	D	I	T	D	I	T
Contact	-.45	0	-.45	0	0	0	0	0	0	0	0	0	0	0	0
Knowledge	-.47	0	-.47	-.29	0	-.29	-	-	-	-	-	-	0	0	0
Empathy	-.46	-.12	-.58	0	0	0	.27	0	.27	0	0	0	-	-	-
Anxiety	.30	.19	.49	0	.12	.12	0	-.04	-.04	-.15	0	-.15	0	0	0
Real. Ind.	.16	.43	.59	0	.26	.26	0	-.10	-.10	-.18	-.02	-.20	0	0	0
Sym. Grp.	.23	.38	.61	0	.24	.24	0	-.10	-.10	-.12	0	-.12	0	0	0
Real. Grp.	.41	.06	.47	.31	0	.31	-.15	0	-.15	0	0	0	0	0	0
Neg. Ster.	0	.52	.52	0	.18	.18	0	-.09	-.09	-.15	-.12	-.27	-.14	0	-.14
Prejudice	.22	.48	.70	0	.09	.09	-.13	-.11	-.24	0	-.06	-.06	-.28	0	-.28

Predictor Cont.

	Anxiety			Real. Ind.			Sym. Grp.			Real. Grp.		
	D	I	T	D	I	T	D	I	T	D	I	T
Contact	0	0	0	0	0	0	0	0	0	0	0	0
Knowledge	0	0	0	0	0	0	0	0	0	0	0	0
Empathy	0	0	0	0	0	0	0	0	0	0	0	0
Anxiety	-	-	-	0	0	0	0	0	0	.25	0	.25
Real. Ind.	.10	0	.10	-	-	-	0	0	0	.62	.02	.64
Sym. Grp.	0	0	0	0	0	0	-	-	-	.68	0	.68
Real. Grp.	0	0	0	0	0	0	0	0	0	-	-	-
Neg. Ster.	.30	.04	.34	.38	0	.38	0	0	0	0	.32	.32
Prejudice	.13	0	.13	0	0	0	.32	0	.32	0	.25	.25

Note: SDO = social dominance orientation, RWA = right-wing authoritarianism.

7.8.5 Model Comparisons. A summary of the fit indices for the four re-specified models can be seen in Table 26. Inspection of Table 26 indicates there is little difference between the fit indices across the four models.

Table 26: *Summary of re-specified Model 1, 2, 3 and 4 fit indices.*

	Model 1	Model 2	Model 3	Model 4
χ^2 , df, p	30.76, 25, $p = .197$	29.48, 20, $p = .079$	35.00, 22, $p = .039$	38.11, 26, $p = .059$
Bootstrap p	$p = .327$	$p = .170$	$p = .124$	$p = .168$
RMSEA	.017	.025	.028	.025
PCLOSE	1.00	.992	.998	.997
90% CI	.000 - .036	.000 - .043	.006 - .044	.000-.041
SRMR	.013	.014	.015	.014
GFI	.993	.992	.991	.991
AGFI	.981	.979	.977	.977
AIC	112.76	99.48	101.00	118.11
BIC	302.89	261.78	254.03	303.60

7.9 Discussion

The purpose of this chapter was to investigate the utility of the ITT in the context of explaining Australian attitudes towards environmentally displaced people. In doing so, this chapter addressed the second primary research question of this project and also investigated several of the theoretical gaps within the ITT literature. Based on the ITT literature and the identified gaps (see Chapter 3) a number of secondary research questions and hypotheses were made. The modelling analyses presented in this chapter aimed to address these research questions and hypotheses. The following discussion dissects the presented results and provides an interpretation for them in reference to the environmental displacement and Australian contexts as well as the ITT literature.

7.9.1 Was prejudice predicted in the context of Australian attitudes towards environmentally displaced people?

Overall, the results from the four alternate models indicated that the independent variables within the ITT do significantly predict prejudicial attitudes. More specifically, for each re-specified model, 73% of the prejudice variance was predicted by the independent variables. This supports the current chapter's first hypothesis as well as the previous literature which has found the ITT independent variables to successfully predict prejudicial attitudes towards refugees and immigrants (Murray & Marx, 2013; Schlueter et al., 2008; Schweitzer et al., 2005; W. G. Stephan et al., 2000; W. G. Stephan et al., 2005; W. G. Stephan & Stephan, 1996b; W. G. Stephan et al., 1998; Velasco González et al., 2008). While the ITT has been investigated in the context of refugees and immigrants, the current study is the first to test the ITT in the context of host country attitudes towards environmentally displaced people. The current findings indicate that the ITT framework is useful for understanding attitudes towards environmentally displaced people. Specifically, the current findings provide valuable insights into what attitudes specifically predict prejudice towards environmentally displaced people, which can be used to inform intervention strategies which aim to improve intergroup relations. The remainder of this discussion explores this further.

7.9.2 Model comparisons and discussion of predictor variables

All four of the models tested fitted well and had similar fit indices. The AIC and BIC indices are of particular interest as they can be used to compare models. Schreiber (2008) notes that models with lower AIC and BIC values are considered to have better fit. Of the four models, Models 2 and 3 had the lowest AIC and BIC values. While this suggests these models are better fitting, this conclusion would be overly simplistic. The AIC and BIC values are measures of model parsimony. Given there were variables removed from both Models 2 and 3 as they were not explaining any variance, this is likely why these two models have lower AIC and BIC values. While this indicates these two models are more parsimonious, it would be remiss to conclude Model 2 and 3 are the best models based solely on the AIC and BIC values. Before comparing the models further, it is important to note that in reality there are often many alternate models that will fit the data equally well (MacCallum & Austin, 2000). Furthermore, claiming one model is superior over any other is inappropriate and can lead to erroneous conclusions (Barrett, 2007). It is important to keep in mind that all models are an approximation of the data and the fit indices are inexact measures with somewhat arbitrary cut-off points (Barrett, 2007). Furthermore, even a perfect research design with textbook modelling and fit indices cannot be said to be an exact representation of reality. The accuracy of the model is still subject to sampling and measurement error and the historical context of the research (MacCallum & Austin, 2000). Thus, concluding one model is better over another is misleading and unsound. Given the four re-specified models within this project all met the requirements for good fit across all indices, it cannot be said one model is better than another.

What can be gained from comparing the models is insight into how the variables relate to one another to predict prejudicial attitudes towards environmentally displaced people. Of particular interest is the position of negative stereotypes within the model. This chapter's second hypothesis predicted that negative stereotypes would fit best in the ITT model as an antecedent to realistic and symbolic threat perceptions (Model 1) as opposed to acting as a direct predictor of prejudice (Model 2), a mediator between threats and prejudice (Model 3) or as an outcome variable (Model 4). The modelling results provide partial support for this hypothesis. The re-specified Model 1 found negative stereotypes did fit in the model as a predictor of threat perceptions. Negative stereotypes directly predicted all three threat variables as well as intergroup anxiety and empathy within the model. Furthermore, negative stereotypes mediated the relationship between the level 1 variables (social dominance orientation, contact quality and actual knowledge) and the level 2 variables (threats, intergroup anxiety and empathy). Model 1 thus supports the prediction that negative stereotypes acts as an antecedent to threat perceptions. This aligns with Aberson and Gaffney (2009) and W. G. Stephan et al. (2002) findings who also found negative stereotypes to act as an antecedent predictor of threat perceptions. In addition, this supports W. G. Stephan and Renfro (2002) and W. G. Stephan et al. (2009) revision of the ITT which proposed stereotypes to be a cause or antecedent to threat perceptions, rather than a direct predictor of prejudice.

However, the results for the other three models suggests negative stereotypes also fit in the model as an outcome variable. The re-specification process for Models 2 and 3 resulted in negative stereotypes becoming a dependent variable in the model which was significantly predicted by threats, intergroup anxiety, empathy, actual knowledge, contact quality, social dominance orientation and right-wing authoritarianism. In these models, approximately 61% of the negative stereotypes variance was predicted by the independent variables. In addition, Model 4 also found support for negative stereotypes acting as an outcome variable alongside prejudice, rather than a predictor of prejudice. In this model, 62% of the negative stereotypes variance was explained by the independent variables within the model. The results from Models 2, 3 and 4 align with the findings from Aberson and Haag (2007) and Aberson and Gaffney (2009) who found negative stereotypes fit well within models which conceptualised negative stereotypes as an outcome variable.

In a similar way to the current study, Aberson and Gaffney (2009) tested the position of negative stereotypes as either an antecedent to threats, as a threat construct directly predicting prejudice, or as an outcome variable. Their findings were in line with the current study in that negative stereotypes fit best as either an antecedent to threats or as an outcome variable. Like the current findings, there was limited support to suggest negative stereotypes acts as a threat construct which directly predicts prejudice. These findings once again bring to question the theoretical issue of defining negative stereotypes as a threat (Chapter 3 and Chapter 6). To summarise, negative stereotypes in the ITT framework were originally conceptualised as a form of threat. W. G. Stephan and Stephan (1996b) argued that when negative stereotypes (e.g. aggression, dishonesty) are assigned to groups, people will hold threatening expectations about the out-group's behaviour. Thus, negative stereotypes lead people to feel threatened by out-group members. However, in Chapter 3 it was identified that such threat perceptions overlap with the concepts of realistic and symbolic threat perceptions. For example, if an individual holds the common negative stereotype that "Muslims abide by Sharia Law" and "wish to have Australia run by Sharia Law", then these negative stereotypes will likely lead the individual to perceive that the Australian way of life, beliefs and values are under siege. This threat perception aligns with the concept of symbolic threats as defined under the ITT framework. As such, conceptualising negative stereotypes as an independent threat construct alongside realistic and symbolic threats, as was originally done in the ITT framework, is problematic as there is theoretical overlap between negative stereotypes and realistic and symbolic threats.

Given the above example it seems as though negative stereotypes are held first, which leads to the development of realistic or symbolic threat perceptions. To continue the example, the negative stereotype that "Muslims want to have Australia run by Sharia Law" leads to the individual developing the symbolic threat perception that the Australian way of life, beliefs and values are threatened. This reasoning aligns with Model 1, which did find negative stereotypes to act as an antecedent to threat perceptions. However, in Model 2, 3 and 4 threat perceptions were found to predict negative stereotypes. To link back to the example, this suggests that the perception that the

Australian way of life, beliefs and values are threatened comes first, and this leads to the negative stereotype that “Muslims want to have Australia run by Sharia Law”. At face value, the logic for Model 1 seems sounder with negative stereotypes developing first and then leading to the development of threat perceptions. However, if the Australian context is considered it is also sound to conclude that threat perceptions could come first. More specifically, the government and media’s constant framing of displaced people as a threat to Australia likely induces perceptions of threat in the Australian public, which then develops into a generalised negative stereotype about displaced people. Thus, when considering the Australian context Models 2, 3 and 4 seems more appropriate.

Altogether, it seems clear that negative stereotypes are not a form of threat perception which directly predicts prejudice or a mediator between threats and prejudice. Rather, the current results have found negative stereotypes to be either an antecedent to threat perceptions or an outcome variable alongside prejudice. The presented discussion draws attention to the theoretical overlaps between negative stereotypes and threat perceptions. The issue at hand now seems to be one of isolating which came first – negative stereotypes or threat perceptions. Longitudinal data assessing the development of threat perceptions and negative stereotypes would be helpful in answering this chicken or egg dilemma. It also must be acknowledged that perhaps neither negative stereotypes nor threats develop first, but rather they develop simultaneously and form a cyclical, iterative relationship.

There are also several other interesting comparisons to be made across the four models that are not related to negative stereotypes. Inspection of the standardized total effects (Tables 22-25) across the four models suggests that most of the effects were fairly similar regardless of the model tested ($\pm .05$). However, when looking at the significant paths and total effects for the threat variables, there are some interesting patterns which emerge. More specifically, in all four models there was a path between intergroup anxiety and threats. However, the specific threats involved and the direction of the relationship was not consistent across the models. In addition, there was a covariance between the residuals for realistic individual and symbolic group threat variables in the re-specified Models 1 and 4. Another similarity between Models 1 and 4 is that realistic group threats predicted both realistic individual and symbolic group threats. In Models 2 and 3 either realistic individual or symbolic group threats were removed, therefore there was no covariance between the residuals in the re-specified models. However, before the removal of these variables a covariance between the residuals was added based on the modification indices. Furthermore, like Models 1 and 4 the relationship between realistic group threats and either realistic individual or symbolic group threats (depending on the model) was still present. While none of these results are particularly surprising, the pattern in these findings do suggest that the threat variables can act almost interchangeably with one another and the other variables within the model. This indicates there may be little meaningful difference between the different threat constructs.

While the correlations and modelling do suggest there is some distinction between the four threats, the question needs to be raised about how useful and beneficial this distinction is in terms of

real world benefits as well as practical requirements for undertaking research in this area. For the current research, it is useful to have the distinction between the four threats for informing recommendations on how to improve intergroup relations. Across the four threats and models, it is clear that group threats were the strongest predictors of prejudice and negative stereotypes. Given that realistic and symbolic group threats, as opposed to individual level threats, are the primary focus in Australian political and media dialogue, this finding was expected. Furthermore, knowing that group threats were the strongest predictors of prejudice and negative stereotypes indicates strategies which aim to improve intergroup relations between Australians and displaced people should focus on reducing perceptions of realistic and symbolic group threats.

While understanding which specific threat contributes the most to prejudicial attitudes is valuable for the above reasons, separating threat perceptions into four separate variables can result in practical research challenges, specifically when undertaking modelling. Each variable within a model increases the sample size required. As such, combining the four threat variables into one threat construct would substantially reduce the number of participants needed to undertake modelling analyses. Furthermore, the modelling results presented here suggest that this would have little effect on the overall model outcomes. Combining the threat variables does not necessarily have to be at the cost of not understanding which specific threat is the strongest predictor of prejudicial attitudes. Separate modelling could be undertaken which looks specifically at the relationships between the four threats and prejudice in isolation to the other ITT variables. This would allow for the identification of the threat perception that is the strongest predictor of prejudice. In the overall model, the four threats can then be combined into one overarching threat construct, or even two threat constructs (realistic and symbolic or group and individual). Of course, the necessity and appropriateness for such action is dependent on the research being undertaken. Overall, this suggests W. G. Stephan and Renfro (2002) revision of the ITT and distinction between individual and group based threats can be useful for improving intergroup relations, but is not essential for understanding the relationship between threats and prejudice and the role of threats within the ITT.

The next predictor variable of interest is intergroup anxiety. Intergroup anxiety directly predicted prejudicial attitudes in all four models as originally conceptualised. Furthermore, intergroup anxiety also directly predicted negative stereotypes as an outcome variable. More specifically, the more anxiety individuals experienced about interacting with environmentally displaced people, the greater their perceptions of negative stereotypes and prejudicial attitudes towards environmentally displaced people. This findings adds to the body of literature which has found intergroup anxiety to be consistently related to out-group attitudes (Dijker, 1987; Islam & Hewstone, 1993; C. W. Stephan & W. G. Stephan, 1993; Tausch et al., 2009).

Feelings of empathy also consistently predicted prejudice and negative stereotypes across all four models. In-fact, empathy was one of the strongest predictors of prejudice in all models. This supports Wirtz et al. (2015) who suggested the addition of affective predictive variables would add to

the ITT framework. Furthermore, these findings are also in line with a number of studies which identified the role empathy can play in positive intergroup relations (Bäckström & Björklund, 2007; Finlay & Stephan, 2000; Pedersen & Hartley, 2015; W. G. Stephan & Finlay, 1999; Vanman, 2016). These findings for empathy support the fifth hypothesis of this chapter which predicted empathy would significantly contribute to the ITT and directly predict prejudicial attitudes. The identified role of empathy in predicting prejudicial attitudes presents a possible intervention strategy. More specifically, as empathy significantly predicted prejudicial attitudes, interventions which target and induce empathetic responding to the target group may be effective in reducing prejudice and ultimately improving intergroup relations. Empathy is considered a more viable option for inducing changes in prejudicial attitudes over and above the other variables which predicted prejudice, such as social dominance orientation, due to the relative ease at which empathy can be influenced. This is explored further in the following chapters.

It was also hypothesised that contact quality would predict empathy as increased contact with the out-group increases an individual's ability to relate to and empathise with the target individual (Pedersen & Hartley, 2015). The modelling results found that perceived contact quality with environmentally displaced people did indeed predict empathy towards environmentally displaced people. In addition to predicting empathy, contact quality also directly predicted realistic group threats and prejudice in all four models. Contact quality also indirectly predicted prejudice through threat perceptions and empathy. However, it is important to note that contact quantity was not included in the modelling as it had weak correlations with prejudice and the other variables. As such, the current findings suggest that while the amount of contact an individual has had with environmentally displaced people does not affect prejudice, the quality of the contact does. Given this, strategies which aim to improve intergroup relations should focus more on facilitating meaningful intergroup interactions, rather than focusing on the frequency of interaction.

In addition to contact quality, knowledge about the out-group was another contextual variable which significantly contributed to the four models. According to W. G. Stephan and C. W. Stephan (1996b; 2000), knowledge about the out-group influences threat perceptions. Specifically, they hypothesised low levels of knowledge about the out-group would likely result in in-group members being fearful of the out-group, which will influence threat perceptions. However, as identified in Chapter 3, there is little experimental or cross-sectional evidence to suggest that knowledge about the out-group influences perceptions of threat. The current findings, provide the first evidence for the role of knowledge within the ITT. However, it must be noted that the current findings for actual knowledge more likely represent attitudes towards environmentally displaced people, rather than knowledge about environmentally displaced people. To explain, two items were used to assess actual knowledge in this study (*Environmentally displaced people are the primary cause for their own displacement* and *Environmentally displaced people are recognized and protected under international law*). As mentioned earlier in this chapter these two items did not correlate together and were thus

considered separately in the modelling process. The first item was the item which was included in the modelling analyses, whereas the second item only had weak correlations with the ITT variables and was thus not included in the modelling. While initially the statement “*Environmentally displaced people are the primary cause for their own displacement*” was originally thought to be a factual assessment about the cause of displacement, it is now thought to be an assessment of the participants’ attributional thinking. In brief, attributional thinking is the tendency to judge one’s own behaviours and the behaviours of close others as the result of situational attributes (e.g. they had a car accident because they were tired), while judging the behaviours of distant others to be the result of dispositional attributes (e.g. they had a car accident because they are a bad driver) (Jones & Nisbett, 1972). As such, this item (Actual Knowledge 1) was not an accurate assessment of the participants’ knowledge about environmentally displaced people and cannot be used as evidence to suggest knowledge about the target group is related to threat perceptions. In fact, the statement “*Environmentally displaced people are recognized and protected under international law*” is a more accurate assessment of out-group knowledge. Given responses on this item were not related to any of the ITT variables, this suggests knowledge does not predict threat perceptions or contribute to the ITT. Additionally, self-reported knowledge also did not correlate with any of the ITT variables and was not included in the modelling analyses. This again suggests that knowledge about the out-group does not affect threat perceptions and prejudice.

While the current study did not find knowledge to play a significant role in influencing threat perceptions and prejudice, the role of knowledge should not be disregarded solely based on this study’s findings. The assessment of knowledge in the current study was not extensive and could be developed and explored more thoroughly. Understanding more clearly whether knowledge does influence threat perceptions and prejudice would be valuable as it would offer insight into whether providing the in-group with information about the out-group improves intergroup relations. The role of knowledge as well as attributional thinking in improving intergroup relations is explored further in the following chapters.

The current study can also provide some insight on the role of attributional thinking within the ITT. Interestingly, across the four models the item for actual knowledge, which is now thought to be assessing attributional thinking, predicted different variables. What was consistent across all four of the models was the direct relationship between the proxy measure for attributional thinking and negative stereotypes. Furthermore, while not the same threat variable was predicted in each model, attributional thinking did always predict at least one of the threat variables. Additionally, in all four models attributional thinking only had a weak indirect relationship with prejudice. Together, these findings provide preliminary evidence which suggests attributional thinking does not contribute strongly to predicting prejudice, but is useful for understanding negative stereotypes and threat perceptions.

The last variables which contributed to the model were social dominance orientation and right-wing authoritarianism. In brief, social dominance orientation refers to a person's tendency to endorse societies/relationships which are grounded in group-based social hierarchies (Sidanius & Pratto, 1999). It has been shown that individuals who endorse hierarchical structures tend to hold more prejudicial attitudes towards lower status groups compared to individuals who endorse more egalitarian social structures (Esses et al., 1998; Levin et al., 2002). In the current modelling, social dominance orientation was consistently the strongest predictor of prejudice. In addition, social dominance orientation also predicted contact quality, knowledge, empathy, intergroup anxiety, threat perceptions and negative stereotypes in all four models. These findings suggest that an individual's social dominance orientation plays a large role in how they perceive environmentally displaced people.

Differently to social dominance orientation, right-wing authoritarianism refers to a person's tendency to support right-wing authority and conventional norms and values (Altemeyer, 1998; Rattazzi et al., 2007; Whitley, 1999). Hence, people with high authoritarianism are resistant to any individual or group which threatens the conventional status quo (Whitley, 1999). Similarly to social dominance orientation, individuals who are high on right-wing authoritarianism are more likely to hold negative attitudes towards out-group members (Ekehammar et al., 2004; Rattazzi et al., 2007). In all four models right-wing authoritarianism directly predicted realistic group threats and attributional thinking (knowledge 1). Furthermore, right-wing authoritarianism indirectly predicted intergroup anxiety, symbolic group and realistic individual threat perceptions, negative stereotypes and prejudice.

Together, the findings for both social dominance orientation and right-wing authoritarianism support W. G. Stephan and Renfro (2002) recommendations to add these variables into the model and suggest individual factors can contribute to the ITT. As covered in Chapter 3, social dominance orientation and right-wing authoritarianism are typically considered individual factors which predict prejudicial attitudes. However, some suggest they are actually group-based constructs. Duckitt et al. (2002) and Kreindler (2005) argue social dominance orientation and right-wing authoritarianism are not individual factors, but are measures of social and ideological attitudes and group dynamics. Furthermore, Ekehammar and Akrami (2007) suggest that social dominance orientation and right-wing authoritarianism are a combination of both personality and social factors. It would be valuable to determine if social dominance orientation and right-wing authoritarianism are individual factors or are social attitudes as changing attitudes to be more positive is a much easier task than changing a personality characteristic. This is particularly important given the influence social dominance orientation was found to have on prejudicial attitudes towards environmentally displaced people.

7.9.3 Non-predictive variables

There were a number of level 1 variables which were not included in the modelling analyses as they had weak correlations with all of the level 2 variables (threat perceptions, empathy, intergroup anxiety, negative stereotypes and prejudicial attitudes). The variables which were not included in the modelling analyses were contact quantity, in-group identification, perceptions of prior conflict, perceptions of status inequalities, knowledge (both self-reported and actual) and personal and collective self-esteem.

The context needs to be considered in explaining why some of the level 1 variables did not correlate with the level 2 variables. For instance, it was not unexpected that perceptions of previous conflict would not correlate strongly with any of the level 2 variables as there has been no previous conflict between Australians and environmentally displaced people. Similarly, it is not surprising status inequalities did not correlate with the other variables as there is little contextual information for the participants to base their perceptions of status inequalities on. The findings for the other level 1 variables excluded from the modelling analyses are less easily explained by the context between the groups.

More specifically, while contact quantity not relating with any other variable is not unexpected in itself, what is unexpected is the inconsistent finding between contact quality and quantity. That is, contact quantity was not related to any of the level 2 variables, whereas contact quality was a significant predictor within the model. One explanation for this inconsistency may be the way contact quantity was assessed. For contact quantity, the participants were asked to indicate the number of environmentally displaced people they knew by typing the number into a dialog box. Many of the participants were unsure of the exact number and responded with a range (e.g. 10-20). Furthermore, some responded with phrases such as ‘many’ or ‘a lot’. As such, the responses were not on a continuous scale as originally intended, but rather were grouped into ordinal categories. Furthermore, while all attempts were made to code this data as consistently as possible, the coding was somewhat imprecise due to the participants own uncertainty. It is likely this introduced confounding variability into the data which resulted in low correlations between contact quantity and the other variables.

The finding that in-group identification was not related to any of the level 2 variables was surprising. More specifically, previous research suggests individuals with high in-group identification are more invested in their group’s welfare and success and thus feel greater levels of threat than those who do not identify strongly with the in-group (Bizman & Yinon, 2001; Riek et al., 2006; Velasco González et al., 2008). As such, it was expected that in-group identification would be related to threat perceptions. However, the current study’s results indicate that, in this sample, the participants’ in-group identification was not related to threat perceptions towards environmentally displaced people.

Knowledge (both self-reported and actual) also did not correlate with the level 2 variables. As noted in Chapter 3, knowledge is identified as an important variable within the ITT framework (C. W.

Stephan & Stephan, 2000; W. G. Stephan & Stephan, 1996b), however the predictive capacity of this variable has not been tested. The findings from this study are the first to suggest that knowledge about the out-group may not be a strong predictor of out-group attitudes. This aligns with work However, as noted previously, further research which conceptualises and investigates knowledge more thoroughly should be undertaken before ruling knowledge out of the ITT.

Last, personal and collective self-esteem also did not correlate with any of the level 2 variables. The role of personal and collective self-esteem was tested in this study as W. G. Stephan et al. (2009) proposed these variables should be added to the ITT framework because they may be linked with perceptions of threat. More specifically, the authors suggested an individual who has low personal self-esteem will be more susceptible to perceptions of threat due to a lowered self confidence in dealing with such threats. In contrast, W. G. Stephan et al. (2009) suggested people with high collective self-esteem are expected to hold greater perceptions of threat as they are more likely to be concerned about what happens to their group (W. G. Stephan et al., 2009). However, the findings from the current study suggest this is not the case and neither personal nor collective self-esteem are related to threat perceptions.

7.10 Chapter Summary

Overall, this chapter investigated the ITT in the context of Australian attitudes towards environmentally displaced people. The findings indicate the independent ITT variables predict the sample's prejudicial attitudes towards environmentally displaced people. Furthermore, the modelling analyses also examined the role of negative stereotypes within the ITT. The current findings indicate that negative stereotypes act as either an antecedent to threat perceptions or as an outcome variable, and suggest negative stereotypes do not act as a direct threat predictor of prejudice or a mediating variable between threats and prejudice.

Across the four models, group based threat perceptions were stronger predictors of prejudicial attitudes towards environmentally displaced people compared to individual based threat perceptions. Furthermore, of all the independent variables, social dominance orientation was the strongest predictor of prejudice and also contributed to threats, intergroup anxiety and empathy. The findings also indicated that the addition of empathy to the ITT consistently and significantly contributed to the model. It was identified that interventions which aim to induce empathetic responding towards the target group may have powerful benefits for improving intergroup relations.

The current findings address several of the theoretical gaps in the ITT literature and also present the first use of the ITT in predicting host country attitudes towards environmentally displaced people. These findings provide an understanding of what views and attitudes lead to prejudicial attitudes towards environmentally displaced people in an Australian sample. Such an understanding can be used to inform strategies on how to reduce prejudice and improve intergroup relations. The ultimate goal of understanding what leads to negative intergroup relations is the application of this

knowledge for improving intergroup relations. Of particular note was the significant role of empathy in predicting prejudice. As empathy was a strong predictor of prejudice it was identified as a key variable that interventions strategies could target to improve intergroup relations. As such, the following chapter explores different strategies in how to improve intergroup relations and focuses on a particularly promising approach for inducing empathy and reducing prejudicial attitudes between groups – social perspective taking.

Logic Check Point

To assist with clarity the reader is reminded of the conceptual framework for this project, which is presented again in Figure 39. The contextual background and theoretical framework for this project were presented in Chapters 1-3. Chapters 4-7 then presented the Study 1 rationale, methodology, results and discussions. There were three critical findings from Study 1. First, a substantial proportion of the sample ($\approx 35\%$) held strong negative views towards environmentally displaced people. Second, the ITT appears to be an effective framework for investigating host country attitudes towards environmentally displaced people. Third, empathy was a significant predictor of prejudicial attitudes within the ITT framework. Based on these findings, it was identified that intervention approaches which improve attitudes towards environmentally displaced people are needed. The manipulation of empathy was recognised as a particularly promising approach for doing this as empathy significantly predicted prejudicial attitudes and is relatively easy to induce. As such, the next aim for this project was to examine intervention approaches for shifting negative attitudes to improve intergroup relations, with the manipulation of empathy being an important focus. Chapters 8-9 present the literature and theoretical framework for the intervention approach selected for this project. This is followed by the Study 2 Chapters (10-12). Chapter 13 then presents the overall discussion for this thesis.

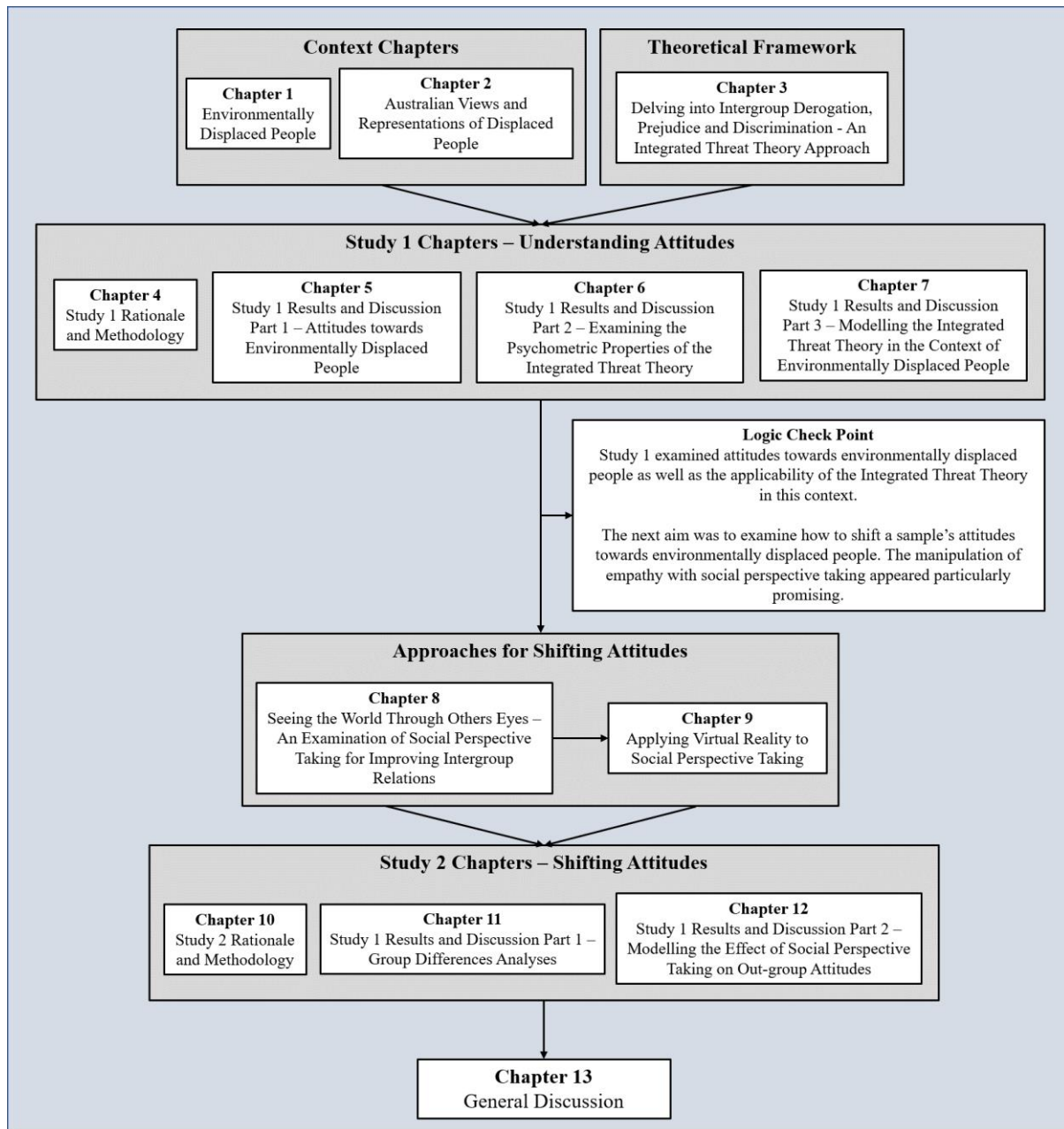


Figure 39: Conceptual diagram of the thesis.

Chapter 8: Seeing the World Through Others' Eyes - An Examination of Social Perspective Taking for Improving Intergroup Relations.

“If you can learn a simple trick, Scout, you’ll get along better with all kinds of folks. You never really understand a person until you consider things from his point of view—until you climb into his skin and walk around in it.” (Lee, 1960)

Study 1 of this project found a considerable proportion of the sample held moderate to strong negative views towards environmentally displaced people. As discussed in Chapter 2, negative attitudes towards displaced people can have detrimental effects on the physical and mental health and wellbeing of displaced people (Correa-Velez et al., 2010; Kim, 2016; Stuber et al., 2008). Furthermore, if displaced people are perceived negatively, they are more likely to be segregated and assimilated, rather than integrated, into the host country community (Esses et al., 2017; Florack et al., 2003). The results of Study 1 alongside the known detrimental effects of negative attitudes makes it clear that interventions which aim to improve host country attitudes are important for mitigating the adverse impacts of such attitudes on environmentally displaced people. Given this, the current project investigated different intervention approaches.

There are a number of approaches which can be used to improve host country attitudes towards environmentally displaced people. Pedersen and Hartley (2015) provide a comprehensive evidence-based overview for several fundamental factors to be used in anti-prejudice interventions. Many of the factors Pedersen and Hartley (2015) discuss align with topics already covered in this project. Pedersen and Hartley’s (2015) review as well as the findings from Study 1 were considered when deciding on the intervention approach to use for this project. The first factor Pedersen and Hartley (2015) identified as important to an intervention is the use of emotion. As discussed in earlier chapters, empathy is strongly related to prejudice (Bäckström & Björklund, 2007; Finlay & Stephan, 2000; W. G. Stephan & Finlay, 1999; Vanman, 2016). Furthermore, the Study 1 results indicated that empathy was a strong predictor of prejudicial attitudes. More specifically, people who felt more empathy towards environmentally displaced people held lower negative stereotypes and prejudicial attitudes towards environmentally displaced people. This finding suggests that the manipulation of feelings of empathy may have powerful positive impacts on other out-group attitudes. Given this finding, interventions which involved eliciting empathy were investigated. While the following chapter presents intervention approaches which target a number of factors, empathy was of particular interest as it was found to be related to positive intergroup relations in Study 1.

Another factor identified by Pedersen and Hartley (2015) was the provision of information or rebuttal of false beliefs. As discussed in Chapter 2, there are a number of myths or false beliefs in Australia regarding refugees and asylum seekers (e.g. the illegality of seeking asylum in Australia) (Markus & Dharmalingam, 2014; Pedersen, Clarke, Dudgeon, & Griffiths, 2005; Pedersen & Hartley,

2017). Pedersen and Hartley (2015) recommend intervention strategies should include information which contains the accurate details of the situation or corrects false beliefs. However, it is crucial information is provided non-aggressively, as giving information that goes against one's beliefs can often result in backfire effects and actually strengthen the individual's views or result in other undesirable outcomes (Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012). Furthermore, the provision of information on its own is rarely enough to change attitudes and behaviour. Thus, intervention strategies need to do more than provide information.

Pedersen and Hartley (2015) also identified threat as an important factor for anti-prejudice interventions. They recommend reducing threat perceptions through interventions by directly addressing the often incorrect beliefs behind such threat perceptions. For instance, a common realistic threat perception is that refugees receive more welfare support than Australian citizens and are a drain on the economy. In reality, this is not the case. Pedersen and Hartley (2015) suggest one way to overcome this false belief is to highlight the actual financial support refugees receive and expose the economic and financial hardship that refugees endure. This may in turn adjust knowledge about the issue, reduce threat perceptions and potentially reduce prejudice.

However, the findings from Study 1 did not suggest that knowledge about the out-group is related to prejudicial attitudes towards environmentally displaced people. Furthermore, there is very limited evidence within the ITT literature which supports the role of increased knowledge being related to reduced prejudice and positive intergroup relations. As such, there is limited evidence to support Pedersen and Hartley's (2015) recommendation that adjusting knowledge about the out-group will lead to reduced threat perceptions. Another criticism of Pedersen and Hartley's above recommendation is their approach for reducing threat perceptions is essentially just providing information which counters the basis of people's threat perceptions. As mentioned above, providing information to individuals that is contradictory to their beliefs can backfire leading people to respond defensively (Lewandowsky et al., 2012). These considerations suggest that, in contrast to Pedersen and Hartley's (2015) recommendations, providing information in the form of facts and figures may not be the best approach to overcome perceptions of threat. Other strategies will likely be more effective with less potential negative outcomes. For instance, Study 1 indicated the better the quality of contact with an out-group the less negative the threat perceptions as well as prejudicial attitudes. Thus, one strategy to reduce threat perceptions may be to encourage positive contact between groups. What is most likely to be an effective way to reduce threat perceptions is a multi-faceted approach which both disputes incorrect information while providing real-world evidence which reduces fear and increases empathy towards the out-group. This real-world evidence may likely be in the form of positive contact with the out-group. Pedersen and Hartley (2015) identified contact as an important factor in anti-prejudice interventions. This aligns with the role contact has been shown to play both in this project as well as within broader research (Allport, 1954; Henry & Hardin, 2006; Shook & Fazio, 2008; W. G. Stephan & Stephan, 1996b). However, there are practical limitations of increasing

contact between groups. Pedersen and Hartley (2015) recognise these practical limitations and recommend the use of films which feature the out-group. They argue using films acts as a form of indirect intergroup contact.

Intergroup contact can also help reduce the effects of dehumanisation – another factor to consider in anti-prejudice interventions (Pedersen & Hartley, 2015). As discussed in Chapter 2, the Australian government and media often dehumanise asylum seekers through both language and imagery (Bleiker et al., 2013; Leach, 2003). For instance, images of asylum seekers are usually of large groups and do not depict the human features or emotions of the individuals (Bleiker et al., 2013). Furthermore, asylum seekers are often referred to as ‘illegals’ rather than as people (Klocker & Dunn, 2003). This pattern of representation dehumanises the individuals experiencing this hardship and portrays them as an illegal hoard. Anti-prejudice intervention strategies should aim to humanise the out-group and focus on the human experience. Pedersen and Hartley (2015) argue humanising the out-group allows people to relate to them and also increases empathy. Contact, either face-to-face or through film, can be a powerful way to achieve this and humanise a group.

One’s personal values are also critical when designing an intervention strategy as people’s attitudes are often based on their personal values (Pedersen & Hartley, 2015). More specifically, two specific themes were identified by Pedersen and Hartley (2015) as being particularly powerful for use in interventions in an Australian sample. First, recognising the privilege that Australians have in regard to their own and their family’s safety. Second, highlighting the universal values of love and family (Pedersen & Thomas, 2013). Emphasising universal values also aligns with the fourth intervention mechanism identified by Pedersen and Hartley (2015), which is to emphasise the similarities and differences of the derogated group with oneself. While noting similarities can encourage acceptance and oneness, it is impractical and incorrect to pretend all people or groups are the same. Thus, acknowledging similarities alongside differences has been shown to be effective in increasing positive attitudes (Cameron, Rutland, Brown, & Douch, 2006; Pedersen & Thomas, 2013).

One phenomena which is hypothesised to occur with people who are prejudiced is the tendency to overemphasize the proportion of people who hold the same views (Pedersen, Griffiths, & Watt, 2008; Pedersen & Hartley, 2015). That is, people who are prejudiced tend to inaccurately perceive everyone else is as well (Pedersen et al., 2008). Furthermore, prejudiced individuals often think those who disagree with them and have more positive views are out of touch with reality (Pedersen & Hartley, 2015). Pedersen and Hartley (2015) recommend providing such individuals with accurate consensus information in an attempt to shift their attitudes. The concept of social norms is a useful lens to use for considering how adjusting an individual’s view of the social consensus of their attitudes can change behaviour. Social norms embody the values and beliefs of an individual’s social group and represent the perceived pressure an individual feels to conform to social attitudes and behaviours (Ajzen, 1991; Bamberg & Möser, 2007; Do Valle, Rebelo, Reis, & Menezes, 2005). It is thought that individuals are motivated to conform to social norms to avoid social exclusion (Ajzen,

1991). Thus, if one's perceptions of socially normal attitudes about an out-group are changed, it is hypothesised this will also shift the individuals own views.

The above factors identified by Pedersen and Hartley (2015) tie in nicely with many of the Integrated Threat Theory (ITT) concepts, but also interact in a way that will likely enhance intergroup relations. Incorporating one of the above factors can have positive and perhaps even unintentional carry over effects. For instance, an intervention strategy which involves contact will likely also increase empathy, humanise the out-group and possibly reduce threat perceptions and feelings of intergroup anxiety. Alternatively, an intervention strategy which provides non-aggressive information may have the effect of reducing false beliefs about the out-group as well as reducing threat perceptions. To be most effective, an intervention strategy needs to incorporate multiple mechanisms in order to address multiple issues as well as target individuals in different ways. The challenge however is finding or developing an intervention strategy which incorporates multiple mechanisms successfully.

One intervention strategy, social perspective taking (SPT), is particularly promising. SPT involves perceiving the world from someone else's perspective or metaphorically placing yourself in another's shoes. SPT is a promising intervention strategy as it can combine many of the strengths of the above listed factors. For instance, a single SPT experience can involve contact with the out-group, can provide information to reduce false beliefs and threat perceptions (either delivered from an out-group member or from the intervention organiser), humanise the out-group, elicit emotional responses and align with or encourage positive national and personal value systems.

The ability to see the world from the perspective of others has been a topic of considerable psychological enquiry since Piaget (1932) first identified perspective taking as a valuable asset for cohesive social functioning. The ability to perceive the world from another's perspective has been linked to altruistic behaviours (Batson, 1991), moral reasoning (Kohlberg, 1976), psychological closeness and bonding (Galinsky, Ku, & Wang, 2005), being able to successfully resolve conflicts (Galinsky, Ku, et al., 2005), higher levels of social competence and self-esteem (Davis, 1983), and lowered interpersonal aggression (Richardson, Hammock, Smith, Gardner, & Signo, 1994). This evidence suggests perspective taking is critical for positive interpersonal relationships and plays a large role in successfully managing the intricacies of social interactions. Perspective taking allows individuals to understand and explain others thoughts and behaviours, which can help facilitate easier and more satisfying social interactions (Davis, 1983; Todd, Bodenhausen, Richeson, & Galinsky, 2011). Thus, it seems likely encouraging people to take on the perspective of out-group members may result in more positive interpersonal relationships.

Usually perspective taking occurs as a process that operates relatively automatically and passively. However SPT, as discussed in this chapter, refers to the process of intentionally and actively imagining oneself in the perspective of another person, usually someone who is an out-group member (e.g. a male imagining the perspective of a female) (Galinsky, Ku, et al., 2005; Sparkman &

Blanchar, 2017). The following chapter will explore SPT and provide a review of the research and literature in this area. The first half of the chapter will focus on the theoretical underpinnings of SPT. This discussion will include the mechanisms by which SPT works, as well as the influencing factors and boundary conditions for SPTs use. The second section will focus on the application of SPT. This section will include a discussion on the benefits and drawbacks of SPT in reference to the applied research. Within this chapter, many of Pedersen and Hartley (2015) recommendations for successful anti-prejudice interventions are discussed further in terms of the SPT literature.

8.1 Section One: Theoretical Underpinnings of Social Perspective Taking

There are various theoretical mechanisms which explain why and how SPT reduces negative attitudes between groups and improves intergroup relations. Typically, the nature of the hypothesised mechanisms fall within two categories – those that make use of cognitive processes and those that make use of affective processes. It is argued that both cognitive and affective components contribute independently to attitudes (Pedersen & Thomas, 2013). The findings from Study 1 lends support to this, with prejudice being predicted by both affective (empathy and intergroup anxiety) and cognitive variables (e.g. threats perceptions and negative stereotypes). Thus, perspective taking affecting both cognitive and affective factors suggests it will likely be a powerful influencer on attitudes.

8.1.1 Cognitive mechanisms. The first mechanism to be discussed here is self-other overlap. When SPT occurs it is thought the perspective takers perceptions of self and other begin to change. It appears viewing the world through another's eyes can lead to an increased merging and connection between the cognitive representations of the self and the other (Ahn et al., 2013; Davis, Conklin, Smith, & Luce, 1996; Erle & Topolinski, 2017). This connection of the self and other is referred to as self-other overlap. Several experimental studies indicate undertaking SPT does lead to a significant increase in self-other overlap (Davis et al., 1996; Galinsky, Ku, et al., 2005; Galinsky & Moskowitz, 2000). This increase in self-other overlap seems to not only apply to the target individual (the person whose perspective was taken), but to the entire group which the target individual belongs (Galinsky & Ku, 2004; Galinsky & Moskowitz, 2000).

While there is substantial evidence to suggest self-other overlap through SPT leads to beneficial outcomes, there are certain conditions which need to be considered. The self-esteem of the perspective taker appears to be one condition which can inhibit the positive effects of self-other overlap. If the perspective taker has poor self-esteem they may apply negative self-traits to the target individual. This may then result in increased negative views towards the target individual and potentially damage intergroup relations (Galinsky & Ku, 2004; Galinsky, Ku, et al., 2005). Such findings outline a boundary condition for the use of SPT and the potential for backfire effects to occur (Galinsky & Ku, 2004). While it is noted that self-esteem did not predict prejudice in Study 1, the addition of SPT introduces an added mechanism through which self-esteem is thought to interact with

prejudice. To clarify, undergoing an SPT intervention is thought to actively engage perceptions of the self, which is then applied to the target ‘other’ (Davis et al., 1996; Galinsky, Ku, et al., 2005). Thus, while self-esteem may not predict prejudice in a cross-sectional study, this does not rule out that the process of SPT will not arouse self-esteem perceptions, which may then interact with perceptions of the target ‘other’.

Another factor which seems to influence self-other overlap is the way in which participants undertake SPT. More specifically, SPT can occur by either imagining ‘other’ or imagining ‘self’. In the imagine-other scenario, the perspective taker imagines how others may think, feel or behave in certain circumstances. In contrast, in the imagine-self scenario the perspective taker imagines how they themselves may think, feel or behave when exposed to certain circumstances. Early evidence suggests differential outcomes of SPT may result as a function of whether the perspective takers are imagining self or imagining other. Galinsky, Ku, et al. (2005) hypothesised differential results on intergroup relations based on whether the perspective taker identifies aspects of the self in others, or whether they identify aspects of the other in themselves. They hypothesized that social bonds will be increased when the self is seen in the target individual, whereas increased social coordination (mimicry) will occur when characteristics of the other are applied to the self. In contrast to Galinsky, Ku, et al.’s (2005) hypotheses, Vorauer and Sasaki (2014) found that when participants were instructed to imagine-other, they became more concerned with how the out-group may evaluate them and their in-group. They found this tended to lead to defensive thoughts and ultimately derogation of the out-group. No such effects were observed when participants were instructed to imagine-self. These results suggest SPT interventions should use imagine-self designs in order to avoid the perspective taker being preoccupied by how they are being evaluated by out-group members.

While at this stage it is unclear how the different forms of self-other overlap (identify self in other versus identify other in self) may influence intergroup relations, there is evidence which suggests SPT can result in both forms of self-other overlap. For example, Davis et al. (1996) tested whether SPT leads to overlap between the cognitive representation of the ‘self’ and the ‘other’. In this study, the participants’ representations of the ‘self’ were assessed by using an adjective checklist as well as the participants listing traits that best described themselves. Several weeks later, the participants were presented with a videotape which featured an unknown individual (the ‘other’). Prior to watching the video, participants were allocated to one of three groups and each group was given different instructions for watching the videotape – *imagine-self*, *imagine-other* and *watch target*. The participants in the *imagine-self* and *imagine-other* groups were in the experimental conditions. In the *imagine-self* condition, the participants were instructed to imagine how they would feel if faced with the depicted scenario. In contrast, in the *imagine-other* condition the participants were instructed to imagine how the target individual was thinking. The participants in the *watch target* group were in the control condition. In this condition SPT was inhibited by instructing the participants to focus on superficial features of the target individual. After watching the videotape, the

participants were assessed on their cognitive representations of the individual who was featured in the tape. This involved the same assessment the participants completed previously for the cognitive representation of themselves – an adjective checklist as well as listing traits that best described the target individual. The researchers then conducted planned comparisons on the assessments of the participants' descriptors of the 'self' and the 'other' for the three different conditions. Results indicated that when the participants were given SPT instructions (both *imagine-self* and *imagine-other*), they assigned self-descriptive characteristics to the target individual significantly more than they did when given the *watch target* control instructions. There was no differences in responses for participants between people in the *imagine-self* and *imagine-other* conditions. These results suggest the same outcomes occur regardless of whether the perspective taker is instructed to imagine 'self' or imagine 'other', and SPT can increase the extent individuals identify aspects of themselves in others.

Alternatively, Galinsky, Wang, and Ku (2005) (as cited in Galinsky, Ku & Wang, 2005) examined whether SPT would lead the participants to adopt traits of the target individuals into their own self-image. The researchers presented the participants with a photograph of a cheerleader. The participants were then asked to write about the typical day of the cheerleader. For this writing task the participants were either instructed to take on the cheerleader's perspective or to suppress stereotypical cheerleader traits. After the writing task the participants were instructed to report how attractive they felt. Participants in the SPT condition, compared to those in the stereotype suppression condition, reported feeling significantly more attractive. This suggests the participants in the SPT condition adopted the stereotypical characteristics (attractiveness) of the out-group member, in this case a cheerleader, into their own self-image. Together, these two studies suggest that SPT experiences can lead to both forms of self-other overlap. More specifically, the findings of Davis et al. (1996) indicated perspective takers assign characteristics of the 'self' to the 'other', whereas the findings from Galinsky, Wang, et al. (2005) found that perspective takers adopted the characteristics of the 'other' into their own self-image. These findings are promising for using SPT for improving intergroup relations.

There are several ways in which the reduction of prejudice as a result of self-other overlap is thought to occur. The first to be discussed here is the occurrence of mimicry or increased social coordination as a result of self-other overlap. Mimicry and social coordination have long been considered important and beneficial for positive social interactions (Wang & Hamilton, 2012). It has been demonstrated that SPT may lead individuals to adopt characteristics of others into the self-concept. This is then thought to lead to greater social mimicry in intergroup interactions. It is thought this occurs because perspective takers now see themselves as more similar to the out-group member. Indeed, individuals have been shown to adopt the traits and behavioural characteristics of out-groups members after undergoing an SPT experience (Galinsky, Ku, et al., 2005). Given these considerations, it appears SPT may be likely to improve intergroup relations by increasing self-other overlap. This in

turn may increase mimicry and social coordination, which has been linked to more positive intergroup interactions.

Another explanation for SPT causing self-other overlap is the availability of self-concept information as a result of the SPT process. Davis and colleagues (1996; 2004) have proposed the process of SPT primes individuals to select self-relevant traits and characteristics to assign to the out-group member. More specifically, during SPT participants may be asked to imagine how the 'other' would feel or act. With these instructions it is suggested that the perspective taker will activate their own self-concepts and try to estimate how they would feel or act based on their own self schema. They would then apply this information to explain how the target individual may act or feel. According to the availability heuristic, when it then comes time to assign traits to the target individual the participants draw on the most readily available information to form their judgements about the target individual. Thus, the availability of self-schemas may override the availability of group stereotypes and modify the participants' judgements towards the target individual. This is thought to make perceptions of the target individual more similar to the self. This may then lead to more positive evaluations towards the target individual due to peoples' egocentric tendencies to think of themselves and those in the in-group positively (Davis et al., 1996; Davis et al., 2004).

Another process in which self-other overlap is thought to affect out-group attitudes is through attributional thinking. Jones and Nisbett (1971; 1973) observed that people will assign either situational or dispositional reasons for someone else's behaviour depending on whether the person making the judgement is an actor or an observer. It appears people tend to judge their own behaviours and the behaviours of close others as the result of situational attributes (e.g. they had a car accident because they were tired), whereas people will judge the behaviours of distant others to be the result of dispositional attributes (e.g. they had a car accident because they are a bad driver).

Evidence suggests this process of attributing someone's behaviour to either situational or dispositional factors is influenced by SPT and may be explained by self-other overlap occurring after SPT. As outlined above, evidence suggests individuals tend to judge in-group members behaviours as an outcome of situational factors (Jones & Nisbett, 1972; Nisbett, Caputo, Legant, & Marecek, 1973). Therefore, it is likely that increased self-other overlap will likely lead to the target individual being perceived as more characteristic of the in-group. Thus, an individual's attributional thinking may mean that the negative behaviours or outcomes for the target individual are attributed to their situation, rather than because of negative personal characteristics. Consequently, negative perceptions and negative stereotypes towards the targeted out-group are expected to be reduced (Vescio et al., 2003). The findings from Study 1 of this project found that a proxy measure of attributional thinking significantly predicted negative stereotypes and threat perceptions (refer to Chapter 7). Together, this suggests that an SPT intervention may change attributional thinking, which may then lead to reduced negative stereotypes and threat perceptions.

The study by Vescio et al. (2003) presents a good example of how attributional thinking can be changed through SPT. They presented participants with a video of an interview of an African American individual. In the video the interviewee discussed the difficulties faced as a result of being a member of a negatively stereotyped group. Prior to watching the video the participants were either instructed to remain objective and detached while watching the interview, or to imagine how the interviewee was feeling as he described his experience. Participants who were encouraged to imagine the feelings of the interviewee explained the behaviour of African Americans as a result of situational factors significantly more often than participants who were instructed to remain objective. Similarly, Todd, Bodenhausen, and Galinsky (2012) examined whether writing a 'A Day in the Life' essay about ethnic minorities changed individuals attributional thinking towards ethnic groups. For this study 65 undergraduate students were asked to write an essay about the day of either an African American or Latino male. Before writing the essay, the participants were either asked to adopt the perspective of the target individual (SPT condition), avoid thinking about the targets stereotypical traits (stereotype suppression condition) or were given no additional instructions (control condition). Results indicated that the perspective takers attributed discrimination (the situation), rather than motivation (the disposition), as the reason for ethnic minorities having lower status jobs, lower income and poorer quality housing significantly more often than participants in the control condition. The results from these two studies suggest that SPT adjusts attributional thinking patterns and makes perspective takers perceive the target individual's behaviour as a result of situational, rather than dispositional factors.

Perceptions of injustice also appear to be related to attributional thinking. That is, learning about unjust hardships and discrimination through SPT may change whether the observer attributes the behaviour of the target individual to be situational or dispositional. W. G. Stephan and Finlay (1999) suggested that for individuals who believe in a just world, identifying the injustices out-group members experience may act as a strategy to reduce negative attitudes. More specifically, learning about the unjust hardship and discrimination experienced by the target individual's group may help change negative attitudes in individuals who believe the negative traits (e.g. lower income) of out-groups members are attributable to their disposition (e.g. not working hard enough), rather than the situation (e.g. systematic discrimination). Thus, if the individual begins to perceive the treatment of out-group members as unjust and underserving, then they may no longer think it is reasonable to hold negative views towards this group. Dovidio et al. (2004) tested the role of in-group members' perceptions of injustice on prejudicial attitudes. They found that feelings associated with perceived injustice (e.g. anger) mediated the relationship between SPT and prejudice. These results indicate perceptions of injustice and highlighting injustices in SPT may improve intergroup outcomes.

The perspective taker experiencing cognitive dissonance is another process through which SPT is thought to improve intergroup relations. Cognitive dissonance is defined as an individual experiencing psychological discomfort due to holding incongruent attitudes or beliefs or behaving in ways that are incongruent with their attitudes or beliefs (Festinger, 1957; Harmon-Jones & Harmon-

Jones, 2008). For perspective takers who originally hold somewhat negative perceptions towards the target individual, the process of SPT is thought to lead to cognitive dissonance. This is expected to occur as perspective takers tend to adopt stereotypical traits and behaviours of the target individual (Galinsky, Ku, et al., 2005). Thus, their previously held negative perceptions are now incongruent with their newly adopted behaviours. In an attempt to reduce the discomfort experienced when there is cognitive dissonance, perspective takers may adjust their perceptions with their behaviours by changing their negative views of the target individual to be more positive.

Vescio et al. (2003) make a similar argument and assert that changes in attributional thinking and emotional responses towards the out-group member will conflict with previously held negative stereotypes. The authors suggests that if changes in attributional thinking and emotional responses are permanent and consistent, changes in negative stereotypes will be more likely to occur in order to make the individual's two conflicting perspectives similar. This view brings into light the importance of the temporal component of SPT. In order for the best effects to be observed, SPT needs to have a lasting effect. The research in this area suggests that SPT can have long-term outcomes (Batson et al., 1997; Clore & Jeffery, 1972; Devine, Forscher, Austin, & Cox, 2012; Todd & Burgmer, 2013). The temporal permanence of SPT is discussed further in Section Two of this chapter.

8.1.2 Affective mechanisms. The discussion of SPT thus far has focused on the cognitive processes which lead to changes in out-group attitudes after an SPT experience. However, there are also several affective processes that are thought to occur as a result of SPT. As discussed in previous chapters, there it appears empathy plays an important role in intergroup relations and out-group attitudes (Faulkner, 2017; Pedersen & Thomas, 2013; Thomas, McGarty, & Mavor, 2009). Importantly, the findings from Study 1 of this project (Chapters 5, 6 and 7) add to this evidence. The structural equation modelling conducted in Chapter 7 indicated that empathy was one of the strongest predictors of prejudicial attitudes towards environmentally displaced people when added to the ITT framework. This suggests that people who felt empathy towards environmentally displaced people held lower prejudicial attitudes towards them. Given these findings, empathy was identified as a key variable for further investigation within interventions that aim to improve intergroup relations. Similarly, Pedersen and Hartley (2015) identified empathy as a powerful way for interventions to improve intergroup relations. In regards to SPT, Pedersen, Walker, Paradies, and Guerin (2011) note that empathy is so central to intergroup relations that empathy, through SPT, is likely at the core of most intergroup intervention strategies, regardless of whether that is the researchers intention.

Research findings suggest SPT is an effective strategy for increasing empathy towards the target individual (Shih, Wang, Bucher, & Stotzer, 2009; Thomas et al., 2009). Thomas et al. (2009) discuss how empathy can be understood as an affective or psychological response that occurs when there is self-other overlap either between the individual or the group. Additionally, people tend to be more empathetic and more likely to help in-group members compared to out-group members

(Stürmer, Snyder, Kropp, & Siem, 2006; Stürmer, Snyder, & Omoto, 2005). Given that perspective taking leads to self-other overlap and people are more empathetic to people like themselves, it seems reasonable to conclude that empathy, and thus helping behaviours, towards the target individual will increase after an SPT experience. Thus, empathy is thought to act as a mechanism through which SPT is hypothesised to improve intergroup relations.

Given the large positive impacts empathy can have on intergroup attitudes, it seems likely eliciting empathy during an SPT experience would enhance positive outcomes. For many SPT experiences, empathy would be a relatively easy emotion to elicit as many out-groups used in SPT are minority groups that are underprivileged, disadvantaged and discriminated against. It is thus relatively easy to incorporate these experiences into an SPT scenario and instruct the observer to either imagine how they or the target individual would feel in this situation. This is then likely to elicit empathetic responding in the observer, which is expected to lead to positive intergroup outcomes (Shih et al., 2009; Vescio et al., 2003).

Like empathy, intergroup anxiety is another affective mechanism thought to influence the outcomes of SPT. Again, in their recommendations for factors to include in anti-prejudice interventions Pedersen and Hartley (2015) identify intergroup anxiety as an important factor to consider. Furthermore, referring back to Chapter 3, intergroup anxiety refers to anxious feelings individuals may have in anticipation of negative outcomes (e.g. embarrassing self) when interacting with out-group members. Findings from Study 1 of this project indicate those who feel more anxious about interacting with environmentally displaced people had higher levels of prejudicial attitudes. In addition to this project's own findings, a large body of literature also links intergroup anxiety to a number of intergroup constructs such as prejudice, stereotypes and intergroup contact (Aberson & Haag, 2007; W. G. Stephan, 2014; W. G. Stephan et al., 1999).

After reviewing the effects empathy and intergroup anxiety can have on SPT outcomes, it is apparent that manipulating the stimulus material to elicit a specific emotional response can result in differential outcomes. However, manipulating emotional responses in a SPT scenario can also have unintended consequences. In their study, Finlay and Stephan (2000) found that the perspective takers adopted the angry feelings of the target individual in an SPT experience, and then projected these feelings onto the in-group, which resulted in unintended negative outcomes for intergroup relations. Furthermore, Galinsky and Moskowitz (2000) designed their SPT experience to elicit sadness rather than other negative emotions to avoid threat perceptions and the activation of defensive responding. These studies suggest that the emotional valence of stimulus materials should be considered when designing an SPT experience, as the emotions elicited, either intentionally or unintentionally, can play a large role in influencing the outcomes of SPT.

In addition to controlling for the emotion being elicited during an SPT experience, it appears that asking participants to focus on how the target individual is feeling may be more effective for improving intergroup attitudes compared to asking participants to focus on the facts provided. Batson

et al. (1997) demonstrated this effect. They obtained findings that indicated participants who focused on the feelings of the target individual rather than remaining objective reported greater positive attitudes towards the out-group. Similarly, Batson, Chang, Orr, and Rowland (2002) showed that instructing participants to focus on the target individual's (drug addicts) feelings led to greater empathetic concern for the individual.

8.1.3 Design considerations. So far the major processes of SPT and how these processes lead to positive intergroup outcomes have been discussed. However, there are a number of other factors which have also been identified as affecting the outcomes of SPT. These include factors relating to the characteristics of the individual, the context between the groups as well as factors relating to the technical design of an SPT intervention.

An individual characteristic which appears to affect SPT outcomes is political ideology. Conservatives tend to hold more negative attitudes towards different groups compared to libertarians (Echebarria- Echabe & Guede, 2007; Sears & Henry, 2003; Terrizzi, Shook, & Ventis, 2010). Sparkman and Eidelman (2016) proposed this difference in attitudes between conservatives and libertarians may occur because of differences in the ability to perceive the world from another's view point. Accordingly, they investigated whether SPT mediated the link between political ideology and prejudice. Their results suggest that conservatives are less likely to adopt the perspective of other racial/ethnic groups. This finding may explain the differences in attitudes towards out-groups based on an individual's political ideology. That is, if conservatives are less likely to adopt another's perspective, it stands to reason they would be less tolerant and hold more negative views towards out-group members. This tendency for conservatives to be less likely to perceive others' perspectives generally makes the use of SPT for this group even more important. That is, while conservatives may not passively perceive other's perspectives in their day to day lives, a deliberate exposure to an immersive and engaging SPT experience may overcome these tendencies and actively encourage perspective taking.

The above discussion is interesting to consider in reference to the Study 1 findings. The concepts of conservatism and right-wing authoritarianism are closely aligned. In Study 1, those who scored highly on right-wing authoritarianism were also more likely to hold higher threat perceptions, negative stereotypes and prejudicial attitudes. This adds further support to the importance of placing people with conservative, right-wing views into the perspective of out-group members. That is, if conservative/right-wing perceptions can be reduced with SPT, other negative attitudes may also be reduced.

The next set of identified factors that have been shown to influence SPT outcomes are related to the context within which the groups operate. The first of these factors is the power dynamic between the groups. According to Galinsky, Magee, Inesi, and Gruenfeld (2006), high power perspective takers have egocentric tendencies and are less likely to perceive how others see, think and

feel. More specifically, individuals who were primed to feel powerful in experimental conditions were less inclined to adopt the visual perspective of others, less likely to consider they had privileged knowledge compared to others, and were less accurate in identifying others emotions. Todd and Galinsky (2014) argue these findings make the deliberate induction of SPT even more important amongst high powered groups. That is, encouraging high powered individuals to adopt the perspective of others may be a valuable strategy for overcoming egocentric tendencies to not perceive the world through others' shoes.

Again, considering this discussion in light of the Study 1 findings can provide greater insights into the role of the power dynamic between groups. To explain, high powered individuals are likely to score highly on social dominance orientation. Within Study 1 social dominance orientation was the strongest predictor of prejudicial attitudes, and also predicted contact quality, empathy, intergroup anxiety, threat perceptions and negative stereotypes. These Study 1 findings support Todd and Gainsky's (2014) claim that high powered individuals should undergo SPT. That is, placing high powered people in an SPT experience may influence social dominance orientation which may lead to a reduction in other negative attitudes.

Another important consideration when discussing the influence of power dynamics between groups is the process of perspective giving, rather than perspective taking. In contrast to perspective taking, perspective giving refers to the process of supplying one's own in-group perspective to out-group members. It appears individuals with less power benefit more from perspective giving rather than perspective taking. Bruneau and Saxe (2012) tested the differential effects of perspective taking and giving between Mexican immigrants and Caucasian Americans as well as between Israelis and Palestinians. In their experiment one person wrote about difficulties in their life (perspective giving), while an individual from the out-group summarised the statement of the first individual (perspective taking). Different members from each group participated in both perspective giving and SPT processes. Bruneau and Saxe (2012) results found that attitudes towards the out-group became more positive when members of the higher powered group (Caucasian Americans and Israelis) engaged in SPT compared to perspective giving. In reverse, perspective giving was more effective at producing positive attitude change towards the out-group with members of lower powered groups (Mexican immigrants and Palestinians). These benefits of perspective giving were only observed when there was an interaction with the out-group and the given perspective was actually heard, rather than simply told.

These results suggest that power plays an important role in influencing the outcomes of SPT and presents some important considerations for perspective taking and/or giving interventions. First, this research suggests that for low powered groups, presenting them with an SPT experience is less beneficial for improving intergroup relations. Rather, greater benefits can be gained by providing low-powered groups the opportunity to present their perspective to members of a higher-powered group, which is an opportunity rarely given. Second, twofold benefits may be obtainable if perspective taking

and giving is employed simultaneously. That is, positive attitude change may be able to occur bi-directionally if an SPT experience is designed to present the given perspective of low-powered groups to a high-powered group. In this case, the attitudes of the high-powered group can change as a result of the perspective taking experience, whereas the attitudes of the low-powered group can change from giving their perspective. While this idea is promising, research in this area is limited. Further research is needed to provide more evidence for the effects of power on bi-directional SPT outcomes.

The next group context factor to be discussed which may influence SPT outcomes is the presence of intergroup threat perceptions. This is not surprising given the role threat perceptions have been demonstrated to play both within previous research and from the results of Study 1 (refer to Chapters 5 and 7). Furthermore, threat perceptions are another factor Pedersen and Hartley (2015) identified as being important to consider for anti-prejudice interventions. According to the ITT, and supported by the results from Study 1, in-group members holding threat perceptions towards the out-group can lead to negative prejudicial attitudes and discrimination (W. G. Stephan & Renfro, 2002; W. G. Stephan et al., 2005). Thus, it is likely the context of intergroup threat perceptions will interact with an SPT experience. However, the evidence for how threat perceptions and SPT interact is as yet unclear.

Oh et al. (2016) manipulated participants' threat perceptions and tested whether SPT influenced the relationship between threat perceptions and out-group attitudes. The researchers reported that the effect of threat perceptions on SPT was dependent on whether the threat was direct or indirect. More specifically, when the elderly were framed to pose a vague socioeconomic threat to society (indirect), SPT mitigated the negative effects of threat perceptions towards the out-group (elderly). In contrast, when the elderly were framed to pose an intentional and concrete threat towards the individual participant (direct), the benefits of SPT on intergroup relations were limited. These direct and indirect threat types can be likened to the individual and group level threats within the ITT. In Study 1, the sample perceived greater group level threats (indirect) compared to individual level threats (direct). As such, in the context of the current project Oh et al.'s (2016) results suggest that an SPT intervention will mitigate the negative effects of threat perceptions towards environmentally displaced people.

The last design consideration is related to the technical design component of SPT interventions. Specifically, the information about the target individual and their group which is provided in an SPT experience. Gehlbach et al. (2015) found that the positive effects of SPT are somewhat dependent on the provision of information about the target individual. In their research, Gehlbach et al. (2015) found participants who were provided with information about the target individual in an SPT experience proceeded to behave more cooperatively in future competitive negotiations and develop more positive relations with the target individual. Furthermore, they also found that active, rather than passive learning was more beneficial for improving intergroup relations. These findings indicate SPT experiences should provide information about the target

individual/group, and the experience should be designed in a way to ensure the perspective taker can actively engage with this information.

8.2 Section Two: Application of Social Perspective Taking - What are the Benefits and Drawbacks?

8.2.1 Benefits of social perspective taking. The above literature discusses the theoretical underpinnings for SPT. However, it is still yet to be identified whether the application of SPT outside of the research laboratory is successful. The following discussion explores the application of SPT and outlines four of the major benefits. First, it appears SPT has an effect on both explicit and implicit evaluations (Aberson & Haag, 2007; Galinsky & Moskowitz, 2000; Todd et al., 2011; Todd & Burgmer, 2013; Todd, Galinsky, & Bodenhausen, 2012). Second, the literature suggests the benefits of SPT continue outside the experiment, indicating such benefits have temporal permanence (Batson et al., 1997; Clore & Jeffery, 1972; Devine et al., 2012; Todd & Burgmer, 2013). Third, the observed positive shifts in participant attitudes after an SPT experience appear to not be limited to the target individual in the experiment, but are generalised to the target individual's entire group (Dovidio et al., 2004; Galinsky & Ku, 2004). Fourth, it appears the outcomes of SPT have an effect on behaviour (Shih et al., 2009; Todd et al., 2011; Todd & Galinsky, 2014).

Not only has SPT been shown to have an effect on explicit evaluations, but extensive evidence suggests SPT also has a positive effect on implicit and automatic processes (Aberson & Haag, 2007; Galinsky & Moskowitz, 2000; Todd et al., 2011; Todd & Burgmer, 2013; Todd, Galinsky, et al., 2012). For instance, Todd et al. (2011) conducted five experiments to determine if automatic expressions of racial bias towards African Americans were impacted by SPT. Automatic processes were assessed in several different ways including a race IAT (Implicit Association Test), oppression versus privilege IAT, approach versus avoidance orientated movements and non-verbal behaviours. Across all experiments, the results consistently demonstrated that SPT produced significantly more positive automatic evaluations and behaviours compared to other bias-reduction strategies and control conditions. These findings suggest SPT does have an effect on implicit evaluations towards the target individual. However, as with all research which investigates implicit and automatic evaluations, it is challenging to accurately and reliably assess implicit evaluations. Nevertheless, given the number of experiments and methods used by the researchers in this area, it is concluded that it appears likely SPT does have an impact on implicit, as well as explicit, evaluations.

The second identified benefit of SPT is that the effects of SPT appear to last for longer than the experimental session. For instance, early SPT research investigated whether placing people in a wheel chair to provide them with the perspective of people with a disability influenced attitudes towards this group (Clore & Jeffery, 1972). Participants were placed in a wheelchair role-playing condition, a vicarious role-playing condition and a control condition. Participants in the wheelchair

condition were instructed to imagine they had recently been in a car accident which had left them permanently paralysed. The participants were asked to remain in a wheelchair while they navigated a particular route around the university campus. Participants in the vicarious condition were informed about the role being played by the participants in the wheelchair condition and were instructed to observe their experience, but to not interact or interfere in any way. The participants in the control condition were instructed to take a similar route and engage in similar activities as those in the wheelchair condition, but were not told about the other two conditions. After returning to the laboratory all the participants completed various dependent measures including a measure of attitudes towards people with a disability and the services they are provided. Results indicated that participants in the wheelchair and vicarious condition had significantly greater positive attitude scores compared to the control group immediately after the experiment and at a four month follow up (Clore & Jeffery, 1972). These findings indicate that positive attitude change after an SPT intervention, compared to control, can have long-term positive effects.

Additionally, Batson et al. (1997) found evidence to suggest the elicitation of empathy during an SPT experience had a strong impact on attitudes towards murderers at one to two weeks after the experiment. Other more recent evidence has shown SPTs positive effects on attitudes towards African Americans were still present at a 24-hour follow up (Todd & Burgmer, 2013). Furthermore, Devine et al. (2012) showed the effects of a prejudice reduction intervention which included SPT to have positive effects after eight weeks. Together these studies suggest the effects of SPT can have temporal permanence and provide support for the use of SPT as a long-term prejudice reduction strategy.

Another benefit of SPT is the generalisation of positive outcomes to the target individual's entire group. There is substantial evidence to suggest that the effects of SPT are not only effective for changing attitudes towards the target individual, but towards the target individual's group (Dovidio et al., 2004; Galinsky & Ku, 2004; Galinsky & Moskowitz, 2000; Shih et al., 2009; Vescio et al., 2003). For instance, Shih et al. (2009) asked 84 undergraduate students to watch the short clip from the film *Joy Luck Club* which features a young female discussing with her mother the difficulties of growing up in America while needing to uphold traditional Asian standards. Participants were assigned to either an SPT condition or a control condition. In the SPT condition the participants were instructed to imagine how the main character feels and to imagine themselves in the position of the main character. The participants in the control condition were instructed to consider what a newspaper reviewer might take away from watching the clip. Results from this study found that the participants in the SPT group reported significantly greater liking towards not only the target individual, but also other members of the target individuals' group.

Shih et al. (2009) conducted a replication of the study described above, but added an additional assessment to examine the generalisability of helping behaviours. The helping behaviour assessed was the participant picking up or notifying a stranger who was a member of the target individual's group (Asians) about their dropped set of keys. The stranger was a research confederate,

which was unknown to the participant at the time. The confederate was either a member of the target group or not a member of the target group. Results indicated that undertaking the SPT experience increased helping behaviours towards a different member of the same target group (Asians). The researchers concluded these results suggest helping behaviours generalised from the target individual to other individuals within the target group. This research makes the use of SPT as a strategy for improving intergroup relations extremely valuable as taking the perspective of one individual can result in better attitudes and helping behaviours towards all out-group members. In addition, this study also indicates SPT effects are not limited to attitudes, but also affect actual behaviours.

The effect of SPT on helping behaviours seems to be well supported. For instance, numerous studies have shown an SPT experience can change helping behaviour, approach-orientated actions and non-verbal rapport building behaviours (Shih et al., 2009; Todd et al., 2011; Todd & Galinsky, 2014). Todd et al. (2011) investigated the hypothesis that SPT would change evaluations towards an out-group, which would in turn affect approach and avoidant action tendencies towards that out-group. Participants were instructed to write a narrative essay about an African American. The participants were given instructions to think about how the character of the essay might be thinking and feeling. A control condition was also used where participants received no additional instructions. All participants then undertook a task where they were required to move a joystick in a particular direction depending on whether they saw a person (either Caucasian or African American) or furniture. Participants in the SPT condition exhibited significantly faster approach orientated movements and slower avoidant orientated movements in response to images of African Americans compared to control condition participants. These results suggest that SPT improved the participants' evaluations towards African Americans which appeared to lead to increased approach orientated behaviours and reduced avoidant orientated behaviours.

In addition, Todd et al. (2011) conducted a study to investigate if face-to-face interactions and body language were influenced by SPT. The participants in the study were exposed to one of three conditions: SPT, objective-focus and control. All participants were exposed to their condition and then had a three minute interaction with an African American experimenter who was blind to the study's purpose. After the interaction, the African American experimenter reported their subjective experience of the interaction. Furthermore, the interaction was video-taped and coded for non-verbal approach (e.g. leaning toward) or avoidant (e.g. leaning away) orientated behaviours. Results indicated that the African American's subjective experience of the interaction was more positive with participants who had undertaken the SPT experience. Additionally, SPT participants demonstrated more approach orientated non-verbal behaviours than participants in both the objective-focus and control conditions. This suggests face-to-face interactions are perceived more positively from the target individual's perspective when a participant undergoes an SPT experience. While it is recognised the measures of behaviour used by Todd et al. (2011) and Todd and Galinsky (2014) may be problematic measures of behaviour, these findings do provide preliminary support for SPTs

influence on approach orientated behaviours. Together, these studies indicate SPT has an effect on an individual's willingness to help, approach orientated behaviours and face-to-face interactions, which generalised to the target individual's entire group. These behaviours are all important for positive intergroup interactions and are likely to have positive effects on overall intergroup relations, which may then lead to more positive intergroup interactions for individual group members.

8.2.2 Could it really be that great? Drawbacks and limitations of social perspective taking. Discussed so far in this chapter is how SPT affects intergroup relations via a number of different mechanisms as well as how the outcomes of SPT are influenced by several external factors. Furthermore, SPT has been found to apply outside of the research laboratory and have several benefits for improving intergroup relations. However, there are several limitations and drawbacks for using SPT, which researchers investigating the use of SPT need to be aware of. Such limitations and drawbacks include the limited effects of SPT, backfire effects and target-specific drawbacks. These issues are addressed in the following discussion.

8.2.2.1 Limited effects of social perspective taking. Some research has shown that SPT may have insignificant or inconsistent impacts on intergroup relations (Edwards et al., 2017; Todd et al., 2011; Yee & Bailenson, 2006). For instance, Yee and Bailenson (2006) tested the effects of SPT for reducing negative stereotypes towards the elderly. Stereotypes were assessed in three different ways. First, participants were given a word association task where they were asked what five words first come to mind when thinking of an elderly person. Second, stereotypes were assessed using a true or false quiz which aimed to assess implicit biases towards the elderly. Third, participants were provided with an ambiguous story and asked to summarize the story as well as describe the individual within the story. Yee and Bailenson (2006) found that placing individuals into the perspective of an elderly individual reduced the number of negative words the participants provided in the word association task, but had no effect on responses to the implicit bias quiz or the ambiguous story task. This suggests inconsistent effects of SPT and indicates that SPT may not always have a positive impact on intergroup relations.

Todd et al. (2011) suggest that such inconsistent findings indicate SPT research should move away from investigating whether SPT has positive or negative effects. Instead, SPT research should focus on the conditions and procedural differences that lead to the desired outcomes. That is, differences in the design of SPT procedures, such as the absence or presence of target information or the emotional valence of the stimulus material, may impact the effect SPT has on the desired outcomes. Other factors which may influence SPT outcomes include different characteristics of groups as well as the outcome variables being manipulated. For instance, it may be more difficult to change stereotypical views between groups when there has been negative intergroup relations over

generations, as opposed to groups who do not have a long history of negative interactions. Thus, research should be focusing on what factors in SPT designs lead to certain attitudinal or behavioural outcomes which improve intergroup relations. This would go a long way in explaining the inconsistent findings in the literature, and also provide further evidence for how SPT experiences should be designed if the desired outcome is to improve intergroup relations.

8.2.2.2 Backfire effect. Various studies have shown that under certain conditions a backfire effect may occur where SPT leads to negative, rather than positive outcomes (Galinsky & Ku, 2004; Tarrant et al., 2012) see Vorauer, 2013 for review). The factors that can lead to a backfire effect have been discussed in the first section of this chapter. To refresh, these factors include specific characteristics of the perspective taker (e.g. political ideology), the context between the two groups (e.g. previous conflict, threat perceptions) and the design of the SPT experience (e.g. imagine other versus imagine-self instructions). The point to be made here is that the beneficial effects of SPT, while robust and unmistakable, are dependent on many boundary conditions. When these boundary conditions are not carefully considered and controlled, the application of SPT can result in backfire effects. Vorauer (2013) asserts that the nature of SPT research means the boundary conditions have largely been inadvertently and serendipitously met in previous studies. This explains why the large quantity of the research in this area identifies SPT as a no-problem solution to intergroup division. However, moving forward researchers should be aware of the limitations of applied SPT and control for the boundary conditions which influence whether SPT has effective positive outcomes, or detrimental backfire effects.

8.2.2.3 Target-specific drawbacks. Galinsky, Ku, et al. (2005) criticised SPT for not creating general helping attitudes, but only improving target-specific social bonds. The authors argue that while SPT may improve attitudes or behaviours towards a specific target, this does not translate to improved attitudes or behaviours towards other groups nor does it improve general helping tendencies. Furthermore, the authors suggest that because SPT only improves specific elements of intergroup relations (e.g. a specific stereotype about one group) rather than generalised positivity, conflict may occur between the improved element and other values such as fairness, justice and equity. For instance, improving the favoured status of one minority group (Asians) could be considered unfair as other, perhaps more disadvantaged groups (African Americans), are not receiving that same favoured status. This, in turn, may lead to greater negative outcomes for other non-targeted out-groups.

While Galinsky, Ku et al.'s (2005) criticism raises important issues around the ethical and moral considerations of SPT interventions, it is important the identified benefits of SPT are not overlooked because of the potential for negative outcomes. Social perspective taking can have significant positive effects, and should not be disregarded as a potential intergroup relations intervention because it may lead to other unfair issues. Rather, these issues should be strongly considered prior to the SPT intervention occurring and should inform the design, desired outcomes

and context in which SPT is undertaken. Furthermore, mitigation attempts need to be made for any foreseeable negative outcomes which may occur as a result of SPT.

8.3 Conclusion

This chapter has provided a detailed exploration into the processes of SPT, the limitations and boundary conditions for using SPT as well as the benefits and drawbacks of this intervention strategy. Overall, it is clear SPT can have powerful positive effects on intergroup relations. Through the mechanisms of change such as self-other overlap, adjustments to attributional thinking and the elicitation of affective responses, SPT can adjust an individual's attitudes and behaviours towards not only an out-group member, but to the out-group member's entire group. Furthermore, these changes have been observed to last from 24-hours to four months after the intervention (Clare & Jeffery, 1972; Todd & Burgmer, 2013). However, it is also clear there are several limitations for the use of SPT. Many factors relating to the personal characteristics of the perspective taker, the context between the groups and the design of the SPT experience have the potential to limit the positive effects of SPT. As such, SPT cannot be viewed as a no-problem solution for improving intergroup relations.

While recommendations have been made throughout this chapter on how to overcome the limitations of SPT, there is one potential strategy which may help overcome several of these challenges. Virtual reality is a developing technology which is beginning to be applied to SPT for improving intergroup relations. The benefits of virtual reality, such as increased immersion and realism, make it a powerful medium in which to present people with the perspective of out-group members. The following chapter defines virtual reality and outlines its' benefits as a medium for undergoing SPT experiences.

Chapter 9: Applying Virtual Reality Technology to Social Perspective Taking

“The goal of virtual [reality] research is not to produce more realistic environments, faster 3-D graphics, better sensory cues, or low latency. Rather, all of these are only the means by which we hope to achieve the actual end: useful applications that will benefit people.” (Bowman, Hodges, Allison, & Wineman, 1999, p. 317)

Modern virtual reality (VR) is a computer generated three-dimensional environment with 360 degree visual cues. This environment is most commonly presented to individuals by placing them in a headset that projects the VR environment. When a user is wearing the headset, sensors continuously track the user's movement and position in order to adjust the projected environment accordingly and allow the user to interact with the 360 degree visual cues. Therefore, once the user is placed in this space, they can move around and navigate as they would in the real world (Ahn et al., 2016). Other sensory experiences can also be presented in VR, such as sound effects and smells. Thus, VR can be operationalized as the presentation of three-dimensional and 360 degree interactive computer generated visual cues, as well as other sensory experiences, in order to present a synthetic environment as realistic. By immersing the user's sensors, VR technology aims to make users perceive the synthetic environment as reality (Blascovich et al., 2002).

Based on the benefits of virtual reality, it is hypothesised to be a more effective communication medium compared to other mediums such as two-dimensional visuals (e.g. television) or printed word. The benefits of VR can be understood in the frameworks of the Social Presence Theory. According to the Social Presence Theory, mediums which generate greater social presence (or the degree of realism and interactivity of humans) lead to a more positive interaction experience and more effective communication outcomes (Short, Williams, & Christie, 1976). Factors which influence social presence include facial expressions, gaze, posture, attire and body language.

Given the premises of the Social Presence Theory, VR would be expected to lead to more positive interaction experiences and communication outcomes. This is because VR has been shown to be more effective at providing both realistic and vivid social presence compared to other communication mediums (Schuemie, Van Der Straaten, Krijn, & Van Der Mast, 2001; Shapiro & McDonald, 1992). Indeed, VR experiments indicate individuals in a virtual environment react to the social cues of virtual agents (a virtual human controlled by an algorithm) and virtual avatars (a virtual human controlled by a human user) in a similar way as they would in a real life scenario (Bailenson, Blascovich, Beall, & Loomis, 2003; Garau, Slater, Pertaub, & Razzaque, 2005; Slater, Pertaub, Barker, & Clark, 2006). The tracking within VR allows the user to have an active role within the environment, with the user's actions having an immediate effect on the environment in a similar way to the real world.

In addition to the benefits of greater realism and richness, VR offers many benefits to the study of humans and human behaviour. Primary among these benefits are ecological validity, experimental control, flexibility, sensorial feedback and performance recording (Blascovich et al., 2002; Gaggioli, 2001). As a result of VR's advantages, the technology has been used to study a wide range of social and psychological constructs (Foreman, 2010; Wilson & Soranzo, 2015). Of particular interest to the current research is the use of VR for studying prosocial behaviours and improving attitudes between groups of people with the use of social perspective taking (SPT).

9.1 Virtual Reality and Social Perspective Taking

As described in the previous chapter, SPT is defined as the process of intentionally and actively imagining oneself in the perspective of another person, usually someone who is a member of a different group. Furthermore, extensive evidence indicates that, under certain boundary conditions, SPT can be an effective tool for improving intergroup relations (Todd & Galinsky, 2014). Due to the experimental and practical benefits of VR, a growing number of studies are investigating the value of using VR technology for SPT.

One of the major benefits of VR for SPT use is realism and the heightened sense of presence and immersion which can be experienced in VR. Greater immersion in an SPT experience has been found to mediate the relationship between a VR-SPT experience and perceived oneness between the perspective taker and the target individual (Ahn et al., 2013). This suggests that greater realism and immersion in VR may increase self-other merging when undertaking an SPT experience. Given that self-other merging has been shown to play an important role in improving intergroup relations (Galinsky, Ku, et al., 2005; Todd & Galinsky, 2014), it stands to reason that VR-SPT experiences will likely be more effective at improving intergroup relations than other SPT methods.

In addition, the unique benefits of VR, compared to other mediums, likely makes it easier for the perspective taker to adopt someone else's point of view (Oh et al., 2016). Adopting the perspective of someone else is often a cognitively demanding and effortful process. Davis et al. (1996) found that participants who undertook SPT while completing a cognitively demanding task developed significantly less self-other overlap compared to participants who did not perform the demanding task. This suggests that performing a cognitively demanding task while undertaking SPT will interfere with the beneficial effects of SPT. Furthermore, reducing the cognitive demand required during SPT and reducing outside interference will likely improve SPT outcomes. The nature and realism of VR achieves both these goals. Because VR is far more realistic, the cognitive load required to adopt another's perspective may be reduced as the perspective taker is provided with more detailed stimuli and a more tangible experience than other non-VR SPT methods (Ahn et al., 2013; Oh et al., 2016). Furthermore, outside interference may be reduced as all external visual and auditory stimuli is blocked. This is hypothesised to enhance the effects of SPT and result in greater beneficial outcomes for intergroup relations.

As VR-SPT is thought to be a more powerful delivery method than traditional SPT experiences, perhaps the use of VR can overcome some of the limitations and boundary conditions of SPT interventions. As covered in Chapter 8, the beneficial outcomes of SPT are not guaranteed and are dependent on the contexts of the groups, individual characteristics and the design of the SPT intervention. However, the above discussed benefits of increased realism, immersion and reduced cognitive demand required to undertake perspective taking as a result of VR may allow for some of these limitations to be overcome. It is important to note that the benefits of VR-SPT are likely not due to any procedural or methodological differences. Rather, VR-SPT simply provides a more realistic and immersive experience which makes it more conducive to facilitating positive intergroup outcomes. As Gehlbach et al. (2015) outline, if a VR experience is of poor quality, it will be unlikely to be any more effective than traditional SPT methods. Conversely, if a traditional SPT method provides detailed information and elicits a realistic and vivid image in the viewer's imagination, it may be powerful enough to rival the benefits of VR.

9.1.2 Evidence for combining virtual reality and social perspective taking. Various studies have tested the combined effect of VR and SPT in a number of different settings. For instance, VR-SPT has been shown to improve helping behaviours towards people with colour blindness (Ahn et al., 2013), improve attitudes towards people with schizophrenia (Kalyanaraman, Penn, Ivory, & Judge, 2010), increase self-other merging between people and nature (Ahn et al., 2016) and improve negative stereotypes towards the elderly (Yee & Bailenson, 2006). Furthermore, VR-SPT has also been investigated for improving intergroup relations between different races (Groom, Bailenson, & Nass, 2009). However, the benefits of combining VR and SPT for this purpose is less clear.

Groom et al. (2009) investigated how the race of an avatar affects racial biases for Caucasians and others who identify as non-Caucasian (Asians, African Americans, Hispanics and 'Other') after a VR or text SPT experience. Their results indicated that the effect of embodying an avatar of a different race in VR-SPT influences racial biases outside of the VR-SPT experience. More specifically, implicit attitudes after a VR-SPT experience changed depending on the participant race and the embodied race. This effect was not present for the text only SPT experience. These results suggest VR-SPT has different outcomes to text only SPT experiences. In addition, the results found that participants who embodied an African American avatar in a VR-SPT experience, irrespective of their own race, reported more positive evaluations towards Caucasians than those who embodied a Caucasian avatar. This effect was not seen for the text only SPT condition.

Groom et al. (2009) interpreted these results in light of the Stereotype Activation Theory, and argued embodying an African American avatar in VR-SPT activated racial stereotypes about African Americans which led to greater racial bias towards African Americans. Consequently, they concluded VR-SPT does not reduce automatic racial biases towards a disfavoured group. Their findings suggest the immersiveness of embodying avatars of different races in VR-SPT experiences is strong and leads

to the activation of stereotypes, which overwhelms the prospective benefits of SPT and ultimately results in poor outcomes for intergroup relations. These findings suggest SPT experience designers should be wary when creating VR-SPT experiences which aim to embody participants in avatars which are of a different race. However, it is worth noting that there are different theoretical explanations in addition to Stereotype Activation Theory for these results.

According to the Integrated Threat Theory (ITT), individuals who perceive members of other groups to pose a threat to them and their own are likely to hold prejudicial views towards the other group (W. G. Stephan & Stephan, 1996b). Such threats can include threats to safety, jobs or way of life. Furthermore, under the ITT framework in-group members can feel threatened by out-group members as a result of stereotypical views (W. G. Stephan & Stephan, 1996b). For instance, if the out-group is stereotyped as violent, rude or even intelligent, in-group members may feel threatened by that group and hold prejudicial attitudes towards them. In the case of embodying racial avatars, the difference between the groups is visually clear and vivid. Thus, in interpreting Groom et al.'s findings, placing participants into the body of an out-group member avatar may activate threat perceptions, especially when group differences are more obvious or intense as a result of the immersiveness of the VR-SPT experience. This effect will likely then overwhelm the benefits of SPT and result in negative, rather than positive, intergroup outcomes.

9.2 Conclusion

The above discussion suggests VR-SPT is more effective at improving intergroup relations between in-group and out-group members compared to more traditional methods. However, caution is needed when the benefits of VR immersiveness exacerbate group differences and result in the activation of threat perceptions, which may result in poorer intergroup outcomes. This is particularly relevant to the current research as environmentally displaced people may have different characteristics to in-group members, which may be exacerbated from VR-SPT experiences. The identified benefits, drawbacks and particularly the boundary conditions for obtaining beneficial outcomes from VR-SPT is promising and warrants further investigation. As such, the following chapter details the second study of this project. This study investigated traditional SPT compared to VR-SPT in the group context of environmentally displaced people and Australians.

Chapter 10: Study 2 - Rationale and Methodology

10.1 Rationale

The results from Study 1 (Chapter 5) identified the presence of negative attitudes towards environmentally displaced people within an Australian sample. Thus, given the adverse impacts that negative views of host country citizens can have on displaced people (Correa-Velez et al., 2010; Florack et al., 2003; Kim, 2016), it was argued that intervention strategies which aim to improve attitudes towards environmentally displaced people are needed. Social perspective taking (SPT), together with virtual reality (VR), was identified as one such intervention strategy (Chapters 8 and 9).

The Study 1 structural equation modelling results (Chapter 7) found that social dominance orientation, right-wing authoritarianism, contact quality, threat perceptions, intergroup anxiety and empathy were all significant predictors of prejudicial attitudes. Importantly, social dominance orientation was the strongest predictor of prejudicial attitudes, having a predictive effect of .70. These modelling results suggest that if an individual's attitudes on these variables were shifted to be less negative with SPT, then this may lead to less negative prejudicial attitudes and thus improved intergroup relations. The question is whether a real-world SPT intervention will have the desired impact on outgroup attitudes. Furthermore, none of the SPT research reviewed investigated whether SPT has an effect on social dominance orientation or right-wing authoritarianism. Thus, it is unclear whether these factors can be changed after an SPT experience. Given social dominance orientation was the strongest predictor of prejudicial attitudes, it would be valuable to know whether social dominance orientation views can be changed through SPT.

As identified in Chapter 8, there are many theoretical overlaps between SPT and the Integrated Threat Theory (ITT). To reiterate, threat perceptions and intergroup anxiety are related to how people respond to an SPT experience and are also central in the ITT for predicting prejudicial attitudes (Aberson & Haag, 2007; Oh et al., 2016; Pierce et al., 2013; W. G. Stephan et al., 2009). Furthermore, as shown in Chapter 7, empathy was a significant predictor of prejudicial attitudes and significantly contributed to the ITT. Feelings of empathy have also been closely linked with SPT outcomes (Pedersen et al., 2011; Shih et al., 2009). Other concepts which overlap between the ITT and SPT include previous intergroup conflict and previous intergroup contact. Perhaps the most important similarity is that while SPT aims to improve intergroup relations, oftentimes by specifically reducing prejudice, the ITT framework aims to predict prejudicial attitudes using many of the above listed variables that are expected to be changed through SPT. Given the extensive overlap between these two frameworks, valuable outcomes were thought to be achieved by investigating SPT in the context of the ITT. First, such research can provide greater theoretical insights into both of these frameworks. Second, specifically examining SPT in the context of the ITT provides the opportunity to analyse and improve intervention strategies within a sound theoretical framework for understanding out-group attitudes. As such, the current study can provide a greater understanding of how to control

for and minimise the limitations and potential backfire effects of SPT. Together, the results of Study 1 and the theoretical underpinnings of the ITT, SPT and VR have been used to inform the second study of this project.

10.2 The Current Study

The aim of the current study was to investigate in the context of the ITT whether undertaking SPT and SPT-VR had an effect on an individual's attitudes towards environmentally displaced people. As such, Study 2 aimed to answer two of the four primary research questions for this project:

1) *How effective is social perspective taking for shifting an Australian sample's attitudes towards environmentally displaced people?* and 2) *Does virtual reality enhance the effects of social perspective taking compared to normal film?*

It is important to note that the broader aim of SPT interventions is to improve intergroup relations, which can include a widespread list of variables. For the current study, the outcome variable used as a proxy for improved intergroup relations for Study 2 was prejudicial attitudes towards environmentally displaced people. This was seen as appropriate for two reasons. First, prejudice is one of the most widely accepted concepts for understanding intergroup relations both within and outside the SPT literature and has been linked to behavioural outcomes. Second, prejudice is the outcome variable used within the ITT and thus acts as a useful link between SPT and the ITT.

In order to address the aims of this study and answer the identified research questions, both mean differences and modelling analyses were used. To achieve clarity in presenting Study 2's findings two separate results chapters are presented – Chapter 11 and Chapter 12. Chapter 11 presents the study's descriptive data and mean differences analyses. Chapter 12 then presents the modelling analyses which is informed by the Chapter 11 results. The study's secondary research questions and specific hypotheses are also presented in these chapters. The remainder of this chapter presents the Study 2 method.

10.3 Method

10.4 Pilot phase

A pilot phase was run for this study in order to identify and rectify any issues with the design and implementation of the experiment and survey. Twenty three participants were recruited during the pilot phase. These participants were not included in any of the analyses reported for Study 2. Based on observations made from the researcher as well as feedback from the participants, several modifications to the design and survey were made. More specifically, extra variables were added to the survey after the pilot phase to increase the usefulness of the data in terms of the research questions and aims of the project. These variables included perceptions of status inequalities, a scale of self-other merging and an assessment of the participants' attributional thinking about environmentally

displaced people. Additionally, it was identified during the pilot phase that participants may not always attend to the experimenters SPT instructions equally, even though all efforts were made to ensure this was the case. Furthermore, it was identified participants in the VR condition may not attend to the SPT instructions as well as those in the normal film condition as they may have been distracted by the VR headset. Therefore, in order to allow the researcher to account for this, two questions were added into the survey which assessed the level of perspective taking the participants undertook while watching the film. Last, during the pilot phase it was identified a follow-up component would be useful in order to analyse the long-term effects of the SPT intervention. After the pilot phase was run the above described modifications were made to the design and survey of Study 2. Once all the modifications were made, recruitment was once again commenced. The following participant information, materials and procedure outline the methodology used for the revised experiment.

10.5 Recruitment

The participants were recruited in three different ways. Primarily, recruitment occurred at James Cook University through the undergraduate psychology student cohort. All undergraduate psychology students who participated received credit points for their participation. The participants completed the study on campus in the researcher's laboratory. In total, 151 participants were recruited from the Psychology undergraduate cohort. The second recruitment strategy was to attend the Townsville City Libraries to recruit the general public. All the necessary permissions were obtained from the City Libraries for recruitment to occur at the Aitkenvale and Thuringowa centres. This recruitment process involved the researcher inviting the general public to participate either at a later date or straightaway. All participants who wished to participate opted to participate immediately. The experiment was conducted in a designated space at the libraries using a laptop and with the portable Samsung Gear VR headset. Three of the participants recruited through this method completed a paper version of the survey rather than through the Qualtrics online platform. This was dependent on the individual's computer skills. In total, 15 participants were recruited through the Townsville city libraries. The third recruitment strategy relied on the researcher's personal networks and snowball recruitment. The researcher provided information sheets to personal networks and was contacted by anyone who was interested in participating. Some of these individuals then passed on these information sheets. This participation predominantly occurred in the participants' place of residence or work. Again, participation was completed on a laptop and the portable Samsung Gear VR headset. Seventeen of the participants recruited through this method completed paper versions of the survey rather than through the Qualtrics online platform. This was dependent on the reliability of internet access and the individual's computer skills. In total, 28 participants were recruited this way.

During recruitment, the recruitment site (North Queensland) experienced an extreme flooding event. During this time many people were temporarily displaced from their homes. Given this study

was looking at views towards people who are displaced as a result of the environment, it was thought this local weather event may have an impact on the participant's responses. As such, an additional question was added into the survey after the flooding event in order to assess how affected each participant was by the floods. Seventy-eight of the participants were recruited prior to the flooding event, while the remaining 116 were recruited within the following two months after the flooding event. As the data for the effect of exposure to the flooding did not directly align with the scope of this thesis, it was presented in Appendix F.

10.6 Participants

In the initial phase of the study a total of 197 participants were recruited. Four participant's data was deleted as the participants were not Australian citizens and had lived in Australia for <3 years. The final number of cases remaining for analysis was 193. The mean age of the sample was 28.91 (\pm 16.68, range = 17-78). Of the 193 participants, 135 were female, 52 were male, 1 participant identified their gender as indeterminate and 5 participants did not specify their gender. The majority (78%) of the sample were undergraduate psychology students living in Townsville, North Queensland. Of the 193 participants in the final sample, 96 (50%) completed the follow-up survey. Of the 96 participants who completed the follow-up, 72 were female, 23 were male and 1 identified their gender as other. The mean age of the follow-up sample was 27.73 years (\pm 15.50, range = 17-73). The majority (91%) of the follow-up sample were undergraduate psychology students living in Townsville, North Queensland.

10.7 Materials

10.7.1 Social Perspective taking experience. The SPT experience used is called *Our Home, Our People*. This film is 6:26 minutes long and features four Fijians who tell their experience of how sea level rise and extreme weather events, such as cyclones and flooding, affect their lives. Three of the Fijians in the film speak in Fijian, while one speaks in English. For all the featured Fijians, English subtitles are shown. While the Fijians are telling their story, writing appears on the screen which provides factual information about how the environment and climate change are affecting people who live in Fiji. The imagery shown primarily consists of the people telling their story in their home towns or villages, carrying out their everyday lives. The audio consists of the featured Fijians talking and the background sound of waves, wind, birds and general Fijian dialect. Sombre, slow music is also played in the background. The film was produced by the Fijian government, in partnership with the World Bank, Global Facility for Disaster Reduction and Recovery and the ACP-EU Natural Disaster Risk Reduction Program. The film can be accessed at <http://www.ourhomeourpeople.com/#bula>.

This film was designed as a 360 degree virtual reality film. However, it can also be viewed as a normal film. The only difference between the 360 degree VR film and the normal film is the mode in which it is watched – all content is identical. Within the 360 degree VR film, viewers can move their head to see 360 degrees of imagery. The imagery shown in the 360 degree view simply fills in the scene, with the focus of the film always being in the forward direction. The focus of the film is always shown in the normal version.

This film was chosen for several reasons. First, the risk of environmental displacement is very real in Fiji. While the total number of people to be displaced from Fiji is relatively low compared to other locations, the per-capita displacement is a different story. In 2012 Fiji was among the top 10 countries globally with the highest per-capita displacement (Burson & Bedford, 2015). Second, Fiji is a Pacific island and thus there is a very real possibility Australia will either provide foreign aid and/or receive Fijians who are displaced because of environmental factors. Third, displacement in Fiji is more clearly linked to environmental factors than other locations. Thus, it is comparatively easy to isolate environmental drivers as the primary push factor for displacement over other political, social or economic drivers. Last, the film *Our Home, Our People* was an already developed virtual reality film which was created to provide the perspective of Fijians and their experience of environmental events and the risk of displacement. As such, it seemed appropriate to evaluate a film that was already being used for the purposes of increasing global awareness around the issue of environmental displacement.

10.7.2 Visual and audio devices. The Samsung Gear VR Headset with a remote controller was used with a Samsung Galaxy S8 phone to present the VR film. A standard Dell computer running the Windows 10 operating system with a 23-inch screen was used to present the normal film within the laboratory. A Dell 15-inch laptop also running the Windows 10 operating system was used in the field. For both conditions the film was accessed through the *Our Home, Our People* website. The quality of the film was always set at 1080s. In both the normal film and VR conditions the participants wore a pair of standard headphones. The devices and laboratory layout are shown in Figure 40.



Figure 40. Virtual reality device set-up (A) and normal computer set-up (B).

10.7.3 Initial Phase Survey. A 151 item survey was used for this study and can be seen in Appendix G. The survey collected data on demographic factors, prejudicial attitudes and a range of predictor variables that are used within the ITT. The order of the questions was counterbalanced to control for possible order effects. The measures used to assess prejudicial attitudes, negative stereotypes, intergroup anxiety, empathy, perceptions of intergroup conflict, perceptions of status inequalities, social dominance orientation and right-wing authoritarianism were identical to those used in Study 1 and are therefore not presented here. Only measures that differed to those used in Study 1 or were added into this study's survey are detailed below.

The same measures as those used in Study 1 were used again in Study 2 for two reasons. First, to allow for accurate comparison of participant scores across the two studies. If different measures were used to assess out-group attitudes between the two studies it would make comparing the results between the two studies somewhat flawed and erroneous. Furthermore, using the same measures in Study 2 allows for the results of Study 1, particularly the results which analysed the psychometric properties of the measures (Chapter 6), to be tested for replication. This adds further insight into the psychometric properties of these measures.

10.7.3.1 Demographics. The demographic information collected included Australian citizenship status, gender, age, postcode, ethnicity, education, political ideology, and whether the participant had used virtual reality before.

10.7.3.2 Threat perceptions. To reduce the length of the Study 2 survey, four of the seven items for each threat variable used in Study 1 were used to assess each threat variable in the current study. The selection of the four items used to measure each threat variable was based on reliability analyses. In total, 16 items were used to assess the four different forms of threat (realistic individual threats, realistic group threats, symbolic individual threats and symbolic group threats). As in Study 1, these items were measured on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Single scores were calculated by finding the average of the item scores, with higher scores indicating greater threat perceptions. Table 27 displays an example item for each of the four forms of threat.

10.7.3.3 Intergroup contact. For intergroup contact, the participants were asked to indicate how much contact they have had with environmentally displaced people. The participants indicated their level of contact on a 10-point scale ranging from *None* to *A lot*. The participants were also asked to rate this contact as negative to positive on a 10-point scale.

10.7.3.4 Self-reported intergroup knowledge. Self-reported intergroup knowledge was assessed with two items that asked the participants to indicate their level of agreement on a five-point Likert scale (1 Strongly disagree to 5 Strongly agree) to statements about their level of knowledge about the out-group and how much they have read about the out-group. Total scores were calculated by summing items scores and finding the average. Scores ranged from 1-5 with higher scores indicating higher levels of self-reported knowledge.

Table 27: *Cronbach's alpha coefficient and item examples for threat perceptions assessed in Study 2.*

Threat	Cronbach's α	Example
Realistic individual threat	.837	Environmentally displaced people coming to Australia will pose a personal threat to my safety
Realistic group threat	.872	Environmentally displaced people in Australia will increase the amount of crime in the country.
Symbolic individual threat	.840	Environmentally displaced people hold values that threaten my personal world views.
Symbolic group threat	.840	The ethical views of environmentally displaced people poses a serious threat to the Australian culture.

10.7.3.5 Film Knowledge. A more objective assessment of intergroup knowledge was gained which relied less on self-evaluation. This measure aimed to assess the extent of knowledge gained from watching the film. The participants were asked to indicate whether three statements were either true, false or they were unsure. The statements were directly taken from the film. Two of the statements were true and a number in one statement was modified to be false. The participants' responses were scored as either correct or incorrect. Responses that were correct scored a value of 2 while responses that were incorrect scored a value of 1. These values were then averaged to provide an index of film knowledge. Higher scores represent greater knowledge.

10.7.3.6 Perceptions of fairness. To assess the participants' perceptions of fairness about environmental displacement the participants were asked to rate how fair they thought it was when people are forced to leave their homes because of environmental reasons. The participants were also asked to rate how fair they thought it was that people who have made little contribution to climate change may be forced to leave their homes because of climate change. The participants rated their perceptions of fairness on a 10-point scale with 1 being Very unfair and 10 being Very fair.

10.7.3.7 Self-other overlap. Self-other overlap was assessed using the Inclusion of the Other in the Self scale (Gächter, Starmer, & Tufano, 2015). The Inclusion of Other in Self scale pictorially demonstrates 7 different levels of closeness between oneself and the 'other' by having seven different pairs of overlapping circles. The first pair of circles do not overlap at all. The overlap between the pairs gradually increases and the last pair almost completely overlap. The participants were asked to select the pair of circles that best describes how similar environmentally displaced people are to themselves. The pair of circles selected by the participant acted as the participant's score (ranging from 1-7), with higher scores indicating greater perceptions of self-other overlap.

10.7.3.8 Attributional thinking. To assess whether the participants thought environmentally displaced people are displaced because of their situation or because of their personal characteristics

the participants were asked to indicate their agreement on a 5-Point Likert scale (1 Strongly disagree to 5 Strongly agree) to two statements. The two statements were: ‘The reason environmentally displaced people leave their homes is because of the situation’ (situational thinking) and ‘The reason environmentally displaced people leave their homes is because of personal factors, such as their personality’ (dispositional thinking). These items were used individually as assessments of attributional thinking.

10.7.3.9 Immersion. To assess the participants’ level of immersion they were asked to indicate how immersed they felt while watching the film on an 11-point scale from Not at all immersed to Completely immersed.

10.7.3.10 Check for SPT Manipulation. In order to analyse the effect of SPT, participants were asked if they did or did not (Yes/No response format) imagine how they would think, feel and behave in the same situation as the characters in the film. They were also asked the extent that they tried to imagine how they would think, feel and behave in the same situation on an 11-point scale ranging from Not at all to Completely.

10.7.4 Follow-up phase survey. The only difference between the initial and follow-up surveys was the exclusion of variables which were not expected to change as a result of time, such as demographic variables. Everything else on the surveys were identical.

10.8 Procedure

Ethics approval was obtained from the James Cook University Human Research Ethics Committee for this project (approval #H7388). Before commencing the experiment the participants were given information about the study and their informed consent was obtained (Appendices H and I). At this point the participants were informed about the follow-up option and were asked if they wanted to complete the follow-up survey in two-weeks time. A unique numerical code was assigned to each participant who consented to do the follow-up and their preferred contact information (email or postal) was obtained using the contact information form (Appendix J). All participants opted to be contacted for the follow-up via email.

Prior to data collection for the initial phase of the study, each participant was randomly assigned to one of three experimental conditions - *normal film*, *virtual reality (VR) film* or *control*. In the *normal film* condition the participants watched the *Our Home, Our People* film on a standard computer screen wearing headphones. In the *VR* condition, the participants watched the *Our Home, Our People* film in the 360 degree virtual reality mode. They wore the Samsung Gear VR device and headphones. The headset was first fitted and tested to ensure it was comfortable and the film ran smoothly. Participants in both the *normal film* and *VR* conditions were given the instructions “*While watching the film, try to place yourself in the characters’ shoes and try to imagine how you would think, feel and behave if you were in their situation*’. These perspective taking instructions were given

verbally by the researcher immediately before the participants watched the film. After watching the film, the participants were asked to complete the survey.

The instructions to imagine-self, rather than imagine-other, were given based on Vorauer and Sasaki's (2014) findings. Vorauer and Sasaki (2014) found that when participants were instructed to imagine-other, they became more concerned with how the out-group may evaluate them and their in-group. Vorauer and Sasaki (2014) proposed this tends to lead to defensive thoughts and ultimately derogation of the out-group. The authors found no such effects were observed when participants were instructed to imagine-self. As such, these results indicate SPT interventions should use imagine-self designs in order to avoid the perspective taker being preoccupied by how they are being evaluated by out-group members. Thus, this project instructed the participants to imagine-self rather than imagine-other.

In the *control* condition, the participants did not watch any version of the *Our Home, Our People* film and were not exposed to any other stimuli. The participants in the *control* condition were immediately asked to complete the survey after they provided informed consent. As the participants in the *normal film* and *VR* conditions were primed to consider environmental displacement in terms of the Pacific islands, a paragraph was presented at the start of the survey to ensure the *control* group was also framed to think about environmentally displacement in terms of the Pacific islands (refer to Appendix G).

Towards the end of the survey the participants were asked to indicate if they had watched a normal film on a computer screen, a virtual reality film using the VR headset or that they did not watch anything. This self-report measure was intended to track the condition each participant was assigned to, which would then be used during analysis. The only other method used to track the condition participants were assigned to was a tally for each condition, which was not linked to individual participants. This tally was purely for the purpose of ensuring equal group sizes during recruitment. Of the 193 participants, 62 indicated they watched the normal film, 66 indicated they watched a VR film and 65 indicated they did not watch a film. However, these figures did not align directly with the researchers tally. To clarify, towards the end of recruitment the researcher compared the recorded tally of each group to the self-assigned groups, and there were some discrepancies. It is suspected approximately 10-15 of the participants who watched the normal film incorrectly reported they had watched the VR film. Unfortunately, there is no way to check this or to remove the individuals who inaccurately specified their condition. The implications and limitations of this are explored later in the discussion.

The participants who opted to participate in the follow-up component of this study were sent an email 14 days after their initial participation. This email contained instructions for completing the online follow-up survey as well as their unique numerical code. The follow-up survey was run through the Qualtrics online platform. Prior to beginning the survey the participants were presented with an information sheet for the follow-up phase and informed consent was obtained (Appendix K).

After the participants in the *normal film* and *control* conditions finished all elected phases of the study they were given the option to organise another time to watch the film in VR for personal reasons only. None of the participants in the *control* or *normal film* conditions opted to watch the film in VR.

10.9 Data treatment and analyses

All cases that were collected via the online Qualtrics platform were downloaded and saved locally after data collection. All paper version surveys were entered manually into SPSS and checked for data entry errors. Data management and analyses was undertaken using the IBM SPSS software Version 23. To examine differences between groups ANOVA analyses were conducted. Bivariate correlations were performed to determine the relationships that existed between the variables of interest. Confirmatory factor analyses were conducted to test the reproducibility of the variables' factor structures found in Study 1. Furthermore, structural equation modelling was undertaken to examine the predictive relationships between engagement with the SPT intervention and with the other variables of interest. The IBM SPSS Amos graphics package Version 25 was used to conduct the confirmatory factor analyses and structural equation modelling.

10.9.1 Missing data. All cases from the initial phase had <25% missing data, which was considered acceptable. For the follow-up data five cases were removed as they had >90% missing data. All remaining cases from the follow-up phase had <25% missing data. The remaining missingness was determined to be Missing Completely at Random (MCAR) using Littles MCAR test ($p > .05$). As casewise deletion methods for dealing with missing data have been shown to be bias, it was decided missing data would be imputed using the Full Information Maximum Likelihood method. This method has been shown to be superior to other missing data imputation methods as it introduces little to no bias in the data (Bennett, 2001; Enders & Bandalos, 2001).

Chapter 11: Study 2 Results and Discussion, Part 1 – Group Differences Analyses

As noted in the previous chapter, the research questions, hypotheses, results and discussions for Study 2 have been divided into two separate chapters. The overall rationale and methodology for Study 2 was presented in the previous chapter. The current chapter presents the research questions, hypotheses and results related to the descriptive data and group differences analyses for Study 2. The discussion of these results is also presented within this chapter.

11.1 Research Questions

The results of this chapter address two of this project's primary research questions. These research questions are 1) *How effective is social perspective taking for shifting an Australian sample's attitude towards environmentally displaced people?* and 2) *Does virtual reality enhance the effects of social perspective taking on attitude change compared to normal film?* In addition, several secondary research questions were made based on the results of Study 1 and the theoretical basis of the Integrated Threat Theory (ITT), social perspective taking (SPT) and virtual reality (VR). The secondary research questions that follow are specifically related to the analyses and results conducted in this chapter.

1. Will undertaking the SPT intervention lead to differences in out-group attitudes towards environmentally displaced people?
2. Does undertaking the SPT intervention in VR lead to differences in out-group attitudes compared to watching the SPT intervention through normal film?
3. If the SPT intervention leads to changes in out-group attitudes, are these changes present more than two-weeks after undertaking the SPT intervention?

11.2 Hypotheses

The following hypotheses make predictions on how the use of SPT and VR were expected to affect numerous out-group attitudes. These hypotheses are formed from the results of Study 1 as well the theoretical literature on SPT, VR and the ITT.

11.2.1 Hypotheses for the effect of the social perspective taking intervention on out-group attitudes.

11.2.1.1 Prejudice. The goal of SPT interventions is to improve intergroup relations and reduce prejudicial attitudes between groups (refer to Chapter 8). This is thought to be achieved through processes such as increased self-other overlap, changes in attributional thinking and increases in feelings of empathy. Indeed, as discussed in Chapter 8 SPT interventions are thought to positively influence many of the ITT variables including intergroup anxiety, intergroup contact, knowledge

about the out-group, perceptions of threat, status inequalities and conflict. Furthermore, the results from Study 1 as well as the bulk of the ITT literature has found many of these variables to significantly predict prejudicial attitudes. Also found in Study 1 was that empathy predicted prejudice. Thus, the effect of SPT on empathy would be expected to reduce prejudicial attitudes. It would therefore be expected an SPT intervention would lead to less negative prejudicial attitudes both directly and through the other predictive variables.

Hypothesis 1. It was hypothesized the SPT intervention would significantly lower the participants' prejudicial attitudes towards environmentally displaced people compared to the control group.

11.2.1.2 Negative stereotypes. This project's Study 1 results found that between 51-62% of the negative stereotypes variance was predicted by social dominance orientation, right-wing authoritarianism, perceptions of contact quality, empathy, intergroup anxiety and threat perceptions. As covered in Chapter 8, SPT is thought to positively influence most of these variables. Thus, an SPT intervention would likely reduce perceptions of negative stereotypes through variables such as perceptions of contact quality, empathy, intergroup anxiety and threat perceptions. In addition, Vescio et al. (2003) propose that changes in attributional thinking and emotional responses towards the target individual as a result of SPT may conflict with previously held negative stereotypes. Thus, Vescio et al. (2003) suggests that changes in attributional thinking after SPT will in time lead to changes in negative stereotypes in order to make the individual's two conflicting perspectives similar.

Hypothesis 2. It was predicted the SPT intervention would significantly lower the participants' perceptions of negative stereotypes towards environmentally displaced people compared to the control group.

11.2.1.3 Intergroup anxiety. There appears to be a clear relationship between perceptions of intergroup contact and feelings of intergroup anxiety within the literature. More specifically, increased intergroup contact has been shown to reduce feelings of intergroup anxiety (Aberson & Haag, 2007; Paolini, Hewstone, Voci, Harwood, & Cairns, 2006). Furthermore, Pedersen and Hartley (2015) suggest that film can act as a form of intergroup contact. Following this logic, watching a film about environmentally displaced people should lead to reduced feelings of intergroup anxiety. However, neither contact quality nor contact quantity predicted intergroup anxiety in Study 1 of this project. While these results from Study 1 suggests there is no relationship between contact and intergroup anxiety, the literature suggests otherwise.

Another process of SPT which may reduce intergroup anxiety is the occurrence of self-other overlap. As discussed in Chapter 8, watching an SPT experience is thought to merge perceptions between the 'self' and 'other' (Ahn et al., 2013; Erle & Tropolinski, 2017). Intergroup anxiety is based on concerns about being embarrassed, rejected or ridiculed during social interactions with out-group

members (C. W. Stephan & Stephan, 2000). This concern is likely because the individual does not perceive themselves as similar to the out-group and is unaware of the social norms or behaviours of that out-group. As such, increasing self-other overlap and perceiving members of the out-group as more similar to oneself may remove concerns about the out-group being different and thus reduce feelings of intergroup anxiety.

Hypothesis 3. It was predicted the SPT intervention would significantly lower the participants' feelings of intergroup anxiety about interacting with environmentally displaced people compared to the control group.

11.2.1.4 Threat perceptions. Both the literature and the results of Study 1 of this project indicate perceptions of threat develop from previous positive intergroup contact with the out-group (C. W. Stephan & Stephan, 2000; Velasco González et al., 2008). Furthermore, Pedersen and Hartley (2015) suggest that film, such as the one used in this study, can be used as a strategy to increase intergroup contact. As such, if contact perceptions do positively change as a result of watching the film, it is likely threat perceptions will also be influenced. In addition, as with feelings of intergroup anxiety, it is thought perceptions of threat may be reduced as a function of increased self-other overlap after an SPT experience. Threat perceptions represent an individual perceiving out-group members as posing a threat to one's own group. Thus, perceiving out-group members to be more similar to one's self are expected lead to reduced threat perceptions.

Hypothesis 4. It was predicted the SPT intervention would significantly lower the participants' perceptions of threat towards environmentally displaced people compared to the control group.

11.2.1.5 Empathy. The SPT experience used for this project, *Our Home, Our People*, tells the story of Fijians whose home and community are at risk from environmental events, which is likely to elicit empathetic responding in individuals. However, people tend to be more empathetic towards in-group members compared to out-group members (Stürmer et al., 2006; Stürmer et al., 2005). Thus, empathy towards environmentally displaced people, an out-group, may be more difficult to elicit compared to empathy towards other in-group members. But, the process of SPT is thought to lead to self-other overlap which is the merging of the out-group into the in-group (Ahn et al., 2013). This process of self-other merging may mean the *Our Home, Our People* film may illicit empathetic responses in the participants. Indeed, numerous studies have shown evidence to support that empathy increases after SPT (Esses & Dovidio, 2002; Shih et al., 2009; Thomas et al., 2009).

Hypothesis 5. It was predicted the SPT intervention would significantly increase the participants' empathy towards environmentally displaced people compared to the control group.

11.2.1.6 Self-other overlap. As covered in Chapter 8, it appears SPT can lead to an increased overlap between one's perceptions of the 'self' and the 'other' (Ahn et al., 2013; Davis et al., 1996; Erle & Topolinski, 2017). It appears imagining 'other' or imagining 'self' during an SPT experience may affect whether an individual perceives aspects of themselves in the out-group or whether they perceive aspects of the out-group in themselves. More specifically, the way in which self-other overlap occurs was investigated by Davis et al. (1996) who presented participants with either imagine-self or imagine-other instructions prior to watching a video. After watching the video all the participants, regardless of the instructions they were given, identified aspects of themselves in others. However, in a different study when participants were given no imagine-self or imagine-other instructions, but were simply told to write about the typical day of an out-group member, they tended to assign characteristics of the 'self' to the 'other' (Davis et al., 1996). These findings suggest when either imagine-self or imagine-other instructions are given, people will tend to assign aspects of the 'other' to themselves. Alternatively, if individuals are given non-specific perspective taking instructions, they will assign aspects of the 'self' to the 'other'. Given the current project instructs participants to imagine-self, the available evidence suggests the SPT experience used for this project will result in the participants having increased perceived similarity of the out-group with themselves.

Hypothesis 6. It was predicted the SPT intervention would significantly increase the participants' inclusion of environmentally displaced people into their own self-concept compared to the control group.

11.2.1.7 Social dominance orientation and right-wing authoritarianism. As covered in Chapter 3, social dominance orientation and right-wing authoritarianism have been found to be related to prejudicial attitudes (Ekehammar et al., 2004; Esses et al., 1998; Levin et al., 2002; Rattazzi et al., 2007). Furthermore, the results from Study 1 found that both social dominance orientation and right-wing authoritarianism predicted prejudicial attitudes and significantly contributed to the ITT model. Specifically, social dominance orientation was found to be the strongest predictor of prejudicial attitudes. Thus, being able to reduce an individual's social dominance orientation and right-wing authoritarianism with SPT will likely lead to a reduction in prejudicial attitudes towards out-group members. However, no research has investigated whether social dominance orientation and right-wing authoritarianism can be changed with SPT. Typically, social dominance orientation and right-wing authoritarianism are considered individual factors which predict prejudicial attitudes. However, some scholars propose social dominance orientation and right-wing authoritarianism are actually group-based constructs, while others suggest that social dominance orientation and right-wing authoritarianism are a combination of both personality and social factors (Duckitt et al., 2002; Ekehammar & Akrami, 2007; Kreindler, 2005). The distinction as to whether social dominance orientation and right-wing authoritarianism are individual characteristics or a social construct is important as changing social attitudes to be more positive is a much easier task than changing a

personality characteristic. Given the difficulty of changing personality characteristics and the general consensus that social dominance orientation and right-wing authoritarianism are personality factors, it seems unlikely one intervention, such as the one undertaken in this study, will result in significant changes in social dominance orientation and right-wing authoritarianism. However, given social dominance orientation was the strongest predictor of prejudicial attitudes, it was seen important to investigate.

Hypothesis 7. It was predicted the SPT intervention would not lead to significant changes in either social dominance orientation or right-wing authoritarianism compared to the control group.

11.2.1.8 Attributional thinking and perceptions of fairness. Attributional thinking refers to tendency for people to attribute someone else's behaviour to either situational or dispositional factors (Jones & Nisbett, 1972; Nisbett et al., 1973). More specifically, there is a tendency for individuals to judge in-group members behaviours as an outcome of situational factors, and judge out-group attitudes as the result of dispositional factors (Jones & Nisbett, 1972; Nisbett et al., 1973). As SPT is thought to lead to self-other overlap or the merging of the out-group into the in-group, the occurrence of self-other overlap may mean that someone who undergoes SPT may attribute the negative behaviours or outcomes of the target individual to the situation, rather than someone's disposition.

Given that this change is expected in attributional thinking as a result of SPT, a change in perceptions of fairness would also be expected. To clarify, if an individual perceives another person to be displaced because of negative dispositional factors, one is also likely to think this displacement is not unjust as it is an outcome of the displaced persons unsavoury character (e.g. they left their country to exploit Australia). However, negative attitudes towards displaced people may be changed if it were identified that the hardship experienced by displaced people is unjust as it is attributable to the situation (e.g. sea level rise forcing them to leave their home) rather than an individual's disposition (e.g. being dishonest). That is, recognising that the unjust situation is the cause of displacement, rather than the negative dispositional qualities of displaced people, may make an individual consider it unreasonable to hold negative attitudes. While the film *Our Home, Our People* does not explicitly discuss the cause for the environmental effects on Fiji, it is clear the cause of the problem is outside the control of those experiencing the environmental events.

Hypothesis 8. It was predicted participants who undertook the SPT intervention would attribute the reason for environmental displacement to be due to situational factors significantly more compared to the participants in the control group.

Hypothesis 9. It was predicted participants who undertook the SPT intervention would attribute the reason for environmental displacement to be due to dispositional factors significantly less compared to the participants in the control condition.

Hypothesis 10. It was predicted the SPT intervention would lead to the participants' perceiving environmental displacement to be significantly less fair compared to those in the control group.

11.2.2 Hypotheses for the effect of virtual reality. As covered in Chapter 9, VR can lead to a more realistic and immersive experience than other mediums such as a normal film on a computer or television screen. Such advantages have been found to enhance the positive effects of SPT (Ahn et al., 2013; Oh et al., 2016). Furthermore, increased realism and immersion during SPT may reduce the cognitive demand required to perceive the perspective of others (Oh et al., 2016). As such, it may be easier for people to imagine another's perspective in a VR experience compared to a normal film. Together, this evidence suggests an SPT-VR experience would be more powerful than an SPT experience presented via a normal film.

Hypothesis 11: It was predicted the observed beneficial effects of SPT would be enhanced when the SPT experience was presented via VR as opposed to on a normal computer screen.

Hypothesis 12. It was predicted the participants' level of immersion in the film would be significantly greater for those who watched the film in VR compared to those who watched a normal film.

11.2.3 Hypothesis relating to the long-term effect of the SPT intervention. Studies have found the benefits of SPT to remain present at 24-hours and up to 4 months after the initial SPT experience (Batson et al., 1997; Clore & Jeffery, 1972; Devine et al., 2012; Todd & Burgmer, 2013). Together these studies suggest the effects of SPT have temporal permanence and provide support for the use of SPT as a long-term prejudice reduction strategy.

Hypothesis 13. It was predicted the SPT intervention would reduce the participants' negative attitudes towards environmentally displaced people at follow-up compared to the control group.

11.3 Results

The following results have been presented in two different sections. These sections were formed based on the above research questions and hypotheses as well as the analyses undertaken to address the research questions and hypotheses. The first section presents analyses which examine whether the intervention affected participants' attitudes towards environmentally displaced people. The second section examines the long-term effects of the SPT intervention on out-group attitudes.

11.3.1 Examining the effect of social perspective taking and virtual reality on out-group attitudes

Table 28 displays the descriptive data for each condition – *normal film*, *VR film* and the *control* condition. The trend seen in Table 28 suggests people who undertook SPT (*normal film* and *VR film* conditions) reported less negative attitudes towards environmentally displaced people than those in the *control* condition. Table 28 also suggests that there was little difference between mean responses between the *normal film* and *VR film* conditions. For some of the variables (prejudice and negative stereotypes) mean responses were more negative for those participants in the *VR film* condition compared to the *normal film* condition. However, for the four threat variables the inverse occurred.

To answer hypotheses 1-11, a series of one-way ANOVAs were conducted to determine if views towards environmentally displaced people differed across the three conditions – the *normal film* condition, the *virtual reality film* condition and the *control* condition (refer to Appendix O for ANOVA output). Where the assumption of Levene's test of homogeneity was not met, Welch's robust test of equality of means was reported. There were significant differences in mean scores between the three conditions for prejudice ($F_{(2, 190)} = 8.55, p < .001, \eta^2 = .08$), negative stereotypes (Welch's $F_{(2, 121.24)} = 5.35, p = .006, \eta^2 = .07$), empathy (Welch's $F_{(2, 123.76)} = 5.71, p = .004, \eta^2 = .06$), realistic individual threats ($F_{(2, 190)} = 4.37, p = .014, \eta^2 = .04$), symbolic individual threats (Welch's $F_{(2, 122.78)} = 5.92, p = .004, \eta^2 = .06$), realistic group threats ($F_{(2, 190)} = 6.22, p = .002, \eta^2 = .06$), symbolic group threats ($F_{(2, 190)} = 6.49, p = .002, \eta^2 = .06$), perceptions of fairness about general environmental displacement (Welch's $F_{(2, 120.14)} = 3.37, p = .038, \eta^2 = .04$) and film knowledge ($F_{(2, 190)} = 12.32, p < .001, \eta^2 = .11$). No significant differences between the three conditions were detected for intergroup anxiety, status inequalities, self-reported knowledge, intergroup conflict, contact quantity and quality, social dominance orientation, right-wing authoritarianism, self-other overlap and attributional thinking (all p 's $> .05$, all η^2 's $> .025$).

Post hoc Bonferroni and where appropriate Games-Howell tests were undertaken to determine where the significant differences were between the three conditions. Participants in the *normal film* and *VR film* conditions reported significantly lower prejudicial attitudes (.80, 95% CI [.30, 1.30], $p < .001$; .66, 95% CI [.17, 1.16], $p = .004$), lower negative stereotypes (.68, 95% CI [.13, 1.24], $p = .011$; .65, 95% CI [.14, 1.15], $p = .008$), lower realistic individual threats (.32, 95% CI [.001, .64], $p = .049$; .35, 95% CI [.03, .67], $p = .024$) and lower realistic group threats (.33, 95% CI [.01, .66], $p = .040$; .45, 95% CI [.13, .77], $p = .002$) towards environmentally displaced people compared to participants in the *control* condition. Furthermore, participants in the *VR film* condition had significantly lower perceptions of symbolic individual threats (.37, 95% CI [.11, .62], $p = .002$) and symbolic group threats (.44, 95% CI [.14, .74], $p = .002$) compared to participants in the *control* condition. Similarly, participants in the *VR film* condition perceived people being environmentally

Table 28: Means and standard deviations $M(SD)$ for the dependent variables across the three conditions.

Dependent Variable	Condition			
	Control N = 65	Normal film N = 62	VR film N = 66	Total N = 193
Prejudice ¹	3.25(1.31)	2.45(.93)	2.58(1.24)	2.76(1.22)
Negative stereotypes ¹	2.91(1.46)	2.23(1.17)	2.27(.91)	2.47(1.23)
Realistic group ³	2.41(.82)	2.08(.75)	1.96(.70)	2.15(.78)
Realistic individual ³	2.17(.83)	1.85(.62)	1.82(.78)	1.95(.76)
Symbolic group ³	2.07(.78)	1.78(.72)	1.63(.61)	1.83(.73)
Symbolic individual ³	1.74(.72)	1.52(.60)	1.38(.50)	1.55(.62)
Intergroup anxiety ²	3.11(1.20)	2.81(1.09)	2.80(1.16)	2.91(1.16)
Empathy ²	7.55(2.00)	8.56(1.33)	8.32(1.89)	8.14(1.81)
Conflict ³	3.24(.57)	3.04(.53)	3.15(.65)	3.15(.60)
Status inequalities ³	3.16(.75)	3.10(.84)	3.12(.97)	3.13(.85)
Self-reported knowledge ³	2.24(.62)	2.43(.63)	2.43(.66)	2.37(.64)
Film knowledge	1.47(.24)	1.63(.27)	1.68(.23)	1.59(.26)
Contact quantity ²	2.89(1.86)	2.98(2.23)	2.79(2.00)	2.89(2.02)
Contact quality ²	7.19(2.29)	6.79(2.46)	6.66(2.75)	6.89(2.49)
Social dominance orientation ³	1.75(.62)	1.76(.60)	1.63(.59)	1.71(.60)
Right-wing authoritarianism ³	2.70(.59)	2.78(.54)	2.71(.57)	2.73(.57)
Self-other overlap ⁴	3.25(1.77)	3.60(1.98)	3.49(2.05)	3.45(1.93)
Att. thinking - situational ³	4.24(.66)	4.21(.58)	4.35(.64)	4.27(.63)
Att. thinking - dispositional ³	1.77(.82)	1.81(.81)	1.67(.79)	1.74(.81)
Fairness (general env. dis.) ²	2.69(2.51)	2.05(1.94)	1.76(1.47)	2.17(2.05)
Fairness (env. dis. & climate change) ²	2.86(2.21)	2.03(2.09)	2.26(2.26)	2.39(2.20)
Level of immersion ²	N/A	7.38(1.77)	7.77(1.86)	7.58(1.82)

Note: ¹ = 11-point scale, ² = 10-point scale, ³ = 5-point Likert scale, ⁴ = 7-point scale

displaced as significantly less fair compared to people in the *control* condition (.94, 95% CI [.08, 1.79], $p = .029$). Participants in the *normal film* condition reported significantly higher empathy compared to participants in the *control* condition (1.01, 95% CI [.30, 1.72], $p = .003$). Lastly, participants in both the *normal film* and *VR film* conditions scored higher on film knowledge compared to participants in the *control* condition (.16, 95% CI [.05, .27], $p = .001$; .20, 95% CI [.09, .31], $p < .001$).

In addition to the above analyses, a one-way ANVOA was also conducted to address hypothesis 12 and examine if the participants' level of immersion differed based on whether they watched the film on a computer screen or in a VR headset. Participants in the *control* group were excluded from this analysis. The descriptive data for this analysis is presented in Table 28 above. As can be seen in Table 28, the participants in both conditions reported being highly immersed in the film. Furthermore, the mean score for level of immersion in the *VR film* condition is slightly higher than the mean score in the *normal film* condition. The assumption of homogeneity of variance was met as assessed by Levene's test ($p = .399$). There was no significant difference in mean scores for level of immersion between the *normal film* and *VR film* conditions ($F_{(1, 127)} = 1.50, p = .223, \eta^2 = .01$).

11.3.2 Examining the long-term effects of the SPT intervention on out-group attitudes

Participants were sent an email 14 days after the initial session requesting that they complete the follow-up component. Given the follow-up component was online and optional, participants completed this component at the time of their choosing. The mean number of days the participants completed the follow-up component was 17.88 ± 5.70 (range = 14-37). The majority of the sample completed the follow-up within 18 days (72%), while the remainder of the sample completed the follow-up within 37 days after the initial session. As the participants completed the follow-up component at different times after the initial session it was considered this difference may influence out-group attitudes. To test this, a series of one-way ANOVAs were conducted to determine if there were any differences in participant follow-up responses depending on whether they responded 14-18 days after the initial session ($N = 69$) or more than 19 days after the initial session ($N = 27$). No significant differences were detected across all the dependent variables (all p 's $> .05$, all η^2 's $> .04$). As there were no significant differences based on how long after the initial phase people completed the follow-up, all further analyses have grouped all follow-up participants together.

A series of two-way mixed ANOVAs were conducted to address hypothesis 13 and determine if the effects seen at the initial phase of testing were still present between 14-37 days later. These analyses also determine whether there was an interaction effect between time (initial and follow-up) and condition (control, normal film and VR film). For all analyses there was homogeneity of variances, as assessed by Levene's test of homogeneity of variance (all p 's $> .05$). There was also homogeneity of covariances, as assessed by Box's test of equality of covariance matrices (all p 's $> .001$) (refer to Appendix O for ANOVA output). Table 29 presents the descriptive data for out-group attitudes at both the initial and follow-up phase and across the three conditions. The descriptive data shows that the participants reported slightly higher negative attitudes at follow-up compared to the initial session.

Table 29: Means and standard deviations $M(SD)$ for the dependent variables at the initial and follow-up phases across the three conditions.

		Initial phase N = 193	Follow-up phase N = 96	Total
Prejudice ¹	Control	3.07(.96)	3.43(1.25)	3.25(1.11)
	Normal film	2.41(.85)	2.95(.95)	2.68(.90)
	VR film	2.29(.87)	2.74(1.10)	2.52(.99)
	Total	2.56(.94)	3.02(1.13)	
Negative stereotypes ¹	Control	2.57(1.41)	2.37(.88)	2.47(1.15)
	Normal film	2.14(.84)	2.33(.93)	2.24(.89)
	VR film	2.44(.98)	2.67(1.10)	2.56(1.04)
	Total	2.38(1.09)	2.46(.98)	
Realistic group ³	Control	2.39(.70)	2.39(.85)	2.39(.78)
	Normal film	2.10(.61)	2.33(.59)	2.21(.60)
	VR film	2.06(.80)	2.18(.83)	2.12(.82)
	Total	2.17(.72)	2.29(.76)	
Realistic individual ³	Control	2.04(.69)	2.26(.77)	2.15(.73)
	Normal film	1.88(.56)	2.12(.61)	2.00(.59)
	VR film	1.96(.82)	2.02(.89)	1.99(.86)
	Total	1.96(.70)	2.13(.77)	
Symbolic group ³	Control	1.95(.68)	2.10(.69)	2.03(.69)
	Normal film	1.69(.64)	2.00(.58)	1.84(.61)
	VR film	1.69(.61)	1.93(.60)	1.81(.61)
	Total	1.77(.64)	2.00(.62)	
Symbolic individual ³	Control	1.70(.61)	1.78(.71)	1.74(.66)
	Normal film	1.55(.58)	1.80(.51)	1.67(.55)
	VR film	1.40(.49)	1.65(.65)	1.52(.57)
	Total	1.54(.56)	1.74(.62)	
Intergroup anxiety ²	Control	3.09(1.29)	3.18(1.29)	3.14(1.29)
	Normal film	2.88(.92)	3.11(1.16)	3.00(1.04)
	VR film	2.97(1.17)	2.99(1.32)	2.98(1.25)
	Total	2.98(1.12)	3.09(1.25)	
Empathy ²	Control	7.94(1.50)	7.18(2.01)	7.56(1.78)
	Normal film	8.71(1.20)	7.93(1.47)	8.32(1.34)
	VR film	8.49(1.65)	8.31(1.44)	8.40(1.55)
	Total	8.40(1.49)	7.84(1.69)	

		Initial phase N = 193	Follow-up phase N = 96	Total
Self-other overlap ⁴	Control	3.24(1.66)	3.76(1.79)	3.50(1.73)
	Normal film	3.52(2.05)	3.41(1.92)	3.46(1.99)
	VR film	3.13(1.83)	3.51(2.15)	3.32(1.99)
	Total	3.29(1.85)	3.55(1.95)	

Note: ¹ = 11-point scale, ² = 10-point scale, ³ = 5-point Likert scale, ⁴ = 7-point scale

11.3.2.1 Prejudice. There was no significant interaction between the condition and time on prejudicial attitudes towards environmentally displaced people ($F_{(2, 93)} = .34, p = .715, \eta^2 = .01$, observed power = .10). The main effect of time showed a significant difference in mean scores for prejudicial attitudes towards environmentally displaced people ($F_{(1, 93)} = 26.13, p < .001$, partial $\eta^2 = .22$, observed power = .99). The mean score for prejudice was significantly higher at follow-up than at the initial session. The main effect for condition showed a significant difference in prejudicial attitudes towards environmentally displaced people ($F_{(2, 93)} = 5.48, p = .006$, partial $\eta^2 = .11$, observed power = .84). Post hoc Bonferroni tests indicated participants in the *control* condition reported significantly higher mean prejudicial attitudes compared to participants in the *normal film* and *VR film* condition (.57, 95% CI [.001, 1.14], $p = .049$; .73, 95% CI [.17, 1.28], $p = .006$).

11.3.2.2 Negative stereotypes. There was no significant interaction between the condition and time on negative stereotypes towards environmentally displaced people ($F_{(2, 93)} = 1.66, p = .196, \eta^2 = .03$, observed power = .34). The main effect of time showed no significant difference in mean scores for negative stereotypes towards environmentally displaced people ($F_{(1, 93)} = .42, p = .519$, partial $\eta^2 < .01$, observed power = .10). The main effect for condition showed no significant differences in negative stereotypes towards environmentally displaced people ($F_{(2, 93)} = 1.11, p = .333, \eta^2 = .02$, observed power = .24).

11.3.2.3 Realistic group threats. There was no significant interaction between the condition and time on perceptions of realistic group threats towards environmentally displaced people ($F_{(2, 93)} = 1.36, p = .263, \eta^2 = .03$, observed power = .29). The main effect of time showed a significant difference in mean scores for perceptions of realistic group threats towards environmentally displaced people ($F_{(1, 93)} = 4.18, p = .044$, partial $\eta^2 = .04$, observed power = .53). The mean score for realistic group threats was significantly higher at follow-up than at the initial session. The main effect for condition showed no significant difference in perceptions of realistic group threats towards environmentally displaced people ($F_{(2, 93)} = 1.21, p = .302$, partial $\eta^2 = .03$, observed power = .26).

11.3.2.4 Realistic individual threats. There was no significant interaction between the condition and time on perceptions of realistic individual threats towards environmentally displaced people ($F_{(2, 93)} = .91, p = .406, \eta^2 = .02$, observed power = .20). The main effect of time showed a significant difference in mean scores for perceptions of realistic individual threats towards environmentally displaced people ($F_{(1, 92)} = 10.53, p = .002$, partial $\eta^2 = .10$, observed power = .90). The mean score for realistic individual threats was significantly higher at follow-up than at the initial session. The main effect for condition showed no significant difference in perceptions of realistic individual threats towards environmentally displaced people ($F_{(2, 93)} = .56, p = .576$, partial $\eta^2 = .01$, observed power = .14).

11.3.2.5 Symbolic group threats. There was no significant interaction between the condition and time on perceptions of symbolic group threats towards environmentally displaced people ($F_{(2, 93)} = .62, p = .540, \eta^2 = .01$, observed power = .15). The main effect of time showed a significant difference in mean scores for symbolic group threats towards environmentally displaced people ($F_{(1, 93)} = 18.16, p < .001$, partial $\eta^2 = .16$, observed power = .99). The mean score for symbolic group threats was significantly higher at follow-up than at the initial session. The main effect for condition showed no significant difference in perceptions of symbolic group threats towards environmentally displaced people ($F_{(2, 93)} = 1.31, p = .276$, partial $\eta^2 = .03$, observed power = .28).

11.3.2.6 Symbolic individual threats. There was no significant interaction between the condition and time on perceptions of symbolic individual threats towards environmentally displaced people ($F_{(2, 92)} = .89, p = .415, \eta^2 = .02$, observed power = .19). The main effect of time showed a significant difference in mean scores for symbolic individual threats towards environmentally displaced people ($F_{(1, 93)} = 4.18, p = .044$, partial $\eta^2 = .04$, observed power = .53). The mean score for symbolic individual threats was significantly higher at follow-up than at the initial session. The main effect for condition showed no significant difference in perceptions of symbolic individual threats towards environmentally displaced people ($F_{(2, 92)} = 1.45, p = .240$, partial $\eta^2 = .03$, observed power = .30).

11.3.2.7 Intergroup anxiety. There was no significant interaction between the condition and time on feelings of intergroup anxiety towards environmentally displaced people ($F_{(2, 93)} = .35, p = .709, \eta^2 = .01$, observed power = .10). The main effect of time showed no significant difference in mean scores for feelings of intergroup anxiety towards environmentally displaced people ($F_{(1, 93)} = 1.11, p = .295$, partial $\eta^2 < .01$, observed power = .18). The main effect for condition showed no significant differences in feelings of intergroup anxiety towards environmentally displaced people ($F_{(2, 93)} = .19, p = .827, \eta^2 < .01$, observed power = .08).

11.3.2.8 Empathy. There was no significant interaction between the condition and time on feelings of empathy towards environmentally displaced people ($F_{(2, 93)} = 1.95, p = .148, \eta^2 = .04$, observed power = .40). The main effect of time showed a significant difference in mean scores for empathy towards environmentally displaced people ($F_{(1, 93)} = 15.89, p < .001$, partial $\eta^2 = .15$, observed power = .98). The mean score for empathy was significantly lower at follow-up than at the initial session. The main effect for condition showed a significant difference in feelings of empathy towards environmentally displaced people ($F_{(2, 93)} = 3.39, p = .038$, partial $\eta^2 = .07$, observed power = .63). However, post hoc Bonferroni tests did not detect any significant differences between the three conditions (all p 's $> .05$).

11.3.2.9 Self-other overlap. There was no significant interaction between the condition and time on self-other overlap between the self and environmentally displaced people ($F_{(2, 93)} = 2.12, p = .126, \eta^2 = .04$, observed power = .43). The main effect of time showed a significant difference in mean scores for self-other overlap with environmentally displaced people ($F_{(1, 93)} = 4.15, p = .045$, partial $\eta^2 = .04$, observed power = .52). The mean score for self-other overlap was significantly higher at follow-up than at the initial session. The main effect for condition showed no significant difference in feelings of self-other overlap with environmentally displaced people ($F_{(2, 93)} = .09, p = .914$, partial $\eta^2 < .01$, observed power = .06).

11.4 Discussion

The main purpose of this chapter was to answer two of this project's primary research questions: 1) *How effective is social perspective taking for shifting an Australian sample's attitudes towards environmentally displaced people?* and 2) *Does virtual reality enhance the effects of social perspective taking compared to normal film?* Another purpose of this chapter was to address several other secondary research questions. The following discussion examines the presented results in terms of the research questions and provides an interpretation for the results in the context of the literature covered in previous chapters. To maintain consistency and achieve clarity the following discussion is split into the same three sections that were used to present the results. Following this is a general discussion which includes the limitations of Study 2 and future directions relevant to the results presented in this chapter.

11.4.1 Examining the effect of social perspective taking and virtual reality on out-group attitudes

The results examining the effect of SPT and VR on attitudes towards environmentally displaced people partially supported hypotheses 1-10. To summarize, hypotheses 1-10 predicted participants who undertook the SPT intervention would have less negative attitudes towards

environmentally displaced people compared to those who did not undertake an SPT intervention. Those who undertook an SPT intervention did report lower prejudicial attitudes, negative stereotypes and threat perceptions towards environmentally displaced people. Furthermore, undertaking an SPT intervention also resulted in higher levels of empathy towards environmentally displaced people as well as perceiving environmental displacement to be less fair. Additionally, undertaking the SPT intervention also resulted in the participants gaining knowledge about environmental displacement from the film. What these results indicate is that certain out-group attitudes were significantly improved as a result of the SPT intervention.

One of the core goals of SPT interventions are to improve intergroup relations by reducing prejudicial attitudes towards groups. Pedersen and Hartley (2015) suggested that to successfully reduce prejudice through an anti-prejudice intervention, such as SPT, the intervention should aim to achieve outcomes such as increasing the in-groups knowledge about the out-group, use emotions - like empathy - to positively influence responding to the out-group, attempt to reduce threat perceptions and increase the amount of intergroup contact (either face to face or through digital media). The results from this study suggest the SPT intervention used has resulted in such outcomes. As such, according to Pedersen and Hartley's (2015) recommendations, it would be expected prejudice would be reduced as a result of the SPT intervention. This was the case for the current research immediately after the participants experienced the SPT intervention. The results of Study 1 as well as the ITT literature also indicate that prejudice is predicted by negative stereotypes, intergroup anxiety, perceptions of threat, empathy, intergroup contact and knowledge about the outgroup (Corenblum & Stephan, 2001; W. G. Stephan et al., 2000; W. G. Stephan & Stephan, 1996b; Tausch et al., 2009). Given that the participants who undertook the SPT intervention reported significantly lower levels of negative stereotypes and threat perceptions and significantly higher feelings of empathy and knowledge, it seems likely that prejudicial attitudes were reduced through changes in these variables. However, it is unclear at this point what lead to the changes in prejudicial attitudes. This will be explored further in this discussion and in the following chapter.

When attempting to understand the identified change in prejudicial attitudes it is useful to draw on the SPT literature. The SPT literature posits that prejudice is reduced after an SPT intervention through mechanisms such as self-other overlap, changes in attributional thinking and increased feelings of empathy (Galinsky, Ku, et al., 2005; Pedersen et al., 2011; Vescio et al., 2003). The results presented in this chapter found no significant differences in levels of self-other overlap and attributional thinking between those who undertook the SPT intervention and those who did not. Such findings would suggest that for the SPT intervention used in this project, self-other overlap and attributional thinking were not the mechanisms which led to changes in prejudicial attitudes towards environmentally displaced people. However, there was a significant difference in feelings of empathy towards environmentally displaced people between those who undertook the normal film SPT intervention and the control group. These results point to empathy over and above the other

mechanisms of change as the mechanism through which prejudicial attitudes may have been reduced. Pedersen et al. (2011) noted that empathy is so central to intergroup relations that empathy, through SPT, is likely at the core of most intergroup intervention strategies, regardless of whether that is the researcher's intention. The film, *Our Home, Our People*, is thought to elicit empathetic feelings as the film's narrative makes it clear Fijians have a strong connection with their home and community, but there is a very real risk that they will lose their home in the coming years. Anecdotally, the emotive nature of the film was noted by several of the participants.

Lending further support to the role of empathy in enacting change in prejudicial attitudes are both the broader literature on empathy as well as the results from Study 1 of this project. More specifically, a number of studies have shown that empathy plays a positive role in intergroup relations and out-group attitudes (Faulkner, 2017; Pedersen & Thomas, 2013; Thomas et al., 2009). Furthermore, the Study 1 modelling analyses (Chapter 7) consistently found empathy to be a significant predictor of prejudicial attitudes, with higher feelings of empathy predicting lower prejudicial attitudes towards environmentally displaced people. Given this, it stands to reason that the normal SPT intervention increased the participants' levels of empathy in the current study which in turn reduced the participants' prejudicial attitudes towards environmentally displaced people. However, while mean scores were higher in the VR condition compared to the control group, there was no significant effect between these conditions. This indicates that the VR condition had less of an effect on empathetic responding compared to the normal film condition. It seems likely the explanation for this effect is related to the design of the experience and the novelty of VR. More specifically, three of the four characters within the *Our Home, Our People* film do not speak in English and subtitles are shown to detail their story. Perhaps the novelty and greater visual stimulus (360 degree visuals) in the VR film distracted the participant's from focusing on the written text which details the characters story. Thus, because they were less focused on the characters story, they had a smaller empathetic response to environmentally displaced people. To add some clarity on how the SPT intervention affected out-group attitudes, the role of empathy will be further explored through the modelling analyses presented in the next chapter.

Like prejudice and empathy, undertaking the SPT intervention significantly improved the participants' negative stereotypical views about environmentally displaced people. According to Vescio et al. (2003) negative stereotypes are affected by SPT through changes in attributional thinking. However, the results of this study did not find any differences in attributional thinking dependent on whether the participants undertook the SPT intervention or not. As such, it seems unlikely that changes in attributional thinking would explain the reduction in the participants' perceptions of negative stereotypes. The results of Study 1 were drawn upon to explain the differences in the participants' negative stereotype scores between the conditions. The Study 1 modelling analyses found that negative stereotypes were significantly predicted by social dominance orientation, right-wing authoritarianism, perceptions of contact quality, empathy, intergroup anxiety and threat

perceptions. As the SPT intervention did not significantly effect changes in social dominance orientation, right-wing authoritarianism, contact and intergroup anxiety it seems unlikely changes in these variables led to significant changes in negative stereotypes. However, participants who undertook the SPT intervention reported feeling greater empathy and lower perceptions of threat towards environmentally displaced people. As such, it seems likely at least part of the difference in the participants' negative stereotypes is attributable to changes in empathy and threat perceptions.

Interpreting the difference in negative stereotypes observed in the current study as a result of the SPT intervention is particularly interesting when referring to the SPT literature. Typically research which has examined SPT has not investigated the effects SPT has on changing stereotypes, but rather uses the suppression of stereotypes as an intervention in which to compare SPT. Stereotype suppression involves actively blocking or disregarding the activation of stereotypical views about a group (Galinsky, Ku, et al., 2005; Galinsky & Moskowitz, 2000; Todd, Bodenhausen, et al., 2012). In contrast to the SPT literature, within the ITT negative stereotypes are conceptualised as an out-group attitude which is influenced by other out-group factors. As such, it appears negative stereotypes can be conceptualised and investigated as both a tool by which to reduce negative attitudes (independent variable), but also as a negative attitude itself which can be shifted with interventions such as SPT (dependent variable). This is consistent with the Study 1 modelling which found negative stereotypes to act as both a predictor of threats and prejudice as well as an outcome variable (refer to Chapter 7).

At the core of the ITT are symbolic and realistic threat perceptions (refer to Chapter 3). To summarise, if in-group members perceive an out-group to pose a threat to factors such as economic resources, healthcare, and physical safety (realistic threats) as well as worldviews and values (symbolic threats), the in-group is expected to hold prejudicial attitudes towards the out-group (C. W. Stephan & Stephan, 2000). Furthermore, these threats can be broken down further into threats to either an in-group member as an individual (e.g. environmentally displaced people do not have the same values as I do) or the in-group as a collective (e.g. environmentally displaced people do not have Australian values) (W. G. Stephan & Renfro, 2002). The results relating to threat perceptions from the current study are particularly interesting as little research has been done which looks at how SPT may change threat perceptions. Rather, the limited literature in this area examines how threat may influence the outcomes of SPT (Epley et al., 2006; Oh et al., 2016; Pierce et al., 2013).

The results from the current study indicates that all four threat perceptions – realistic individual, realistic group, symbolic individual and symbolic group – were reported to be significantly lower by participants who undertook the SPT intervention. This suggests that the SPT intervention used in this study reduced the participants' perceptions that environmentally displaced people pose a symbolic and realistic threat to both themselves as individuals as well as Australia as a whole. At this point, it is not entirely clear what may have been the cause for such changes. Both the ITT and SPT literature suggests that threat perceptions can be reduced by increasing intergroup contact (Aberson & Haag, 2007; W. G. Stephan & Stephan, 1996b; Velasco González et al., 2008). However, there were

no significant differences detected in the participants' perceptions of both contact quantity and quality between those who undertook the SPT intervention and those who did not. As such, it seems unlikely the effect of the SPT intervention on threat perceptions is due to changes in the participants' perceptions of intergroup contact. Similarly, the results of Study 1 suggest that social dominance orientation and right-wing authoritarianism significantly predict threat perceptions. However, neither scores for social dominance orientation nor right-wing authoritarianism were significantly different based on whether the participants undertook the SPT intervention or not. It could be possible that changes in self-other overlap as a result of SPT may lead to an individual reporting lower threat perceptions. That is, threat perceptions reflect individuals perceiving members of dissimilar group as posing a threat to their own group. As such, perceiving out-group members to be more similar to one's self (self-other overlap) will likely lead to reduced threat perceptions. However, undertaking the SPT intervention did not result in significant differences in the participants reported self-other overlap. It is therefore unclear at this point how the SPT intervention may have affected threat perceptions. Of course, it is entirely possible and probable there are a number of external factors that were not investigated in the current research that would explain the observed changes in threat perceptions.

Of particular interest for the current study was the question as to whether undertaking the SPT intervention resulted in lower social dominance orientation and right-wing authoritarianism levels. As covered in Chapter 3, social dominance orientation and right-wing authoritarianism are typically understood as individual factors, rather than group based constructs. However, others propose that social dominance orientation and right-wing authoritarianism are group based constructs or are a combination of both individual and group factors (Duckitt et al., 2002; Ekehammar & Akrami, 2007; Kreindler, 2005). Often, individual factors are more resistant to change compared to group based constructs. Given that the findings from Study 1 found social dominance orientation to be the strongest predictor of prejudicial attitudes, changing an individual's social dominance orientation is a potentially powerful way of influencing prejudicial attitudes. However, the results from the current study found no significant difference in mean social dominance orientation (and right-wing authoritarianism) scores between those who undertook the SPT intervention and those who did not. These results are not enough to make conclusive statements regarding the nature of social dominance orientation and right-wing authoritarianism. However, the current findings do suggest these variables are not easily changed which lends support to the premise that social dominance orientation and right-wing authoritarianism are individual factors, or at least a combination of both individual and group based factors.

The next question of interest is whether or not the observed differences were dependent on whether the SPT intervention was experienced through normal film or VR. Hypothesis 11 predicted that undertaking the SPT experience in VR, as opposed to on a computer screen, would lead to a greater reduction in negative out-group attitudes. This hypothesis was based on research which

suggests that VR can lead to a more realistic and immersive experience than other mediums such as a normal film on a computer or television screen. Such advantages have been found to enhance the positive effects of SPT (Ahn et al., 2013; Oh et al., 2016). Furthermore, increased realism and immersion during SPT are thought to reduce the cognitive demand required to perceive the perspective of others (Oh et al., 2016). In such cases, it may be easier for people to imagine another's perspective in a VR experience compared to a normal film. However, the results from this study did not find the use of VR for SPT to have any greater effect on out-group attitudes compared to normal film.

It was predicted that participants who watched the film in VR would be more immersed compared to those who watched the film on a normal computer screen. However, the results did not support this prediction and found there were no differences in the participants reported immersion between the *normal film* and *VR film* conditions. Such findings suggest that watching the *Our Home, Our People* film on a normal screen is just as immersive as watching the film in a VR headset. This lack of greater immersion in VR may explain the similarity in the participants' responses between the *normal film* and *VR film* conditions. It was recognized in Chapter 9 that any observed benefits of VR-SPT are likely not due to any procedural or methodological differences, but are the outcome of a more realistic and immersive experience. Furthermore, Gehlbach et al. (2015) suggested that the quality of the normal film compared to a VR experience is important when considering if VR will be a more powerful communication medium. The current results suggest this is the case. Perhaps the visual, auditory and narrative quality within the *Our Home, Our People* film was adequate enough that the added benefits of VR were minimal. This raises questions around the level of quality required in the visual, auditory and narrative aspects of a film to nullify the immersive effects of VR. Perhaps most interesting is the idea that the strength of the narrative may play a role in the viewers immersion in the film, over and above the medium in which it is watched. To explain, a film with a powerful narrative will likely lead to high immersion regardless of whether the film is presented on a normal screen or in VR. If this were the case, where VR may be beneficial is in increasing immersion with films that have a less immersive narrative. This presents an interesting avenue for future research into the effects of VR for storytelling.

At this point the reader is reminded that after data collection a discrepancy in the number of people assigned to the *normal film* and *VR film* conditions was detected (refer to section 10.8 for full explanation). Such a discrepancy may have contributed to the non-significance found between the *normal film* and *VR film* conditions. To reiterate, some of the participants inaccurately reported that they watched a VR film, when they had actually watched the normal film. As this self-report method was the primary way of tracking the participant's condition, some participants who were actually in the *normal film* condition were assigned to and analysed as though they were in the *VR film* condition. As such, they did not undertake the VR experience and their responses do not reflect the responses for the *VR film* condition. These participants may have skewed the *VR film* condition data to more closely

align with the *normal film* condition data, thus reducing the mean differences between these groups and limiting the ability of statistical analyses to detect significant differences. Therefore, the findings which compare the *normal film* and *VR film* conditions should be interpreted cautiously and with these considerations in mind. However, when considering the total size of the *VR film* group ($N = 66$) in comparison to the few misclassified individuals ($\approx 10-15$), it seems unlikely the misclassified individuals had scores extreme enough to meaningfully reduce the overall average score. Furthermore, if VR did have a strong effect on out-group attitudes one would still expect to see greater differences in mean scores between the *normal film* and *VR film* conditions than those observed. As such, even if VR did have an effect, it is likely it was only small.

Last to be discussed in this section are the non-significant differences in contact perceptions between those who undertook SPT and those who did not. Perceptions of both contact quality and contact quantity have been found to play a role in out-group attitudes (Aberson & Gaffney, 2009; Velasco González et al., 2008). Indeed, the findings from Study 1 found perceptions of contact quality predicted empathy, threat perceptions, intergroup anxiety, negative stereotypes and prejudice. Furthermore, Pedersen and Hartley (2015) identified contact as a way to reduce the dehumanization of out-groups and suggested film could be a way to increase contact between groups. However, the current results suggest that watching the film *Our Home, Our People* did not change perceptions of either contact quantity or quality. At face value these results suggest that film is not effective for improving contact perceptions. However, when considering how most people would define contact, these results are not surprising and may suggest a more nuanced measure for assessing contact perceptions is required. Typically, one would not consider watching a film about a character as having contact with that character. For instance, after watching Jurassic Park, one would not state they have had contact with dinosaurs. As such, for contact perceptions to change after watching a film, greater interaction may be needed than simple observation of a character. This presents an avenue for future research to determine what people would consider to be contact while watching a film. Perhaps the ability to interact with characters within a VR experience is a possible avenue for improving intergroup relations through contact.

The above discussion brings to light the difference between indirect and direct contact, and the requirement for appropriate measures to assess each form of contact. Watching the *Our Home, Our People* film constitutes indirect contact. However, the measure used to assess contact in the current study is more appropriate for assessing direct forms of contact. As such, while the measure used to assess contact in the current study did not detect any differences, this does not necessarily mean the contact experienced in the *Our Home, Our People* film was not effective in adjusting attitudes. Rather, the current findings imply the measure used was unable to detect more subtle shifts in contact perceptions, and the indirect contact experienced while watching the film did not adjust overt perceptions of contact. That is, the participants who watched *Our Home, Our People* had indirect contact with environmentally displaced people by observing a character, and it is entirely

likely this indirect contact may have had an effect on out-group attitudes. Perhaps ‘exposure’ would be a better term to use for the indirect form of contact. Exposure to out-groups would likely work in the same way as the contact hypothesis, but is not limited to the same definitional issues as contact.

11.4.2 Examining the long-term effects of the social perspective taking intervention on out-group attitudes

A number of studies have found the beneficial effects of SPT to last for longer than the experimental session (Batson et al., 1997; Clore & Jeffery, 1972; Devine et al., 2012; Todd & Burgmer, 2013). To summarise, Clore and Jeffery (1972) found that participants who were placed in wheelchairs had a positive attitude shift towards people with disabilities both immediately after the experiment and at four month follow up. Another study found evidence to suggest the elicitation of empathy during an SPT experience had a strong impact on attitudes towards murderers at one to two weeks after the experiment, with attitudes more positive at the follow up assessment (Batson et al., 1997). More recent evidence has shown SPTs positive effects on attitudes towards African Americans were still present at a 24-hour follow-up (Todd & Burgmer, 2013). Furthermore, Devine et al. (2012) showed the effects of a prejudice reduction intervention which included SPT to have positive effects on racial attitudes after eight weeks. Given the results of these studies, it was hypothesised the SPT intervention would reduce the participants’ negative attitudes towards environmentally displaced people more than two weeks after the initial session. However, the results of this study did not support this hypothesis. Rather, the participant’s had greater negative attitudes at follow-up compared to attitudes at the initial session regardless of whether they were in the *normal film*, *VR film* or *control* condition.

Comparing the study designs of the previous studies with the current study may explain why there is a discrepancy between the previous findings and the current findings, as well as what may be required to ensure positive long-term effects. To explore this, each of the above studies will be explored and considered separately in relation to the current study. To begin with, Clore and Jeffery (1972) placed participants in a wheelchair where participants role played a scenario where they had recently been in a car accident which had left them permanently paralysed. The participants were asked to remain in a wheelchair while they navigated a particular route around the university campus. Such an experience would be very salient and is an extremely effective way of providing the participants with a direct and tangible experience about the perspective of the out-group. In contrast, the current intervention involved the participants imagining how they would think, feel and behave if they were in the shoes of the character within a film. In Clore and Jeffery’s (1972) intervention the participants had a more direct and longer experience of the out-groups perspective, whereas the participants in the current study had a shorter, imagined experience of the out-groups perspective. As such, it may be the saliency of Clore and Jeffery’s (1972) intervention resulted in the longer lasting impact on the participants compared to the current study. Interventions should therefore aim to have

more direct, salient strategies of placing the participants in the shoes of the out-group. Indeed, VR may be one approach to achieve this, though, as discussed above, the conditions for VR's effective use needs further investigation.

The measurement of out-group attitudes within Batson et al.'s (1997) study likely explains why they detected improved attitudes towards murderers at 1-2 weeks after the initial session. To explore this, it is necessary to understand the study's procedure. In Batson et al.'s (1997) study the participants were presented with perspective taking instructions which elicited either high or low empathy. The participants then listened to a video-taped interview which featured a convicted murderer. After listening to the tape, the participants completed a measure of attitudes towards convicted murders. This attitude measure was completed alone and on paper. One to two weeks later the participants were contacted via phone to complete the follow-up component of the study. They were unaware they were undertaking the follow-up and thought the telephone interview was for a separate project. The items asked during the telephone interview were different to those asked in the initial session. Considering this procedure, two factors are identified as the possible reason for the more positive responding towards convicted murderers at follow-up. The initial factor is the difference in how attitudes were measured. However, Batson et al. (1997) recognised this difference and suggested it was unlikely as there were fewer items in the telephone interview and there was a restricted response scale. However, Batson et al. (1997) did not consider how the method of collecting the participants' responses may have influenced responding. In the initial phase the participants were alone and responded on paper. In the follow-up phase the participants were interviewed over the phone. It is likely the participants may have responded more positively in the follow-up phase as their responses were recorded by another person other than themselves. Hence, the observed differences in attitudes may not have been due to the intervention, but rather the different method for measuring attitudes.

Next to be considered are the findings for Todd and Burgmer (2013). Their findings may indeed represent an effect outside of the experimental session. However, Todd and Burgmer's (2013) follow-up component was only 24-hours after the initial session. While promising, such results may be due to short-term carry over effects rather than long-term changes in participant attitudes. Last, Devine et al.'s (2012) intervention included five different strategies for reducing prejudice over a 12-week period. Perspective taking was one of the five strategies. In contrast, the current study only exposed the participants to a single perspective taking experience. Devine et al.'s (2012) project stresses the importance of using multiple methods over an extended period of time. As such, the current intervention of undertaking SPT while watching the film *Our Home, Our People* would be most effective as part of a larger intervention strategy which involves different approaches over a longer period of time.

11.4.3 Limitations and future directions

Some of the limitations of the current study have already been discussed above. Perhaps most importantly is the identified discrepancy in the number of people assigned to the *normal film* and *VR film* conditions. The comparison analyses between these two conditions should be interpreted with this in mind, and the patterns within the data should be considered closely. Another limitation of the current study is the effect sizes of the SPT intervention. Many of the statistically significant differences found in the results had small effect sizes. While this is important to note, it is also important to consider that the SPT intervention investigated here would ideally be used as part of a larger, longer-term approach which would result in larger effect sizes. As discussed by Pedersen and Hartley (2015), interventions should include more than one strategy and should occur over longer periods. Furthermore, persuasion research indicates repetition of information or messages is also helpful for inducing attitudinal change (Moons et al., 2009). As such, the small effect size observed in the current study is ideally just one part of a much larger, more effective intervention strategy.

One reason for the small effects both within the current study and other research in this area is likely partly due to the study design. To explain, a large proportion of the sample, and more broadly the in-group population, already holds positive attitudes towards the out-group or in this case environmentally displaced people. Indeed, as identified in Study 1 approximately 65% of the sample held positive attitudes towards environmentally displaced people. Given this, an intervention aimed at reducing negative attitudes will only have a small effect (if any) on out-group attitudes for a large proportion of the sample. Perhaps a pre-post study design would be more beneficial for accurately detecting the SPT intervention effects. That is, in a pre-post design the participants who already held negative attitudes could be identified separately in order to examine the effect size of the intervention for only those who hold negative attitudes. Furthermore, it is rather promising that even considering this design limitation significant changes in attitudes towards environmentally displaced people were detected after watching a single, short film.

Another design limitation of the current study is the inability to completely isolate the effect of SPT from the effect of watching the film. More specifically, given the current design it is difficult to determine if the observed effects are the result of undertaking an SPT intervention or are simply an outcome from watching the *Our Home, Our People* film. To truly examine this, an extra experimental condition which involved watching the film without being given the SPT instructions was needed. Having this extra condition would allow for comparisons between the effect of the film alone, and the effect of the film with the SPT intervention. While these comparisons cannot be made on the current data, modelling analyses can be conducted to determine whether the level of SPT engagement predicts out-group attitudes. This at least demonstrates whether the SPT intervention had an independent effect on out-group attitudes. These analyses were conducted and are presented in the following chapter.

The final limitation of the current results is the inability to determine directional effects. For instance, the presented results do not indicate whether prejudice was reduced directly from the SPT

intervention, or through SPTs effect on empathy, self-other overlap or attributional thinking. Several other gaps in understanding the directional effects have been identified in the above discussion. Modelling analyses can address these gaps and examine the directional effects of the SPT intervention on out-group attitudes towards environmentally displaced people.

11.5 Chapter Summary

Overall, this study's results suggest that the SPT intervention used in this study was effective at reducing a number of negative out-group attitudes. However, these beneficial effects were not seen more than two weeks after the initial session. These results suggest that the SPT intervention used in the current study presents a promising approach to reducing negative Australian attitudes towards environmentally displaced people. However, to increase the benefits of the current intervention, it should be used alongside other interventions over a longer period. Several areas for future research were identified. One particular area for future research is to identify the immersive value of VR as opposed to a strong narrative. Perhaps most importantly was the need for this study's data to be modelled in order to examine the directional effects of the SPT intervention on out-group attitudes. As such, structural equation modelling was undertaken and is presented in the following chapter.

Chapter 12: Study 2 Results and Discussion, Part 2 - Modelling the Effect of Social Perspective Taking on Out-group Attitudes

The previous chapter examined whether social perspective taking (SPT) had an effect on the participants' attitudes towards environmentally displaced people. Furthermore, the previous chapter also examined the long-term effect of the intervention. However, as identified there were some gaps remaining after these analyses which were best addressed using modelling analyses. As such, the purpose of the current chapter was to address these identified gaps and present modelling analyses which aim to answer the questions that emerged out of the previous chapter. The current chapter presents the research questions, hypotheses and results related to the modelling analyses for Study 2. The discussion of these results is also presented within this chapter.

12.1 Identified Gaps

Social perspective taking interventions aim to improve intergroup relations by reducing prejudicial attitudes between groups (refer to Chapter 8). The literature suggests that increasing self-other overlap, changing attributional thinking and increasing feelings of empathy will lead to such changes. Furthermore, SPT interventions are thought to positively influence many of the Integrated Threat Theory (ITT) variables including intergroup anxiety, intergroup contact, knowledge about the out-group, perceptions of threat, status inequalities and conflict. Indeed, the results from Study 2 did find that participants who undertook the SPT intervention reported significantly lower levels of prejudicial attitudes and threat perceptions and significantly higher levels of empathy. Given that the results from Study 1 as well as the bulk of the ITT literature has found empathy and threat perceptions to significantly predict prejudicial attitudes it seems likely the observed changes in these variables may have played a role in reducing prejudicial attitudes. However, the Study 2 analyses conducted so far could not directly explore the relationships between the variables to answer whether SPT affected prejudice directly or indirectly through other variables such as self-other overlap, empathy and threat perceptions. Thus, the present chapter aimed to present modelling analyses that examined the relationships between the variables and the direction of effects. The benefit of this is not just to understand how prejudice was affected by SPT, but also how SPT interacted with the other ITT variables such as empathy, anxiety and threat perceptions.

In the same way as prejudice, negative stereotypes were also expected to be reduced by undertaking the SPT intervention. The Study 2 results did find that those who undertook the SPT intervention had lower levels of negative stereotypes. However, again the Study 2 analyses presented so far could not directly explore the relationships between the variables to answer whether SPT affected negative stereotypes directly or indirectly through other variables. The results of Study 1 of this project found that between 49-62% of the negative stereotypes variance was predicted by social dominance orientation, right-wing authoritarianism, perceptions of contact quality, empathy,

intergroup anxiety and threat perceptions. The Study 2 results found that SPT positively influenced empathy and threat perceptions. Thus, it is likely negative stereotypes may have been affected by SPT indirectly through empathy and threat perceptions. Furthermore, Vescio et al. (2003) proposed that changes in attributional thinking and emotional responses towards the target individual as a result of SPT may conflict with previously held negative stereotypes. Thus, Vescio et al. (2003) suggests that changes in attributional thinking after SPT will in time lead to changes in negative stereotypes in order to make two conflicting perspectives similar. While there were no significant differences between those who undertook the SPT intervention and those who did not on scores for either situational or dispositional attributional thinking, it was still seen as important to investigate Vescio et al. (2003) concept and model whether dispositional thinking was related to negative stereotypes.

12.2 Research Questions

The results of this chapter address one of this project's primary research questions *1) How effective is social perspective taking for shifting an Australian sample's attitudes towards environmentally displaced people?* Three secondary research questions were also made based on the above reviewed literature and identified research gaps. The secondary research questions that follow are specifically related to the analyses and results conducted in this chapter.

1. What are the relationships between SPT and the ITT variables?
2. How does SPT influence changes in prejudicial attitudes and negative stereotypes?
3. Does attributional thinking predict negative stereotypes?

12.3 Data Treatment

Missing data was treated using Full Information Maximum Likelihood methods. For full details on missing data treatment, refer to the study's method in Chapter 10 (refer to section 10.9). Inspection of the data determined it was not multivariate normal. As such, the Bollen and Stine (1992) bootstrapping post hoc adjustment which accounts for non-normality was run on the models. As recommended by Arbuckle (2016), 500 bootstrap samples were run. Nevitt and Hancock (2001) have found the Bollen-Stine Bootstrapping estimates to have less bias compared to standard Maximum Likelihood estimates under conditions of non-normality with samples >100. Inspection of outliers suggested they were valid sample responses from the population of interest. As these cases were thought to be valid, it was seen as inappropriate to remove them from the analysis.

For structural equation modelling sample size is an important issue. While the required sample size depends on a number of different considerations, a general rule of thumb is the ratio of cases to parameter estimates should be optimally 20:1 and minimally 10:1, with a minimum sample size of 100 (Blunch, 2013; Kline, 2016). However, Stevens (1986) and Bentler and Chou (1987) have suggested a 5:1 ratio is appropriate. Given these considerations with the current sample size of 193 no more than 38 parameters should be estimated, with the optimal number of parameters being 10. As the

models to be tested have no more than 38 parameters and the final three models have 28 (Model 5) and 36 (Model 6) parameters, the current sample size was considered appropriate.

To optimize the number of variables which can be tested in a model the Holmes-Smith and Rowe (1994) approach was used to reduce the number of parameters to be estimated. The process for this approach was explained in Chapter 7. To summarise, this approach separates the estimation of the measurement and structural parts of the model and thus reduces the number of parameters which need to be estimated in the final model. First, composite scores based on the variable's CFA were computed for the latent constructs. It must be noted that when the CFA was undertaken on the data from Study 2, the factor structure found in Study 1 for prejudice was not supported. As such, the CFA was re-run on the Study 2 data to ensure the most appropriate factor structure was used for the following modelling (refer to Appendix L for Study 2 CFA results). The composite scores were calculated using the items factor score regression weights computed during the CFA. After the composite scores were calculated, the Munck (1979) approach was used to calculate the latent constructs factor loadings and error variances. As a result of the above steps, a single reflective indicator was used as the composite measure of its associated latent construct, rather than the constructs' multiple items. Furthermore, the calculated factor loadings and error variances were fixed in the model. This reduced the number of parameters to be estimated and increased the models accuracy. Given the limited number of parameters which could be tested due to the sample size, the four threat variables were merged into two. Realistic individual and group threats were merged to form a single realistic threat variable. In the same way, symbolic individual and group threats were merged to form a single symbolic threat variable. These variables were merged by simply finding the average of the two relevant threat variables. This was seen as appropriate as the findings from Study 1 found these variables to be highly correlated and to predict each other within the models. Furthermore, within the current sample correlations between the two realistic and two symbolic threat variables were strong ($.782, p < .01$ and $.753, p < .01$ respectively).

A different process was followed for social dominance orientation, right-wing authoritarianism, self-other overlap, contact quality, immersion and SPT. For social dominance orientation and right-wing authoritarianism a slightly different process was used as these are relatively established scales. As such, the composite score for these were calculated using the scales recommended approach of calculating the unweighted average, rather than using the factor score regression weights. For self-other overlap, contact quality, immersion and SPT these variables were assessed with one item. Hence, they were entered into the model as observed variables. It is important to note here that for the following analysis SPT was not used as a grouping variable. The participants were asked to rate how much they undertook SPT while watching the film on a 10-point scale. It is this self-reported measure of SPT that was used for the following analyses.

12.4 Criteria for Model Fit

In order to determine if the tested models have acceptable model fit a number of model fit indices were consulted. Table 30 presents a summary of the relevant fit indices. For more information on the fit indices refer to Chapters 6 and 7 (sections 6.2 and 7.6).

Table 30: *Summary of indices for assessing acceptable model fit.*

Fit index name	Abbrev.	Acceptable level	Description
Chi-square	χ^2	$p > .05$	Tests the hypothesis that there is no difference between the implied variances and covariances and the empirical sample variances and covariances.
Root Mean-Square Error Approximation	RMSEA	RMSEA $< .06$ PCLOSE $> .05$ 90% RMSEA CI $= \approx 0 - < .08$	A measure of how well the model would fit the population's covariance matrix.
Standardised Root Mean-Square Residual	SRMR	SRMR $< .08$	A measure of the difference between the residuals of the sample covariance matrix and the hypothesised covariance model.
Goodness-of-fit and Adjusted Goodness-of-fit	GFI AGFI	GFI $> .95$ AGFI $> .90$	A measure of how closely the model replicates the observed covariance matrix.
Akaike Information Criterion and Bayesian Information Criterion	AIC BIC	N/A	Useful for comparing alternate models. The model which has the smallest AIC and BIC values is considered to be the better fitting model.

12.5 Structural Equation Modelling

Prior to modelling the variables, Pearson's correlations were performed on the new composite scores for all the variables. A correlation table with means and standard deviations is shown in Table 31. Inspection of Table 31 indicates that while there were some significant correlations, there were no strong correlations between SPT and out-group attitudes. Furthermore, the out-group attitude variables did not correlate as strongly as expected or as observed in Study 1. One exception is the strong correlation between SPT and immersion ($r = .93$). Due to this high correlation issues with multicollinearity were investigated. The VIF and tolerance values were in the appropriate range. Issues with multicollinearity were still monitored while undertaking the modelling and no issues were detected.

The variables within the ITT were modelled using Structural Equation Modelling (SEM) within the AMOS V25 program. Model parameters were estimated using the Maximum Likelihood (ML) procedure. Four separate models were tested and presented in this chapter in order to answer the identified research questions. For each of these four models a hypothesised model was specified and re-specified. The hypothesised models were based on the covered literature, the findings from Study 1 as well as the Study 2 findings.

12.5.1 Model 5 - Testing social perspective taking in the Integrated Threat Theory for predicting prejudice. As there was a limited number of parameters which could be estimated based on this study's sample size, not all of the ITT variables could be included in this model. As such, only those that were thought most relevant were included. Figure 40 depicts the hypothesised Model 5. This initial model had poor model fit ($\chi^2 = 245.99$, $df = 30$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .194, PCLOSE = .000, 90% RMSEA CI = .172-.216; SRMR = .123; GFI = .826; AGFI = .617; AIC = 317.99, BIC = 435.45). To improve model fit the model was re-specified using the same steps outlined in Chapter 6. To reiterate, all non-significant paths were removed. The modification indices produced by AMOS and described by Jöreskog and Sörbom (1984) were then consulted to add in theoretically sound pathways. With each path modification, path significance levels were reviewed and any new non-significant paths were removed from the model. During this process the Akaike Information Criterion (AIC) and Consistent Akaike Information Criterion (CAIC) indices were monitored to ensure the model was parsimonious. The re-specified model can be seen in Figure 41. After re-specification the model fit indices suggest the model fit was acceptable ($\chi^2 = 38.08$, $df = 38$, $p = .466$; Bollen-Stine Bootstrap $p = .517$, RMSEA = .003, PCLOSE = .946, 90% RMSEA CI = .000-.051; SRMR = .050; GFI = .965, AGFI = .939; AIC = 94.08, BIC = 185.43).

Table 32 presents the standardised direct, indirect and total effects for the relationships between the variables in the re-specified Model 5. Inspection of Table 32 indicates SPT directly predicted empathy and had an indirect effect on prejudice through empathy. SPT did not predict any other variables. Empathy directly predicted prejudice, but also had a small indirect effect through threat perceptions. Importantly, empathy was the strongest predictor of prejudice (total standardised effect = -.36). Also of interest is the role of immersion. The level of immersion experienced by the participants appears to have strongly predicted the amount the participants undertook SPT. Furthermore, immersion also predicted threat perceptions, empathy and prejudice. Self-other overlap and contact quality both predicted social dominance orientation and right-wing authoritarianism. Also of note is intergroup anxiety which did not significantly predict prejudice. There was also a positive relationship between intergroup anxiety and empathy which was in the opposite direction to what was expected.

Table 31: *Pearson's correlation coefficients between all dependent variables and social perspective taking (SPT).*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Mean(SD)
1.SPT																	4.96(3.93)
2. Prejudice	.11																1.49(.84)
3. Empathy	.33**	.40**															8.33(1.73)
4.Neg. Ster	.26**	.31**	.24**														2.33(1.36)
5.Int. Anx	.06	.16*	.03	.28**													2.35(1.52)
6.Real. Threats	.23**	.30**	.32**	.51**	.40**												2.09(.76)
7.Sym. Threats	.25**	.38**	.41**	.48**	.34**	.80**											1.68(.66)
8. SDO	.11	.28**	.36**	.21**	.16*	.37**	.45**										1.71(.60)
9. RWA	.04	.16*	.03	.22**	.19*	.30**	.30**	.21**									2.73(.57)
10. Contact-Qual	.03	.08	.13	.13	.12	.17**	.18*	.23**	.23**								6.89(2.08)
11. In-grp ID	.04	.19**	.10	.12	.11	.16**	.21**	.13	.34**	.06							3.21(.59)
12. Per self-est.	.02	.03	.02	.20**	.22**	.25**	.14	.01	.05	.10	.03						3.56(.65)
13. Att. Think. – Situ.	.05	.00	.12	.18*	.08	.16*	.19**	.20**	.16*	.10	.09	.20**					4.27(.63)
14. Att. Think. – Disp.	.06	.03	.28**	.15*	.01	.23**	.26**	.26**	.09	.11	.15*	.06	.31**				1.74(.81)
15. Self-other overlap	.05	.02	.13	.18*	.18*	.24**	.21**	.20**	.25**	.19**	.16*	.23**	.16*	.20**			3.45(1.93)
16. Immersion	.93**	.12	.33**	.22**	.03	.24**	.26**	.11	.07	.01	.07	.05	.03	.04	.06		5.03(3.89)

Note: SDO = social dominance orientation, RWA = right-wing authoritarianism

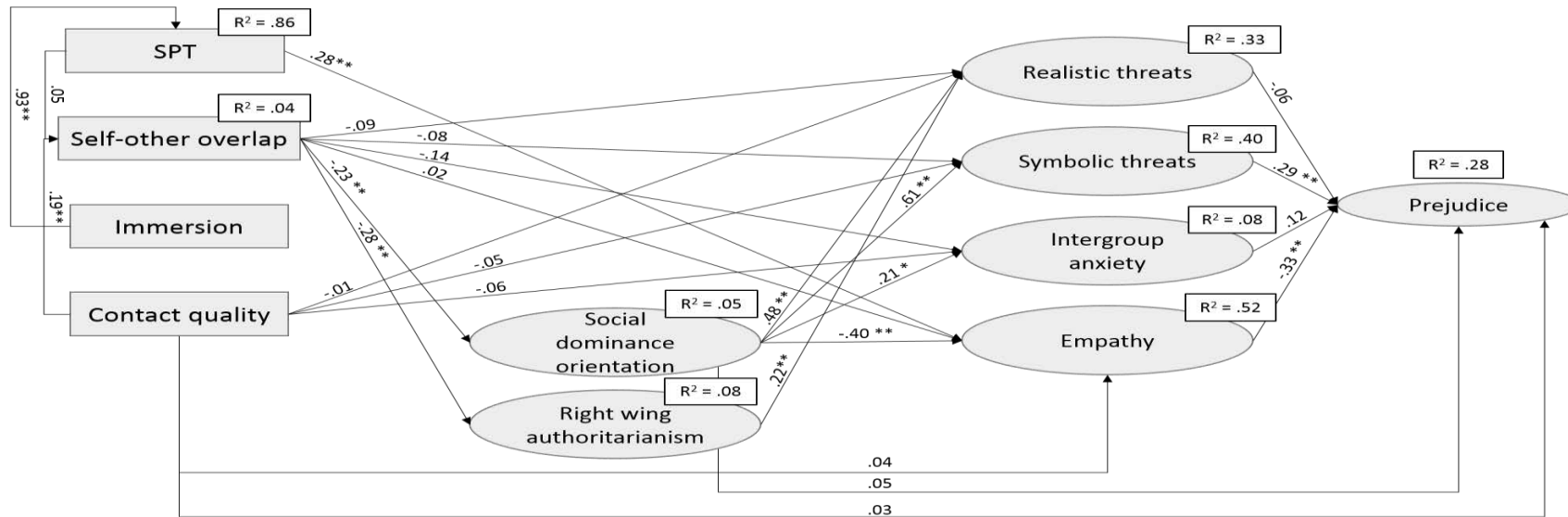


Figure 41. Initial path specification for Model 5 – Testing SPT in the ITT for predicting prejudice. Rectangles represent observed variables and ellipses represent latent variables. Standardised regression weights shown. * = $p < .05$, ** $p < .01$.

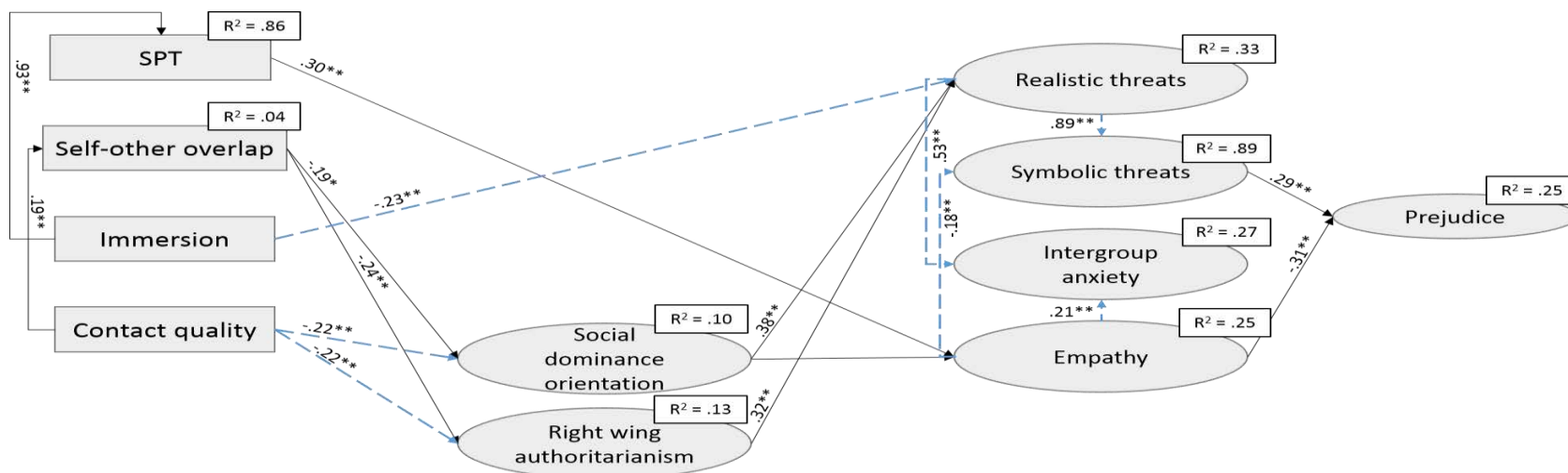


Figure 42. Re-specified Model 5 – Testing SPT in the ITT for predicting prejudice. Rectangles represent observed variables and ellipses represent latent variables. Solid black lines indicate original paths. Dotted blue lines indicate re-specified paths. Non-significant paths not shown. Standardised regression weights shown. * = $p < .05$, ** $p < .01$.

Table 32: *Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 5.*

Predictor															
Factor being predicted	SPT			S-O overlap			Immersion			Contact qual.			SDO		
	D	I	T	D	I	T	D	I	T	D	I	T	D	I	T
SPT	-	-	-	0		0	.93	0	.93	0	0	0	0	0	0
S-O overlap	0	0	0	-	-	-	0	0	0	.19	0	.19	0	0	0
SDO	0	0	0	-.19	0	-.19	0	0	0	-.22	-.04	-.26	-	-	-
RWA	0	0	0	-.24	0	-.24	0	0	0	-.22	-.04	-.26	0	0	0
Real. threats	0	0	0	0	-.15	-.15	-.23	0	-.23	0	-.18	-.18	.38	0	.38
Sym. threats	0	-.06	-.06	0	-.15	-.15	0	-.26	-.26	0	-.18	-.18	0	.40	.40
Int. Anx.	0	.06	.06	0	-.06	-.06	0	-.07	-.07	0	-.07	-.07	0	.12	.12
Empathy	.30	0	.30	0	.08	.08	0	.28	.28	0	.10	.10	-.40	0	-.40
Prejudice	0	-.11	-.11	0	-.07	-.07	0	-.16	-.16	0	-.08	-.08	0	.24	.24

Predictor Cont.															
	RWA			Real. threats			Sym. threats			Int. Anxiety			Empathy		
	D	I	T	D	I	T	D	I	T	D	I	T	D	I	T
SPT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S-O overlap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SDO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RWA	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Real. threats	.32	0	.32	-	-	-	0	0	0	0	0	0	0	0	0
Sym. threats	0	.28	.28	.88	0	.88	-	-	-	0	0	0	-.18	0	-.18
Int. Anx.	0	.17	.17	.53	0	.53	0	0	0	-	-	-	.21	0	.21
Empathy	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
Prejudice	0	.08	.08	0	.26	.26	.29	0	.29	0	0	0	-.31	-.05	-.36

Note: SDO = social dominance orientation, RWA = right-wing authoritarianism.

12.5.2 Model 6 - Testing social perspective taking in the Integrated Threat Theory for predicting negative stereotypes. The modelling results from Study 1 suggested that negative stereotypes may be best conceptualised as an outcome variable as opposed to a predictor of prejudice. These findings as well as the requirement to limit the number of parameters to be estimated in any one model led to the decision to examine negative stereotypes as an outcome variable separate to prejudice. Figure 41 depicts the hypothesised Model 6 with negative stereotypes as an outcome variable. This initial model had 42 parameters, which is above the maximum liberal limit of 38. As such, four paths that were not significant in Model 5 were removed. These included paths from contact to realistic and symbolic threats, intergroup anxiety and empathy. The re-specification process

resulted in the same final model regardless of whether these paths were removed or remained in the original model specification. The initial model had poor model fit ($\chi^2 = 309.67$, $df = 53$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .159, PCLOSE = .000, 90% RMSEA CI = .142-.176; SRMR = .130; GFI = .813; AGFI = .679; AIC = 385.67, BIC = 391.65). To improve model fit the model was re-specified using the same steps described above. The re-specified model can be seen in Figure 43. After re-specification the model fit indices suggest the model fit was acceptable ($\chi^2 = 54.09$, $df = 55$, $p = .510$; Bollen-Stine Bootstrap $p = .575$, RMSEA < .001, PCLOSE = .980, 90% RMSEA CI = .000-.044; SRMR = .057; GFI = .960, AGFI = .933; AIC = 126.09, BIC = 243.54).

Table 33 presents the standardised direct, indirect and total effects for the relationships between the variables in the re-specified Model 6. Inspection of Table 33 indicates that similar relationships between self-other overlap, immersion, contact quality, social dominance orientation, right-wing authoritarianism, threats, intergroup anxiety and empathy emerged as those found in Model 5. Of particular interest in this model are the variables which predicted negative stereotypes as well as the role of situational and dispositional attributional thinking within the model. Interestingly, only realistic threats and SPT directly predicted negative stereotypes. Furthermore, neither situational nor dispositional attributional thinking predicted any other variables within the model. However, both situational and dispositional attributional thinking were predicted by numerous variables within the model. Specifically, situational attributional thinking was directly predicted by contact quality, social dominance orientation and right-wing authoritarianism as well as being indirectly predicted by self-other overlap. Dispositional attributional thinking was directly predicted by situational attributional thinking and empathy as well as being indirectly predicted by SPT, self-other overlap, immersion, social dominance orientation and right-wing authoritarianism.

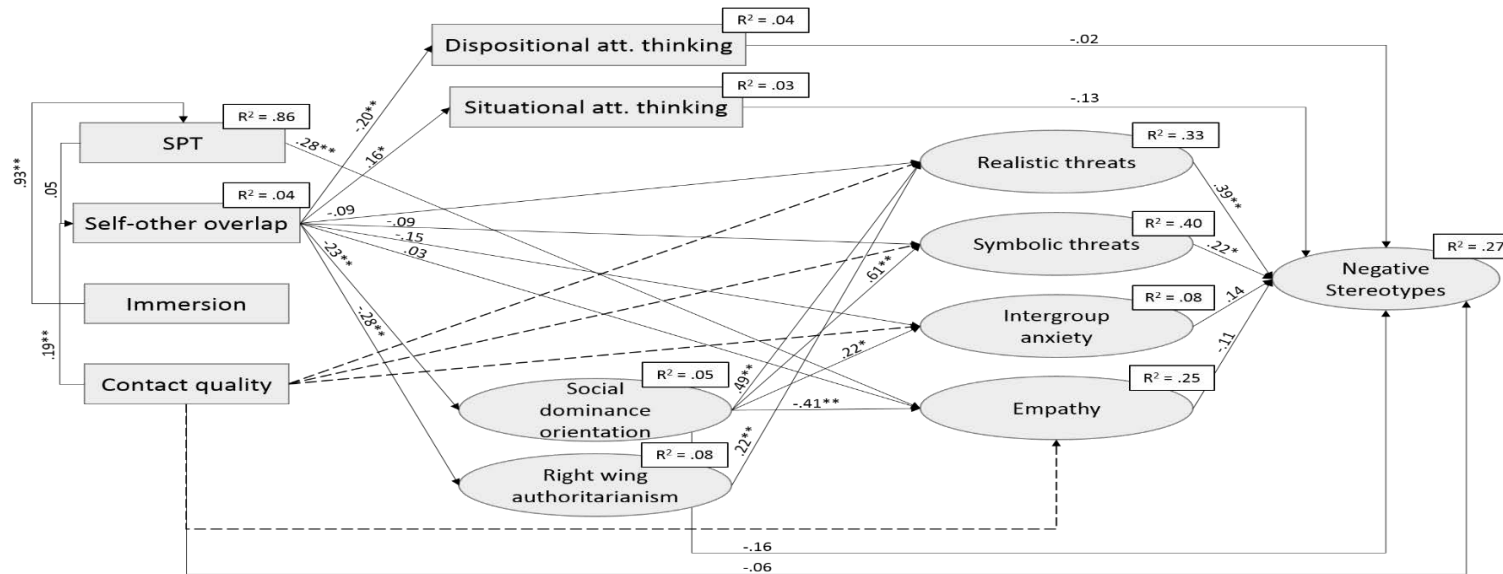


Figure 43. Initial path specification for Model 6 – Testing SPT in the ITT for predicting negative stereotypes. Rectangles represent observed variables and ellipses represent latent variables. Dotted lines represent removed paths. Standardised regression weights shown. * = $p < .05$, ** $p < .01$.

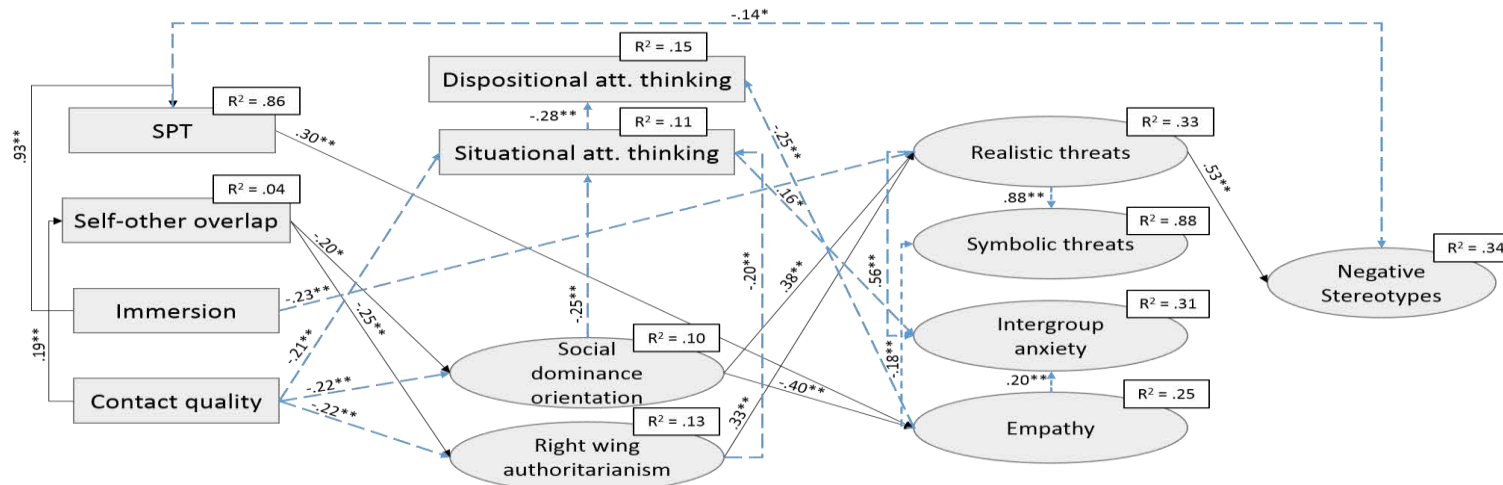


Figure 44. Re-specified Model 6 - Testing SPT in the ITT for predicting negative stereotypes Rectangles represent observed variables and ellipses represent latent variables. Solid black lines indicate original paths. Dotted blue lines indicate re-specified paths. Non-significant paths not shown. Standardised regression weights shown. * = $p < .05$, ** $p < .01$.

Table 33: *Standardised direct (D), indirect (I) and total (T) effects for the re-specified Model 6.*

[illegible]

S-O overlap	0	0	0	0	0	0	0	0	0	0	0	0
SDO	0	0	0	0	0	0	0	0	0	0	0	0
RWA	0	0	0	0	0	0	0	0	0	0	0	0
Sit. att think	0	0	0	0	0	0	0	0	0	0	0	0
Dis. att. think	0	0	0	0	0	0	0	0	0	0	0	0
Real. threats	-	-	-	0	0	0	0	0	0	0	0	0
Sym. threats	.88	0	.88	-	-	-	0	0	0	0	0	0
Int. Anx.	.56	0	.56	0	0	0	-	-	-	.20	0	.20
Empathy	0	0	0	0	0	0	0	0	0	-	-	-
Neg. Stereo.	.53	0	.53	0	0	0	0	0	0	0	0	0

Note: SDO = social dominance orientation, RWA = right-wing authoritarianism

12.6 Discussion

12.6.1 Examining the role of social perspective taking within the Integrated Threat Theory

The SPT literature theorizes that prejudice is reduced after an SPT intervention by increasing perceptions of self-other overlap, changing attributional thinking and increasing feelings of empathy (Galinsky, Ku, et al., 2005; Pedersen et al., 2011; Vescio et al., 2003). The results presented in the previous chapter found no significant differences in levels of self-other overlap and attributional thinking between those who undertook the SPT intervention and those who did not. However, there was a significant higher level of reported feelings of empathy towards environmentally displaced people for those who undertook the SPT intervention compared to those who did not. These results suggest empathy is the mechanism through which the current SPT intervention led to changes in prejudice and the other out-group attitudes. The presented modelling analyses investigated this in both Models 5 and 6 which examined the directional effects of SPT within the ITT. As expected based on the previous chapter findings, there was no relationship between SPT, self-other overlap and situational attributional thinking. Furthermore, there was only a very weak indirect relationship between SPT and dispositional attributional thinking. However, there was a direct relationship between SPT and empathy as well as between SPT and negative stereotypes. Furthermore, through empathy SPT had an indirect effect on prejudice and threat perceptions. These findings suggest that the SPT intervention used in the current study increased the participants' feelings of empathy towards environmentally displaced people, and this in turn reduced prejudicial attitudes and threat perceptions towards environmentally displaced people.

Such findings lend support to the role of empathy in reducing negative out-group attitudes. However, these findings are specific to the SPT intervention used in the current project, and do not conclusively indicate that self-other overlap and attributional thinking are not mechanisms through which SPT improves intergroup relations. Given the large support found for the influence SPT has on self-other overlap, it is interesting to ask why the current intervention did not increase the participants' perceptions of self-other overlap between themselves and environmentally displaced people. This is particularly relevant as the participants were given imagine-self perspective taking instructions which has been linked to increased self-other overlap (Davis et al., 1996). Perhaps the *Our Home, Our People* film highlighted differences between the current sample and environmentally displaced people more than it highlighted similarities. To specify, the film provided a glimpse of the day to day lives of Fijian people, which is greatly different to this sample's experiences. For instance, the characters in the film live in a small village and were shown undertaking tasks such as farming, re-building homes after a cyclone, canoeing down a river and picking coconuts. Furthermore, the challenge of dealing with environmental effects and the impact that will have on Fijian people is stressed in the film. The current sample was predominantly university undergraduate students. The challenges and day to day rituals of a university student are very different to those presented in the film. While some similarities were displayed, such as one of the characters enjoying netball and students attending school, the film likely emphasised the vastly different challenges which are faced by Pacific islanders. Given these considerations, it is not surprising the current sample did not perceive greater overlap between themselves and environmentally displaced after watching the film.

Yet, self-other overlap did directly predict social dominance orientation and right-wing authoritarianism. It therefore appears increased levels of self-other overlap are related to reduced tendencies to endorse societies/relationships which are grounded in group-based social hierarchies as well as reduced tendencies to support right-wing authority and conventional norms and values. This is a promising finding as it tentatively suggests that increasing one's self-other overlap may reduce one's level of social dominance orientation and right-wing authoritarianism, two variables which have been found to predict prejudice, negative stereotypes, intergroup anxiety and empathy in Study 1 and the current study. Such findings present another promising mechanism through which SPT interventions may improve intergroup relations. Future research should investigate the relationship between SPT, self-other overlap, social dominance orientation and right-wing authoritarianism further.

The participants' level of immersion in the film also appeared to have an effect on out-group attitudes. More specifically, immersion directly predicted realistic threat perceptions and

indirectly predicted symbolic threats, intergroup anxiety, empathy, prejudice and negative stereotypes. Furthermore, immersion strongly predicted the amount the participants imagined how they would think, feel and behave if they were in the characters shoes (SPT). This suggests someone who is strongly immersed in the film is more likely to take on the characters' perspectives and will tend to hold lower negative attitudes. These results suggest that increasing the immersion of a film may have positive outcomes for intergroup relations. Another interesting finding for immersion is its relationship to SPT. There was a strong positive relationship between immersion and SPT. It appears those who are immersed in the film are more likely to engage with the SPT instructions. As such, films which are more immersive may simply be more conducive for undertaking SPT.

12.6.2 Examining the role of attributional thinking for predicting negative stereotypes

Vescio et al. (2003) proposed that SPT may lead to changes in attributional thinking and an individual's emotional response towards the target individual. These changes were then thought to be in conflict with previously held negative stereotypes. Thus, Vescio et al. (2003) suggested that changes in attributional thinking after SPT will, in time, lead to changes in negative stereotypes in order to make the two conflicting perspectives similar. Model 6 examined the role of both situational and dispositional attributional thinking in predicting negative stereotypes as well as the relationships between attributional thinking and the other ITT variables. In the re-specified Model 6, neither dispositional nor situational attributional thinking predicted negative stereotypes or any other variables within the model. However, dispositional attributional thinking was directly predicted by situational attributional thinking and empathy and was indirectly predicted by SPT, self-other overlap, immersion, social dominance orientation and right-wing authoritarianism. Furthermore, situational attributional thinking was directly predicted by contact quality, social dominance orientation and right-wing authoritarianism and was indirectly predicted by self-other overlap.

What these results suggest is that changes in attributional thinking may occur as a result of SPT as well as changes in other variables (self-other overlap, social dominance orientation, right-wing authoritarianism and contact quality). However, the indirect relationship between SPT and dispositional attributional thinking was very weak, and the results presented in the previous chapter found no significant differences in attributional thinking based on whether the participants underwent SPT. This suggests that the current SPT intervention was not very effective at changing attributional thinking. However, a promising approach for changing attributional thinking may be to increase perceptions of contact quality and reduce social dominance orientation and right-wing

authoritarianism levels. One might argue changing attributional thinking seems pointless given that attributional thinking did not predict any other variables within the model. However, these results may be due to the context of the target group. That is, Pacific islanders were the target group and were at risk of displacement due to environmental factors. Given that the environment is outside of the control of the individual, the participants may have already perceived displacement to be the result of the situation (environmental events). The descriptive data presented in the previous chapter (Table 28) supports this premise as the participants in all three conditions held high perceptions that displacement was due to the situation and held low perceptions that displacement was due to dispositional factors. For other target groups there may be less consensus and clarity around the reason for displacement. For example, with asylum seekers many common false beliefs in Australia align with dispositional thinking patterns and suggest that people are not displaced because of the situation but are choosing to leave and come to Australia. In this context, attributional thinking may be a stronger predictor of other out-group attitudes compared to the current context. In addition, in the current study situational and dispositional attributional thinking were assessed and analysed separately. A measure or index which placed participants on a spectrum from dispositional to situational attributional thinking may be more useful for understanding what people attribute as the reason for displacement. Furthermore, this may also be more useful for modelling analyses as it would isolate attributional thinking to one variable and capture greater variance in participant views.

12.6.3 Comparisons between Study 1 and 2 modelling

There were a number of distinct differences between this chapters modelling and the Study 1 modelling presented in Chapters 6 and 7. First, the confirmatory factor analysis results for prejudice found the factor structure for Study 1 did not have appropriate fit for the Study 2 sample (refer to Appendix L). This is particularly important to note given the same items, context and a similar sample were used in the two different studies. These findings again raise questions around the construct validity of the ITT prejudice measure. It would be expected the factor structure of measures with good construct validity would remain constant across samples, particularly if the study context and samples were the same as was the case here. What did differ between the two studies was the use of the SPT intervention. This may explain such differences. However, it is stressed that the measure for prejudice requires rigorous psychometric testing and future work should be aware of the measure's problematic construct validity.

In contrast to prejudice, the Study 1 factor structures for intergroup anxiety and negative stereotypes did fit in the current sample (refer to Appendix L). This suggests that these factor

structures do have construct validity across different samples. However, as noted above the sample in Studies 1 and 2 had very similar qualities. As such, these factor structures would need to be tested within different samples to more adequately establish if these factor structures have construct validity across more diverse samples.

Another interesting comparison between the two studies is related to the correlations between the ITT variables (prejudice, negative stereotypes, intergroup anxiety, threats and empathy). While the variables within the current study did correlate as expected, the correlations were notably weaker than the correlations between the same variables in Study 1. A likely explanation for this is the interference of the SPT intervention. As predicted and supported, undergoing an SPT intervention changes attitudes towards the target group/individual. The weak correlations between the variables may be due to this effect. To explain, the participants' views towards environmentally displaced people immediately after the SPT intervention may have been in a state of flux as a result of the intervention. For example, the SPT intervention may have effected changes in threat perceptions which may not have matched the changes in prejudice. Furthermore, as out-group attitudes were assessed immediately after the SPT intervention, there was no time for the participants' changed cognitive evaluations of environmentally displaced people to stabilise and re-align. That is, assessing attitude immediately left no time for attitudes which were affected in different ways by the intervention to align with each other. If the variables had been affected by the SPT intervention and had not yet aligned, weak correlations would be expected. If this were the case, it would be expected correlations between the variables would gain strength with time, which did occur. The correlations at follow-up between prejudice, negative stereotypes, threat perceptions, intergroup anxiety and empathy were stronger and more closely resembled the findings for Study 1 (refer to Appendix M).

Another notable difference between the current chapters modelling analyses and those conducted for Study 1 are the differences in the variables which predicted prejudice. In Study 1, social dominance orientation both directly and indirectly predicted prejudice and was the strongest predictor of both prejudice and negative stereotypes. However, in the current study social dominance orientation only weakly indirectly predicted both prejudice and negative stereotypes. Furthermore, intergroup anxiety was a direct predictor of both prejudice and negative stereotypes in Study 1. However, in the current study intergroup anxiety did not directly contribute to the model at all. It is possible these differences were also due to the participants' attitudes being in a state of flux due to the influence of the SPT intervention. Longitudinal modelling of the participants' immediate and follow-up attitudes after the SPT intervention would determine whether this is the case. Unfortunately, such modelling is outside the scope of this project.

Last, the modelling analyses for Study 1 found empathy did not predict either threats or intergroup anxiety in any of the four models. This is in contrast to the Study 2 findings which found empathy to directly and significantly predict both symbolic threat perceptions and intergroup anxiety. More specifically, those with greater perceptions of empathy reported lower symbolic threat perceptions. These findings provide further evidence for the positive effects of empathy induction through SPT.

The relationship between empathy and intergroup anxiety is less clear. Those with greater perceptions of empathy reported greater levels of intergroup anxiety. This suggests that empathising with environmentally displaced people made the participants in the current sample experience greater anxious feelings about interacting with them. Once again, considering the state of flux of the variables may provide some insight into this unexpected relationship. The correlation between anxiety and empathy was very low at the initial intake, however Models 5 and 6 indicated there was a significant and unexpected positive relationship between empathy and intergroup anxiety. Furthermore, the correlation between empathy and intergroup anxiety at follow up was $-.41$ (refer to Appendix M) which is in the expected direction. What this may be interpreted to mean is empathy was acting as a moderating variable between the SPT intervention and intergroup anxiety. This indicates that the SPT intervention induced empathy, which resulted in greater intergroup anxiety. Perhaps, in the short term, inducing empathy for the plight of environmentally displaced people, or indeed any vulnerable population, makes one feel concerned about how to act appropriately in a social situation with that population.

12.7 Chapter Summary

The results presented in the current chapter indicate that engaging in this study's SPT intervention reduced threat perceptions, intergroup anxiety and prejudice by increasing the participants' feelings of empathy towards environmentally displaced people. Furthermore, the participants SPT engagement had a direct relationship with negative stereotypes, indicating those who engaged more with the SPT intervention reported lower negative stereotypes towards environmentally displaced people. This is a promising finding as it indicates that undertaking SPT may be an effective strategy for improving intergroup relations between environmentally displaced people and Australians. Specifically, the findings suggests inducing empathy with SPT is an effective way to improve Australian perceptions towards environmentally displaced people.

Chapter 13: General Discussion

13.1 General Overview

The current project had two primary aims. The first aim of this project was to gain a greater understanding of how an Australian sample views environmentally displaced people. The second aim was to investigate whether negative views towards environmentally displaced people can be shifted to be more positive. Given that threat perceptions appeared to be a core component of poor intergroup relations between Australians and displaced people, the Integrated Threat Theory (ITT) was used as the theoretical lens for this project. Four primary research questions were formed for this project. These research questions related to understanding the nature of Australian attitudes towards environmentally displaced people, whether these attitudes could be shifted using social perspective taking (SPT) and virtual reality (VR) technology, and whether the ITT was an appropriate framework. These research questions were examined within two different studies. The first study was cross-sectional and investigated attitudes towards environmentally displaced people in an Australian sample. This study also examined whether the ITT was an effective framework for understanding Australian attitudes towards environmentally displaced people. The second study was experimental and tested the use of SPT for shifting negative attitudes towards environmentally displaced people. The following discussion first provides a summary of the key findings in terms of the four research questions. The theoretical and applied implications and recommendations for this project are then discussed. It is important to note that the interpretation and explanation for individual findings as well as reference to the literature has been covered in the previous discussion sections. As such the following discussion focuses on providing a broader integrative description of the project's findings as a whole, and what this means for researchers, governments and the use of SPT interventions into the future.

13.2 Perceptions towards Environmentally Displaced People

Prior to the current project there was very limited research which investigated attitudes towards environmentally displaced people. The current project's findings provide the first indication of how host countries, and specifically Australians, may view environmentally displaced people. The Study 1 results showed that overall there was a consistently large proportion of the sample who held moderate negative attitudes towards environmentally displaced people. More specifically, 12% of the sample held moderate to high prejudicial attitudes, 14% held moderate to high negative stereotypes, 35% held moderate to high intergroup anxiety and between 11-40% of the participants perceived environmentally displaced people to pose a moderate to strong threat to

Australian society. Of importance was the finding that environmentally displaced people were perceived to pose the greatest threat to Australia's economy, the physical safety of Australian people and to the Australian educational, healthcare and social systems. In contrast, displaced people were perceived to pose the least threat to one's own values, world views, moral standards and personal identity. As expected, the Study 1 modelling analyses found group threats (both symbolic and realistic) were the stronger predictors of prejudice and negative stereotypes compared to individual threats. Another finding of note was that across most attitudes, the participants did not hold significantly greater negative responses towards refugees compared to environmentally displaced people. However, there was a consistent trend in the data indicating attitudes were slightly more negative towards refugees. There was also a trend in the data which suggested that when the term *environmentally displaced people* was used, as opposed to the term *environmental refugee*, the participants' attitudes were slightly more negative. However, these differences were not large and the effect sizes were small. The important finding here was the consistent pattern in the data rather than the significant differences for individual variables.

Altogether, these findings suggest that while the majority of the sample did not hold strong negative views towards environmentally displaced people, there was consistently a substantial proportion of the sample who held strong negative views towards both environmentally displaced people and refugees. These findings were comparable to what has been found in previous research (Blair et al., 2017; Markus & Dharmalingam, 2014; Newspoll & The Australian, 2002, 2004, 2009; Pedersen, Attwell, et al., 2005; Schweitzer et al., 2005). When applying these findings to the Australian population, the sample characteristics must be considered. That is, the sample was predominantly young, female, undergraduate students. As such, the Study 1 findings are not representative of the Australian population. While these findings provide valuable insights into attitudes towards environmentally displaced people, they cannot be directly generalised to the entire Australian population.

13.3 Using the Integrated Threat Theory as a Framework for Understanding Out-group Attitudes towards Environmentally Displaced People

Overall, the modelling analyses found the ITT variables to significantly predict prejudice in the current sample. Furthermore, using the ITT as a framework provided insight into the factors which contribute to an individual holding prejudicial attitudes towards environmentally displaced people. However, the confirmatory factor analyses conducted on the ITT variables in Study 1 indicated that the current ITT measures for prejudice and intergroup anxiety lack construct validity. Altogether, these results suggest that the ITT is a useful framework for predicting prejudicial

attitudes towards environmentally displaced people. However, the measures used to assess the ITT prejudice and intergroup anxiety variables should be applied cautiously and with consideration of the group contexts.

13.4 Using Social Perspective Taking for Shifting Australian Attitudes towards Environmentally Displaced People

The Study 2 results found the SPT intervention used in this project reduced prejudice, negative stereotypes and threat perceptions towards environmentally displaced people when measured immediately after the intervention. Furthermore, the modelling analyses presented in Chapter 12 indicated that the SPT intervention influenced these variables by increasing feelings of empathy towards environmentally displaced people. However, the observed beneficial effects of the SPT intervention were not present two weeks after the initial intervention session. These results suggest that using the film *Our Home, Our People* for an SPT intervention was effective for inducing immediate attitudinal change, but was not effective at changing attitudes in the long-term.

13.5 Using Virtual Reality for Social Perspective Taking

The Study 2 findings indicated that VR did not enhance the effects of SPT. Additionally, undergoing SPT in VR did not lead to greater positive changes in attitudes towards environmentally displaced people. It was expected that using VR for SPT would lead to a greater reduction in negative out-group attitudes compared to normal film as the increased realism and immersion experienced in VR has been found to enhance the positive effects of SPT (Ahn et al., 2013; Oh et al., 2016). However, the participants who undertook SPT in VR did not report greater immersion compared to those who experienced SPT through normal film. As such, it appears the VR experience used was not more immersive than normal film. This lack of greater immersion in VR may explain the little observed difference in the participants' responses between the normal film and VR film conditions. At this point the reader is also reminded that there was a discrepancy in the number of people assigned to the *normal film* and *VR film* conditions, which may have skewed the data for the *VR film* condition to more closely reflect responses in the *normal film* condition. This could reduce mean differences between these conditions and make it difficult to detect significant differences. However, as per previous discussions this is unlikely.

13.6 Theoretical Implications and Recommendations

There are relatively few studies which have examined the ITT framework in its entirety, with the majority of studies in the area only examining a small number of the variables within the

ITT at any one time. The Study 1 modelling analyses present findings for the ITT which include all of the core ITT variables. As such, this project has addressed a theoretical gap in the literature and provides insights into how the constructs within the ITT interact when investigated altogether. Furthermore, the findings from this project suggest that the ITT is useful for predicting prejudicial attitudes towards environmentally displaced people. However, this project also indicates that the current ITT measures for prejudice and intergroup anxiety lack construct validity. As such, these measures require further psychometric testing and perhaps modification to improve their validity. Furthermore, it was identified in Chapter 5 that the ITT prejudice measure may be tapping a more classical form of prejudice. As such, this measure of prejudice may not detect prejudicial attitudes in individuals who do not hold strong overt views, but rather hold more moderate subtle prejudicial attitudes. Given these limitations of the prejudice measure, it is recommended the measure used to assess prejudice within the ITT framework is reviewed and perhaps reconceptualised to enhance the value of the ITT.

The Study 1 modelling analyses also provide theoretical implications for negative stereotypes within the ITT framework. More specifically, the results from these analyses suggest that negative stereotypes are not a threat variable or a mediator between threats and prejudice. Rather, negative stereotypes were found to fit best in the ITT as both an antecedent to threats and as an outcome variable. From this project's findings it can be rather confidently concluded that Stephan and colleague's original specification of stereotypes as a form of threat was theoretically flawed. As such, it is recommended future work conceptualise negative stereotypes in the ITT as either an antecedent to threats or as an outcome variable alongside prejudice. As discussed in Chapter 7, when considering the Australian context it seems more appropriate to conceptualise negative stereotypes as an outcome variable. More specifically, the government and media framing of displaced people as a threat likely develops threat perceptions, which in turn leads to the development of stereotypical views about displaced people. However, more causal study designs and analyses are needed to confirm this.

Study 1 of this project also examined the addition of a number of variables into the ITT based on W.G. Stephan and Renfro's (2002) recommendations. Specifically, W. G. Stephan and Renfro (2002) recommended social dominance orientation, right-wing authoritarianism and collective and personal self-esteem be added to the ITT framework. The current project's findings suggest that social dominance orientation and right-wing authoritarianism are valuable additions to the ITT, however both collective and personal self-esteem did not add to the Study 1 models. While further examination is required in different contexts to rule out the role of self-esteem within the

ITT, it is recommended that social dominance orientation and right-wing authoritarianism be used within the ITT framework in future work.

The addition of affective variables within the ITT was also recommended by Wirtz et al. (2015). Based on this recommendation as well as the literature which found empathy to be related to prejudice this project investigated the addition of empathy to the ITT and found it to be a significant predictor of prejudicial attitudes. Furthermore, Study 2 of this project also found empathy to be the mechanism through which the employed SPT intervention reduced prejudicial attitudes. The results indicate empathy is not only valuable for understanding out-group attitudes, but also for improving intergroup relations. These findings for empathy, as well as the role of intergroup anxiety within the ITT, highlight the benefits of considering affective variables when investigating intergroup relations.

Lastly, the current project investigated the effect of SPT through the theoretical lens of the ITT. When comparing these two frameworks there are a number of theoretical overlaps such as the importance of prejudice and the role of threat perceptions, intergroup anxiety and empathy. This project has demonstrated the value of using the ITT to evaluate a SPT intervention. That is, evaluating a SPT intervention within the ITT framework provides a structured, theoretical lens through which to test the effects of SPT on out-group attitudes. This has both theoretical and applied benefits. More specifically, this approach allows for insights to be gained on how SPT interacts with other variables within the ITT to reduce prejudice. From an applied perspective, the use of the ITT framework within an intervention provides applied evidence for the theoretical constructs within the ITT. Furthermore, using the ITT to evaluate a SPT intervention garners understanding of the mechanisms of change which can inform the development and implementation of intervention strategies.

13.7 Applied Implications and Recommendations

When considering the findings from this project it seems likely there will be social and political issues if environmentally displaced people were to come to Australia. As the current findings indicate little difference exists between attitudes towards refugees and environmentally displaced people, it may be expected that Australian policy decisions around environmental displacement will be similar to the policies currently in place for asylum seekers and refugees. This would be expected as public attitudes have been found to influence policy decisions in previous research (Bleiker et al., 2013; Leach, 2003; Lippi et al., 2017; McKay et al., 2012; McKay et al., 2011; Saxton, 2003; Zetter, 2007). With this in mind however, it must be noted that there is a difference between those displaced due to persecution and those displaced due to environmental

drivers. That is, the drivers for a large amount of future environmental displacement will likely be caused by anthropogenic climate change, which primarily occurred due to greenhouse gas emissions from developed countries (Reuveny, 2007). As such, it has been identified that developed countries, the countries primarily accountable for climate change, have a moral responsibility to support environmentally displaced people and to mitigate the effects of climate change on human displacement (Hannam, 2014). Thus, the global approach to managing environmental displacement may be based on different rationales than the approach for displacement due to persecution. As climate change is currently a politically charged issue and many politicians do not agree with climate change science, it is unclear whether governments will take on the responsibility of those displaced due to climate change. However, if this does occur, governments may need to manage public perceptions in order to realign them with policy directives. This will be particularly important if attitudes towards environmentally displaced people are swayed by already established negative views towards asylum seekers and refugees.

Considering this, a particularly important recommendation of this project focuses on the importance of how environmentally displaced people are framed within the Australian government and media. The government and media have framed asylum seekers and refugees as threats to Australian security and way of life (Canetti et al., 2016; Lippi et al., 2017; Saxton, 2003). As such, many Australians perceive refugees to pose a threat to Australia. Given this, the government and media needs to be mindful of how they represent environmentally displaced people, and what affect this will have on the public's views towards environmentally displaced people. This is particularly relevant given host country threat perceptions have been linked with the acculturation and/or integration outcomes of displaced people. More specifically, if the government and media frame environmentally displaced people as a threat, the evidence suggests this will lead to negative exclusionary attitudes held by everyday Australians (Canetti-Nisim et al., 2008; Esses et al., 2017; Florack et al., 2003). These negative attitudes can then have detrimental effects on the mental and physical health and wellbeing of displaced people (Correa-Velez et al., 2010; Kim, 2016; Stuber et al., 2008). However, in the case of the government this responsibility is assigned to Australian political leaders, some of whom support exclusionary practices towards displaced people. If certain political leaders do use derogatory framing and push for exclusionary policies, it is the responsibility of other politicians and the media to reject this framing and push the humanitarian agenda.

Another factor relating to how Australians will view environmentally displaced people is the term used to refer to this group of displaced people. As covered in Chapter 1, a number of different terms are used to refer to people displaced because of environmental factors. The results

from Study 1 suggested that people had less negative views when the term *environmental refugee* was used compared to the term *environmentally displaced people*. However, the difference was not significant. What is important here is the choice of the term which should be used going forward. One might say the term *environmental refugee* should be used as it resulted in less negative views. However, there are a number of issues with using the term *refugee*. One of which is that the term *refugee* implies a legal status of international protection which people who are displaced due to environmental factors cannot receive at this point in time. Furthermore, some researchers have proposed that using the term *refugee* will result in negative political and social responses, perpetuating the current global refugee crisis (Castles, 2002; Stavropoulou, 2008). While the results of this project suggest otherwise, these results likely do not represent the Australian population. This sample was predominantly young, female, undergraduate students. The Australian population may not respond to the term *refugee* in the same way as this sample. Given these considerations, the slightly lower levels of negative attitudes observed when the term *environmental refugee* was used is not considered substantial enough to warrant using the term *refugee*. It is thus recommended the term *environmentally displaced people* be used going forward. It is recommended this occur until two conditions are met. First, governance systems are put in place which makes the legal meaning of the term *refugee* apply to environmentally displaced people. To be clear, it is not recommended government systems define and manage environmentally displaced people the same way as current refugees – that is a separate issue. Rather, it is recommended the term *refugee* is only used when and *if* the term is legally applicable to environmentally displaced people. The second condition is when further research is undertaken which investigates the effects of the term *refugee* in a more representative sample.

The next recommendation of this project is to consider threat perceptions when working with Australian attitudes towards environmentally displaced people. This project has made it clear that threats are central to relations between Australians and displaced people. The role of threats is important when attempting to understand Australian prejudicial attitudes, as well as when attempting to change negative attitudes towards environmentally displaced people. For instance, anti-prejudice interventions need to be aware of threat perceptions to ensure the intervention does not trigger and exacerbate these perceptions. Interventions can also target threat perceptions to reduce prejudices and discrimination. The use of anti-prejudice interventions brings this discussion to the final set of recommendations for this project.

The SPT intervention used in this project was effective at reducing negative attitudes towards environmentally displaced people. However, this project's intervention was not effective at reducing negative attitudes over a long period of time. The following strategies are recommended to

improve the size and temporal permanence of the intervention effect. These recommendations can also be applied to other intervention approaches. It is recommended this project's intervention be used as part of a larger intervention approach. In line with Pedersen and Hartley's (2015) suggestions, this approach should last for an extended period of time and incorporate a number of different strategies which target both systemic and individual levels of change. A larger, longer term project will likely have larger immediate effects on attitude change, but also increase the long-term benefits of the intervention. Another strategy identified for increasing the long-term benefits of SPT is to design interventions to have more direct, salient strategies for placing the participants 'in the shoes' of the out-group. The use of interaction within VR may be one way of achieving this, however this requires further investigation and is certainly not the only way through which this can be achieved. The results from this project also suggest interventions should focus on increasing the immersion of an SPT experience. However, more research into what makes an SPT experience more immersive is needed. While VR may again be one way to increase the immersive quality of an SPT intervention, the narrative of the experience may also be a powerful approach to immersing people in someone else's perspective.

The results of this project did not find VR was a more powerful medium for reducing negative out-group attitudes when undertaking SPT. However, these results are likely specific to the film used as well as the group context. In Study 2 immersion directly predicted realistic threats and indirectly predicted symbolic threats, intergroup anxiety, empathy, prejudice and negative stereotypes. These findings lend support to the hypothesis that greater immersion in a film will have a beneficial impact on out-group attitudes. Thus, VR is not necessarily a better medium and the benefits of VR are dependent on whether it is found to be more immersive compared to other mediums in which a story is presented. These results indicate that intervention designers should focus more on the immersive quality of the visual, auditory and narrative components of an SPT intervention, rather than the medium through which it is presented. Indeed, VR may be the most feasible and useful way of achieving a more immersive experience, however it should not be assumed that by simply using VR viewers will have a more immersive experience. Importantly, the value of cheaper, more widely available methods for presenting an SPT experience, such as a computer, should not be underestimated.

13.8 Limitations

It is important to note there were a number of limitations within this project. One major limitation of the current project is the samples used. Both samples were primarily made up of undergraduate psychology students. This means that directly generalising the results from these

samples to an Australian population would be erroneous. As such, in interpreting the findings from this project the characteristics of the sample need to be considered, specifically when applying the results to different populations. While this is certainly an important limitation, the current project's findings are the first to examine an Australian sample's views towards environmentally displaced people and thus fill an important gap in the literature.

Another limitation of this project is the lack of construct validity of the ITT prejudice and intergroup anxiety measures. This limitation is present across all of the ITT research and is a flaw of the ITT framework. The current project has presented evidence on this issue which has previously not been recognised. The confirmatory factor analyses for both Study 1 and 2 indicate that the revised factor structure for intergroup anxiety was appropriate across the two samples. This provides a starting point for future work in investigating the psychometric value of this measure. However, for prejudice the confirmatory factor analyses did not find the same factor structure in both the Study 1 and 2 samples. This is particularly concerning given the similarities between the samples. It is once again stressed that the ITT prejudice and intergroup anxiety measures require review and modification to remove this limitation in future work.

Another arguable limitation of this project is the focus on individual psychological attitude change for improving intergroup relations between Australians and environmentally displaced people. Some may claim that change needs to occur at a systemic governmental and social level, rather than at the individual level. Indeed, it is acknowledged that change at the governmental level is particularly important in Australia given the negative focus the Australian government has towards refugees and asylum seekers. It is the position of the author that to truly affect meaningful change approaches should target both the systemic and individual levels. However, it is simply outside the scope of this project to investigate both systemic and individual strategies for change. Thus, this project focused on the individual level. It is argued that changes at the individual level can also effect change at the systemic governmental level and vice versa. Pedersen and Hartley (2015) state that community level attitudinal change can impact the system and anti-prejudice intervention strategies are one way of doing this. Furthermore, content analysis studies of the Australian political and media forums have demonstrated there is a symbiotic relationship between politics, media and public perceptions within Australia (Bleiker et al., 2013; Leach, 2003; Lippi et al., 2017; McKay et al., 2012; McKay et al., 2011; Saxton, 2003; Zetter, 2007). As such, focusing on individual factors is just one part of a much broader, complicated approach to investigating and improving intergroup relations between Australians and environmentally displaced people.

13.9 Conclusion

The current research project examined the nature of an Australian sample's attitudes towards environmentally displaced people in the context of the Integrated Threat Theory (ITT). It was found that a considerable proportion of the sample held negative views towards environmentally displaced people and perceived them to pose a threat to Australia's economy, the physical safety of Australian people and to the Australian educational, healthcare and social systems. It is expected these perceptions will likely have a negative impact on the experience of environmentally displaced people if they are to be displaced to Australia. Given this, the use of SPT while watching the film *Our Home, Our People* was investigated for its utility in shifting negative attitudes. The findings indicated that the SPT intervention was effective and resulted in increased empathy as well as reduced negative attitudes towards environmentally displaced people. However, the beneficial effects of this intervention did not last after two weeks. As such, a number of recommendations were made in order to achieve longer term outcomes.

The current project aids in establishing the evidence base for using SPT interventions in the context of attitudes between Australians and environmentally displaced people. Furthermore, the current project assists in recommending best-practice strategies for achieving the best outcomes. But of course, for any intervention to have any meaningful effect it needs to be of a much larger scale than the current project. It is hoped that this project's findings and recommendations can be used to inform future research and intervention approaches to both assist in understanding Australian attitudes as well as reducing prejudicial attitudes, discrimination and improving intergroup relations between Australians and environmentally displaced people. In an ideal world, improved intergroup relations will translate into improving both the subjective experience and mental and physical health of environmentally displaced people in Australia.

References

- Aberson, C. L. (2015). Positive intergroup contact, negative intergroup contact, and threat as predictors of cognitive and affective dimensions of prejudice. *Group Processes & Intergroup Relations*, 18(6), 743-760. doi:10.1177/1368430214556699
- Aberson, C. L., & Gaffney, A. M. (2009). An integrated threat model of explicit and implicit attitudes. *European Journal of Social Psychology*, 39(5), 808-830. doi:10.1002/ejsp.582
- Aberson, C. L., & Haag, S. C. (2007). Contact, perspective taking, and anxiety as predictors of stereotype endorsement, explicit attitudes, and implicit attitudes. *Group Processes & Intergroup Relations*, 10(2), 179-201. doi:10.1177/1368430207074726
- Ahn, S. J., Bostick, J., Ogle, E., Nowak, K. L., McGillicuddy, K. T., & Bailenson, J. N. (2016). Experiencing nature: Embodying animals in immersive virtual environments increases inclusion of nature in self and involvement with nature. *Journal of Computer-Mediated Communication*, 21(6), 399-419. doi:10.1111/jcc4.12173
- Ahn, S. J., Le, A. M. T., & Bailenson, J. (2013). The effect of embodied experiences on self-other merging, attitude, and helping behavior. *Media Psychology*, 16(1), 7-38. doi:10.1080/15213269.2012.755877
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. doi:10.1016/0749-5978(91)90020-T
- Akinwande, M. O., Dikko, H. G., & Samson, A. (2015). Variance inflation factor: As a condition for the inclusion of suppressor variable (s) in regression analysis. *Open Journal of Statistics*, 5(07), 754-767. doi:10.4236/ojs.2015.57075
- Akrami, N., Ekehammar, B., & Araya, T. (2000). Classical and modern racial prejudice: A study of attitudes toward immigrants in Sweden. *European Journal of Social Psychology*, 30(4), 521-532. doi:10.1002/1099-0992(200007/08)30:4<521::AID-EJSP5>3.0.CO;2-N
- Akrami, N., Ekehammar, B., Claesson, M., & Sonnander, K. (2006). Classical and modern prejudice: Attitudes toward people with intellectual disabilities. *Research in Developmental Disabilities*, 27(6), 605-617. doi:10.1016/j.ridd.2005.07.003
- Akter, T. (2009). Climate change and flow of environmental displacement in Bangladesh. Dhaka, Bangladesh: Unnayan Onneshan: Centre for Research and Action on Development.
- Allport, G. W. (1954). *The nature of prejudice*. Oxford, England: Addison-Wesley.
- Altemeyer, B. (1998). The other "authoritarian personality". *Advances in Experimental Social Psychology*, 30, 47-92. doi:10.1016/S0065-2601(08)60382-2
- Amnesty International. (2016a). Australia: Appalling abuse, neglect of refugees on Nauru. Retrieved from <https://www.amnestyusa.org/press-releases/australia-appalling-abuse-neglect-of-refugees-on-nauru/>
- Amnesty International. (2016b). *Island of Despair: Australia's "processing" of refugees on Nauru*. Retrieved from London, United Kingdom: <https://www.amnesty.org.au/wp-content/uploads/2016/10/ISLAND-OF-DESPAIR-FINAL.pdf>
- Arbuckle, J. L. (2016). IBM SPSS Amos 24 User's Guide: Chicago: SPSS Inc.
- Aron, A., Aron, E. N., & Coups, E. (2006). *Statistics for Psychology* (4 ed.). New Jersey: Pearson Education International.
- Asylum Seeker Resource Centre. (2018). Strategic Plan. Retrieved from <https://www.asrc.org.au/about-us/strategic-plan/>
- Australian Broadcasting Corporation [ABC]. (2016a). Senate Results. Retrieved from <https://www.abc.net.au/news/federal-election-2016/results/senate/>
- Australian Broadcasting Corporation [ABC]. (2016b). Transcript: Pauline Hanson's 2016 maiden speech to the senate. Retrieved from <https://www.abc.net.au/news/2016-09-15/pauline-hanson-maiden-speech-2016/7847136>

- Australian Human Rights Commission [AHRC]. (2013). *Asylum seekers, refugees and human rights: Snapshot report*. Retrieved from <https://www.humanrights.gov.au/our-work/asylum-seekers-and-refugees/publications/asylum-seekers-refugees-and-human-rights-snapshot>
- Bäckström, M., & Björklund, F. (2007). Structural modeling of generalized prejudice: The role of social dominance, authoritarianism, and empathy. *Journal of Individual Differences*, 28(1), 10-17. doi:10.1027/1614-0001.28.1.10
- Bailenson, J. N., Blascovich, J., Beall, A. C., & Loomis, J. M. (2003). Interpersonal distance in immersive virtual environments. *Personality and Social Psychology Bulletin*, 29(7), 819-833. doi:10.1177/0146167203029007002
- Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. *Journal of Environmental Psychology*, 27(1), 14-25. doi:10.1016/j.jenvp.2006.12.002
- Barrett, P. (2007). Structural equation modelling: Adjudging model fit. *Personality and Individual Differences*, 42(5), 815-824. doi:10.1016/j.paid.2006.09.018
- Bates, D. C. (2002). Environmental refugees? Classifying human migrations caused by environmental change. *Population and Environment*, 23(5), 465-477. doi:10.1023/A:1015186001919
- Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Erlbaum.
- Batson, C. D., Chang, J., Orr, R., & Rowland, J. (2002). Empathy, attitudes, and action: Can feeling for a member of a stigmatized group motivate one to help the group? *Personality and Social Psychology Bulletin*, 28(12), 1656-1666. doi:10.1177/014616702237647
- Batson, C. D., Polycarpou, M. P., Harmon-Jones, E., Imhoff, H. J., Mitchener, E. C., Bednar, L. L., . . . Highberger, L. (1997). Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group? *Journal of Personality and Social Psychology*, 72(1), 105-118. doi:10.1037/0022-3514.72.1.105
- Bennett, D. A. (2001). How can I deal with missing data in my study? *Australian and New Zealand Journal of Public Health*, 25(5), 464-469. doi:10.1111/j.1467-842X.2001.tb00294.x
- Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modelling. *Sociological Methods and Research*, 16(1), 78-117. doi:10.1177/0049124187016001004
- Berrenberg, J. L., Finlay, K. A., Stephan, W. G., & Stephan, C. W. (2002). Prejudice toward people with cancer or AIDS: Applying the integrated threat model. *Journal of Applied Biobehavioral Research*, 7(2), 75-86. doi:10.1111/j.1751-9861.2002.tb00078.x
- Bettini, G. (2013). Climate barbarians at the gate? A critique of apocalyptic narratives on 'climate refugees'. *Geoforum*, 45, 63-72. doi:10.1016/j.geoforum.2012.09.009
- Betts, K. (2001). Boat people and public opinion in Australia. *People and Place*, 9(4), 34-48.
- Bierly, M. M. (1985). Prejudice toward contemporary outgroups as a generalized attitude. *Journal of Applied Social Psychology*, 15(2), 189-199. doi:10.1111/j.1559-1816.1985.tb02344.x
- Biermann, F., & Boas, I. (2010). Preparing for a warmer world: Towards a global governance system to protect climate refugees. *Global Environmental Politics*, 10(1), 60-88. doi:10.1162/glep.2010.10.1.60
- Binggeli, S., Krings, F., & Sczesny, S. (2015). Perceived competition explains regional differences in the stereotype content of immigrant groups. *Social Psychology*, 55(1), 62-70. doi:10.1027/1864-9335/a000160
- Bizman, A., & Yinon, Y. (2001). Intergroup and interpersonal threats as determinants of prejudice: The moderating role of in-group identification. *Basic and Applied Social Psychology*, 23(3), 191-196. doi:10.1207/S15324834BASP2303_5
- Black, R. (2001). Environmental refugees: myth or reality? *New Issues in Refugee Research Working Paper No. 34*. Geneva: United Nations High Commissioner for Refugees.
- Blair, K., Dunn, K. M., Kamp, A., & Alam, O. (2017). *Challenging Racism Project 2015-16 National Survey Report*. Retrieved from

<https://researchdirect.westernsydney.edu.au/islandora/object/uws:39004/datastream/PDF/view>

- Blascovich, J., Loomis, J., Beall, A. C., Swinth, K. R., Hoyt, C. L., & Bailenson, J. N. (2002). Immersive virtual environment technology as a methodological tool for social psychology. *Psychological Inquiry*, 13(2), 103-124. doi:10.1207/S15327965PLI1302_01
- Bleiker, R., Campbell, D., Hutchison, E., & Nicholson, X. (2013). The visual dehumanisation of refugees. *Australian Journal of Political Science*, 48(4), 398-416. doi:10.1080/10361146.2013.840769
- Blunch, N. (2013). *Introduction to structural equation modeling using IBM SPSS statistics and AMOS* (2 ed.). Thousand Oaks, CA: Sage.
- Bollen, K. A., & Long, J. S. (1992). Tests for structural equation models: Introduction. *Sociological Methods & Research*, 21(2), 123-131. doi:10.1177/0049124192021002001
- Bollen, K. A., & Stine, R. A. (1992). Bootstrapping goodness-of-fit measures in structural equation models. *Sociological Methods & Research*, 21(2), 205-229. doi:10.1177/0049124192021002004
- Bowman, D. A., Hodges, L. F., Allison, D., & Wineman, J. (1999). The educational value of an information-rich virtual environment. *Presence: Teleoperators and Virtual Environments*, 8(3), 317-331. doi:10.1162/105474699566251
- Bowser, B. P. (2017). Racism: Origin and theory. *Journal of Black Studies*, 48(6), 572-590. doi:10.1177/0021934717702135
- Brown, R., Maras, P., Masser, B., Vivian, J., & Hewstone, M. (2001). Life on the ocean wave: Testing some intergroup hypotheses in a naturalistic setting. *Group Processes & Intergroup Relations*, 4(2), 81-97. doi:10.1177/1368430201004002001
- Bruneau, E. G., & Saxe, R. (2012). The power of being heard: The benefits of 'perspective-giving' in the context of intergroup conflict. *Journal of Experimental Social Psychology*, 48(4), 855-866. doi:10.1016/j.jesp.2012.02.017
- Burkett, M. (2011). In search of refuge: Pacific Islands, climate-induced migration, and the legal frontier. *Asia Pacific Issues*, 98, 1-19.
- Burson, B., & Bedford, R. (2015). Facilitating voluntary adaptive migration in the Pacific. *Forced Migration Review*(49), 54-57.
- Burstein, P. (2003). The impact of public opinion on public policy: A review and an agenda. *Political Research Quarterly*, 56(1), 29-40. doi:10.1177/106591290305600103
- Cameron, L., Rutland, A., Brown, R., & Douch, R. (2006). Changing children's intergroup attitudes toward refugees: Testing different models of extended contact. *Child Development*, 77(5), 1208-1219. doi:10.1111/j.1467-8624.2006.00929.x
- Campbell, D. T. (1965). *Ethnocentric and other altruistic motives*. Paper presented at the Nebraska symposium on motivation.
- Canetti-Nisim, D., Ariely, G., & Halperin, E. (2008). Life, pocketbook, or culture: The role of perceived security threats in promoting exclusionist political attitudes toward minorities in Israel. *Political Research Quarterly*, 61(1), 90-103. doi:10.1177/1065912907307289
- Canetti, D., Snider, K. L., Pedersen, A., & Hall, B. J. (2016). Threatened or threatening? How ideology shapes asylum seekers' immigration policy attitudes in Israel and Australia. *Journal of Refugee Studies*, 29(4), 583-606. doi:10.1093/jrs/few012
- Castles, S. (2002). Environmental change and forced migration: Making sense of the debate. *New Issues in Refugee Research Working Paper No 70*: United Nations High Commissioner for Refugees and the University of Oxford.
- Cattaneo, C., & Peri, G. (2016). The migration response to increasing temperatures. *Journal of Development Economics*, 122, 127-146. doi:10.1016/j.jdeveco.2016.05.004
- Christian Aid. (2007). *Human tide: The real migration crisis*. Retrieved from <https://www.christianaid.org.uk/sites/default/files/2017-08/human-tide-the-real-migration-crisis-may-2007.pdf>

- Clore, G. L., & Jeffery, K. M. (1972). Emotional role playing, attitude change, and attraction toward a disabled person. *Journal of Personality and Social Psychology*, 23(1), 105-111. doi:10.1037/h0032867
- Cochrane, L. (2015). Pacific Islands Forum: Australia may be asked to leave group unless action taken on climate change. *ABC News*. Retrieved from <https://www.abc.net.au/news/2015-09-08/australia-may-be-asked-to-leave-the-pacific-islands-forum/6759914>
- Commonwealth of Australia. (2002). *A Certain Maritime Incident: Main report*. Retrieved from https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Former_Committees/maritimeincident/report/index.
- Cooper, S., Olejniczak, E., Lenette, C., & Smedley, C. (2017). Media coverage of refugees and asylum seekers in regional Australia: A critical discourse analysis. *Media International Australia*, 162(1), 78-89. doi:10.1177/1329878X16667832
- Corenblum, B., & Stephan, W. G. (2001). White fears and native apprehensions: An integrated threat theory approach to intergroup attitudes. *Canadian Journal of Behavioural Science*, 33(4), 251-268. doi:10.1037/h0087147
- Cork, S., & Auty, K. (2017). Australia doesn't 'get' the environmental challenges faced by Pacific Islanders. *The Conversation*. Retrieved from <https://theconversation.com/australia-doesnt-get-the-environmental-challenges-faced-by-pacific-islanders-81995>
- Correa-Velez, I., Gifford, S. M., & Barnett, A. G. (2010). Longing to belong: Social inclusion and wellbeing among youth with refugee backgrounds in the first three years in Melbourne, Australia. *Social Science & Medicine*, 71(8), 1399-1408. doi:10.1016/j.socscimed.2010.07.018
- Crisp, R. J., Stone, C. H., & Hall, N. R. (2006). Recategorization and subgroup identification: Predicting and preventing threats from common ingroups. *Personality and Social Psychology Bulletin*, 32(2), 230-243. doi:10.1177/0146167205280908
- Croucher, S. M. (2013). Integrated threat theory and acceptance of immigrant assimilation: An analysis of Muslim immigration in Western Europe. *Communication Monographs*, 80(1), 46-62. doi:10.1080/03637751.2012.739704
- Curşeu, P. L., Stoop, R., & Schalk, R. (2007). Prejudice toward immigrant workers among Dutch employees: Integrated threat theory revisited. *European Journal of Social Psychology*, 37(1), 125-140. doi:10.1002/ejsp.331
- Davidson, S. (2018). African gang violence will 'result in death' if government doesn't recognise problem: Dutton. *Nine News*. Retrieved from <https://www.9news.com.au/national/2018/10/25/11/53/victorian-state-election-2018-peter-dutton-slams-melbourne-gang-problem>
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113-126. doi:10.1037/0022-3514.44.1.113
- Davis, M. H., Conklin, L., Smith, A., & Luce, C. (1996). Effect of perspective taking on the cognitive representation of persons: a merging of self and other. *Journal of Personality and Social Psychology*, 70(4), 713-726. doi:10.1037/0022-3514.70.4.713
- Davis, M. H., Soderlund, T., Cole, J., Gadol, E., Kute, M., Myers, M., & Weihing, J. (2004). Cognitions associated with attempts to empathize: How do we imagine the perspective of another? *Personality and Social Psychology Bulletin*, 30(12), 1625-1635. doi:10.1177/0146167204271183
- Department of Defence. (2009). Leading Seaman Adrian Medbury. Retrieved from <http://www.defence.gov.au/siev36/personnel/people/medbury/medbury.htm>
- Department of Home Affairs (Producer). (2017). Border Watch television 30 second advertisement. Retrieved from <https://www.homeaffairs.gov.au/about-us/what-we-do/borderwatch/overview>

- DeVillis, R. F. (2003). *Scale development: Theory and applications* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, 56(1), 5-18. doi:1037/0022-3514.56.1.5
- Devine, P. G., Forscher, P. S., Austin, A. J., & Cox, W. T. (2012). Long-term reduction in implicit race bias: A prejudice habit-breaking intervention. *Journal of Experimental Social Psychology*, 48(6), 1267-1278. doi:10.1016/j.jesp.2012.06.003
- Dijker, A. J. (1987). Emotional reactions to ethnic minorities. *European Journal of Social Psychology*, 17(3), 305-325. doi:10.1002/ejsp.2420170306
- Do Valle, P. O., Rebelo, E., Reis, E., & Menezes, J. (2005). Combining behavioral theories to predict recycling involvement. *Environment and Behavior*, 37(3), 364-396. doi:10.1177/0013916504272563
- Docker, J., & Fischer, G. (2000). *Race, colour and identity in Australia and New Zealand*. Sydney, Australia: Unsw Press.
- Doherty, B. (2017, April 5). 'Disaster ally': Australia could be set to receive new wave of climate refugees. *The Guardian*. Retrieved from <https://www.theguardian.com/environment/2017/apr/05/disaster-alley-australia-could-be-set-to-receive-new-wave-of-climate-refugees>
- Dovidio, J. F., Ten Vergert, M., Stewart, T. L., Gaertner, S. L., Johnson, J. D., Esses, V. M., . . . Pearson, A. R. (2004). Perspective and prejudice: Antecedents and mediating mechanisms. *Personality and Social Psychology Bulletin*, 30(12), 1537-1549. doi:10.1177/0146167204271177
- Duckitt, J. (2006). Differential effects of right-wing authoritarianism and social dominance orientation on outgroup attitudes and their mediation by threat from and competitiveness to outgroups. *Personality and Social Psychology Bulletin*, 32(5), 684-696. doi:10.1177/0146167205284282
- Duckitt, J., Wagner, C., Du Plessis, I., & Birum, I. (2002). The psychological bases of ideology and prejudice: Testing a dual process model. *Journal of Personality and Social Psychology*, 83(1), 75-93. doi:10.1037/0022-3514.83.1.75
- Dun, O. V., & Gemenne, F. (2008). Defining 'environmental migration'. *Forced Migration Review*, 31, 10-11.
- Dunlap, R. E., & McCright, A. M. (2011). Organized climate change denial. In D. Schlosberg, J. Dryzek, & R. Norgaard (Eds.), *The Oxford handbook of climate change and society* (pp. 144-160). Cambridge: Oxford University Press.
- Echebarria- Echabe, A., & Guede, E. F. (2007). A new measure of anti- Arab prejudice: Reliability and validity evidence. *Journal of Applied Social Psychology*, 37(5), 1077-1091. doi:10.1111/j.1559-1816.2007.00200.x
- Edwards, D. J., McEntegart, C., Barnes-Holmes, Y., Lowe, R., Evans, N., & Vilardaga, R. (2017). The impact of mindfulness and perspective-taking on implicit associations toward the elderly: A relational frame theory account. *Mindfulness*, 8(6), 1-8. doi:10.1007/s12671-017-0734-x
- Ekehammar, B., & Akrami, N. (2003). The relation between personality and prejudice: A variable- and a person- centred approach. *European Journal of Personality*, 17(6), 449-464. doi:10.1002/per.494
- Ekehammar, B., & Akrami, N. (2007). Personality and prejudice: From Big Five personality factors to facets. *Journal of Personality*, 75(5), 899-926. doi:10.1111/j.1467-6494.2007.00460.x
- Ekehammar, B., Akrami, N., Gylje, M., & Zakrisson, I. (2004). What matters most to prejudice: Big five personality, social dominance orientation, or right- wing authoritarianism? *European Journal of Personality*, 18(6), 463-482. doi:10.1002/per.526
- El-Hinnawi, E. (1985). *Environmental refugees*. Nairobi, Kenya: United Nations Environment Program.

- Enders, C. K., & Bandalos, D. L. (2001). The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling*, 8(3), 430-457. doi:10.1207/S15328007SEM0803_5
- Epley, N., Caruso, E., & Bazerman, M. H. (2006). When perspective taking increases taking: Reactive egoism in social interaction. *Journal of Personality and Social Psychology*, 91(5), 872. doi:10.1037/0022-3514.91.5.872
- Erle, T. M., & Topolinski, S. (2017). The grounded nature of psychological perspective-taking. *Journal of Personality and Social Psychology*, 112(5), 683-695. doi:10.1037/pspa0000081
- Esses, V. M., & Dovidio, J. F. (2002). The role of emotions in determining willingness to engage in intergroup contact. *Personality and Social Psychology Bulletin*, 28(9), 1202-1214. doi:10.1177/01461672022812006
- Esses, V. M., Dovidio, J. F., Jackson, L. M., & Armstrong, T. L. (2001). The immigration dilemma: The role of perceived group competition, ethnic prejudice, and national identity. *Journal of Social Issues*, 57(3), 389-412. doi:10.1111/0022-4537.00220
- Esses, V. M., Hamilton, L. K., & Gaucher, D. (2017). The global refugee crisis: Empirical evidence and policy implications for improving public attitudes and facilitating refugee resettlement. *Social Issues and Policy Review*, 11(1), 78-123. doi:10.1111/sipr.12028
- Esses, V. M., Jackson, L. M., & Armstrong, T. L. (1998). Intergroup competition and attitudes toward immigrants and immigration: An instrumental model of group conflict. *Journal of Social Issues*, 54(4), 699-724. doi:10.1111/j.1540-4560.1998.tb01244.x
- Farbotko, C. (2005). Tuvalu and climate change: Constructions of environmental displacement in the Sydney Morning Herald. *Geografiska Annaler*, 87 B(4), 279-293. doi:10.1111/j.0435-3684.2005.00199.x
- Farbotko, C., & Lazrus, H. (2012). The first climate refugees? Contesting global narratives of climate change in Tuvalu. *Global Environmental Change*, 22(2), 382-390. doi:10.1016/j.gloenvcha.2011.11.014
- Faulkner, N. (2017). "Put yourself in their shoes": Testing empathy's ability to motivate cosmopolitan behavior. *Political Psychology*, 39(1), 217-228. doi:10.1111/pops.12411
- Festinger, L. (1957). *A theory of cognitive dissonance* (Vol. 2): Stanford university press.
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). London: Sage.
- Field, C. B., Barros, V., Stocker, T. F., Qin, D., Dokken, D. J., Ebi, K. L., . . . Ed. (2012). Managing the risks of extreme events and disasters to advance climate change adaptation: Special report of the intergovernmental panel on climate change. Cambridge, UK: Cambridge University Press.
- Finlay, K. A., & Stephan, W. G. (2000). Improving intergroup relations: The effects of empathy on racial attitudes. *Journal of Applied Social Psychology*, 30(8), 1720-1737. doi:10.1111/j.1559-1816.2000.tb02464.x
- Florack, A., Piontkowski, U., Rohmann, A., Balzer, T., & Perzig, S. (2003). Perceived intergroup threat and attitudes of host community members toward immigrant acculturation. *The Journal of social psychology*, 143(5), 633-648. doi:10.1080/00224540309598468
- Foreman, N. (2010). Virtual reality in psychology. *Themes in Science and Technology Education*, 2(3), 225-252. doi:10.1089/cpb.2005.8.220
- Gächter, S., Starmer, C., & Tufano, F. (2015). Measuring the closeness of relationships: A comprehensive evaluation of the Inclusion of the Other in the Self scale. *PLoS One*, 10(6), 1-19. doi:10.1371/journal.pone.0129478
- Gaggioli, A. (2001). Using virtual reality in experimental psychology. In G. Riva & C. Galimberti (Eds.), *Towards CyberPsychology: Mind, Cognitions and Society in the Internet Age* (pp. 157-174). Amsterdam: IOS Press.
- Galinsky, A. D., & Ku, G. (2004). The effects of perspective-taking on prejudice: The moderating role of self-evaluation. *Personality and Social Psychology Bulletin*, 30(5), 594-604. doi:10.1177/0146167203262802

- Galinsky, A. D., Ku, G., & Wang, C. S. (2005). Perspective-taking and self-other overlap: Fostering social bonds and facilitating social coordination. *Group Processes & Intergroup Relations*, 8(2), 109-124. doi:10.1177/1368430205051060
- Galinsky, A. D., Magee, J. C., Inesi, M. E., & Gruenfeld, D. H. (2006). Power and perspectives not taken. *Psychological Science*, 17(12), 1068-1074. doi:10.1111/j.1467-9280.2006.01824.x
- Galinsky, A. D., & Moskowitz, G. B. (2000). Perspective-taking: Decreasing stereotype expression, stereotype accessibility, and in-group favoritism. *Journal of Personality and Social Psychology*, 78(4), 708-724. doi:10.1037/0022-3514.78.4.708
- Galinsky, A. D., Wang, C., & Ku, G. (2005). Smarter and slower: The differential impact of perspective-taking on judgments and behavior. *Unpublished manuscript, Northwestern University*.
- Garau, M., Slater, M., Pertaub, D.-P., & Razzaque, S. (2005). The responses of people to virtual humans in an immersive virtual environment. *Presence: Teleoperators and Virtual Environments*, 14(1), 104-116. doi:10.1162/1054746053890242
- Gehlbach, H., Marietta, G., King, A. M., Karutz, C., Bailenson, J. N., & Dede, C. (2015). Many ways to walk a mile in another's moccasins: Type of social perspective taking and its effect on negotiation outcomes. *Computers in Human Behavior*, 52, 523-532. doi:10.1016/j.chb.2014.12.035
- Gemenne, F. (2011). Why the numbers don't add up: A review of estimates and predictions of people displaced by environmental changes. *Global Environmental Change*, 21, S41-S49. doi:10.1016/j.gloenvcha.2011.09.005
- Greenberg, J., Pyszczynski, T., Solomon, S., Rosenblatt, A., Veeder, M., Kirkland, S., & Lyon, D. (1990). Evidence for terror management theory II: The effects of mortality salience on reactions to those who threaten or bolster the cultural worldview. *Journal of Personality and Social Psychology*, 58(2), 308. doi:10.1037/0022-3514.58.2.308
- Groom, V., Bailenson, J. N., & Nass, C. (2009). The influence of racial embodiment on racial bias in immersive virtual environments. *Social Influence*, 4(3), 231-248. doi:10.1080/15534510802643750
- Hallegatte, S., Green, C., Nicholls, R. J., & Corfee-Morlot, J. (2013). Future flood losses in major coastal cities. *Nature Climate Change*, 3(9), 802-806. doi:10.1038/nclimate1979
- Hannam, P. (2014, Sept 1). Rich nations have moral duty to help island nations as climate change shifts weather patterns, says World Bank envoy. *The Sydney Morning Herald*. Retrieved from <http://www.smh.com.au/environment/climate-change/rich-nations-have-moral-duty-to-help-island-nations-as-climate-change-shifts-weather-patterns-says-world-bank-envoy-20140831-10a12l.html>
- Harmon-Jones, E., & Harmon-Jones, C. (2008). Cognitive dissonance theory. In J. Shah & W. Gardner (Eds.), *Handbook of motivation science* (pp. 71-83). New York: The Guilford Press.
- Harrison, N., & Peacock, N. (2009). Cultural distance, mindfulness and passive xenophobia: Using integrated threat theory to explore home higher education students' perspectives on 'internationalisation at home'. *British Educational Research Journal*, 36(6), 877-902. doi:10.1080/01411920903191047
- Hartley, L., & Fleay, C. (2014). *Policy as punishment: Asylum seekers living in the community without the right to work*. Retrieved from Centre for Human Rights Education, Curtin University: <http://apo.org.au/node/38122>
- Henry, P. J., & Hardin, C. D. (2006). The contact hypothesis revisited: Status bias in the reduction of implicit prejudice in the United States and Lebanon. *Psychological Science*, 17(10), 862-868. doi:10.1111/j.1467-9280.2006.01795.x
- Herman, E., & Chomsky, N. (1988). *Manufacturing consent. The political economy of the mass media*. New York: Pantheon Books.

- Höijer, B. (2004). The discourse of global compassion: The audience and media reporting of human suffering. *Media, Culture & Society*, 26(4), 513-531. doi:10.1177/0163443704044215
- Holmes-Smith, P., & Rowe, K. J. (1994). *The development and use of congeneric measurement models in school effectiveness research: Improving the reliability and validity of composite and latent variables for fitting multilevel and structural equation models*. Paper presented at the International Congress for School Effectiveness and Improvement, Melbourne.
- Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6(1), 53-60.
- Hugo Centre for Migration and Population Research. (2018). Accessibility/Remoteness index of Australia (ARIA). Retrieved from https://www.adelaide.edu.au/hugo-centre/spatial_data/aria/
- Hugo, G. (1996). Environmental concerns and international migration. *International Migration Review*, 30(1), 105-131. doi:10.2307/2547462
- Human Rights Watch. (2015). *World Report*. Retrieved from United States of America: <https://www.hrw.org/world-report/2015>
- Hunter, L. M. (2005). Migration and environmental hazards. *Population and Environment*, 26(4), 273-302. doi:10.1007/s11111-005-3343-x
- Institute of Policy Studies. (2010). *Climate change and migration: South Pacific perspectives* (B. Burson Ed.). Wellington: School of Government, Victoria University of Wellington.
- Intergovernmental Panel on Climate Change. (2007). *Summary for Policymakers*. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Retrieved from <http://www.un-documents.net/ipcc-ar4/wg2-spm.pdf>
- International Organisation for Migration [IOM]. (2008). *World migration 2008: Managing labour mobility in the evolving global economy*. Retrieved from <http://publications.iom.int/books/world-migration-report-2008-managing-labour-mobility-evolving-global-economy>:
- International Organisation for Migration [IOM]. (2011). *Glossary on Migration*. Retrieved from https://publications.iom.int/system/files/pdf/iml25_1.pdf
- Islam, M. R., & Hewstone, M. (1993). Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: An integrative model. *Personality and Social Psychology Bulletin*, 19(6), 700-710. doi:10.1177/0146167293196005
- Jackson, J. W., & Purdue, U. (1993). Realistic group conflict theory: A review and evaluation of the theoretical and empirical literature. *The Psychological Record*, 43(3), 395-413.
- Jacobson, J. L. (1988). *Environmental refugees: A yardstick of habitability* (Vol. 86). Washington, D.C.: Worldwatch Institute.
- Jones, E. E., & Nisbett, R. E. (1972). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones et al. (Ed.), *Attribution: Perceiving the causes of behavior*. Morristown, N.J.: General Learning Press.
- Jöreskog, K. G., & Sörbom, D. (1984). *LISREL-VI user's guide* (3rd ed.). Mooresville: Scientific Software.
- Junankar, P. R., & Mahuteau, S. (2005). Do migrants get good jobs? New migrant settlement in Australia. In P. R. Junankar (Ed.), *Economics of immigration* (pp. 251-272). London: Palgrave Macmillan.
- Kalyanaraman, S., Penn, D. L., Ivory, J. D., & Judge, A. (2010). The virtual doppelganger: Effects of a virtual reality simulator on perceptions of schizophrenia. *The Journal of Nervous and Mental Disease*, 198(6), 437-443. doi:10.1097/NMD.0b013e3181e07d66
- Katz, I., & Glass, D. C. (1979). An ambivalence-amplification theory of behavior toward the stigmatized. In W. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 55-70). Monterey, CA: Brooks/Cole.

- Kim, I. (2016). Beyond trauma: Post-resettlement factors and mental health outcomes among Latino and Asian refugees in the United States. *Journal of Immigrant and Minority Health, 18*(4), 740-748. doi:10.1007/s10903-015-0251-8
- Kline, R. B. (2005). *Principles and practice of structural equation modelling* (2nd ed.). New York: Guilford.
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). New York: Guilford publications.
- Klocker, N., & Dunn, K. M. (2003). Who's driving the asylum debate? Newspaper and government representations of asylum seekers. *Media International Australia, Incorporating Culture and Policy, 109*(1), 71-92. doi:10.1177/1329878X0310900109
- Kohlberg, L. (1976). Moral stages and moralization: The cognitive-development approach. In T. Lickona (Ed.), *Moral development and behavior: Theory research and social issues* (pp. 31-53). New York: Holt: Rinehart & Winston.
- Kreindler, S. A. (2005). A dual group processes model of individual differences in prejudice. *Personality and Social Psychology Review, 9*(2), 90-107. doi:10.1207/s15327957pspr0902_1
- Kunda, Z., Davies, P. G., Adams, B. D., & Spencer, S. J. (2002). The dynamic time course of stereotype activation: Activation, dissipation, and resurrection. *Journal of Personality and Social Psychology, 82*(3), 283-299. doi:10.1037/0022-3514.82.3.283
- Laughland-Booŷ, J., Skrbiš, Z., & Tranter, B. (2014). Toleration or trust? Investigating the acceptance of 'boat people' among young Australians. *Australian Journal of Social Issues, 49*(2), 195-217. doi:10.1002/j.1839-4655.2014.tb00308.x
- Leach, M. (2003). "Disturbing practices": dehumanizing asylum seekers in the refugee "crisis" in Australia, 2001-2002. *Refuge, 21*(3), 25-33.
- Lee, H. (1960). *To kill a mockingbird*. New York: Grand Central Publishing.
- Levin, S., Federico, C. M., Sidanius, J., & Rabinowitz, J. L. (2002). Social dominance orientation and intergroup bias: The legitimization of favoritism for high-status groups. *Personality and Social Psychology Bulletin, 28*(2), 144-157. doi:10.1177/0146167202282002
- LeVine, R. A., & Campbell, D. T. (1972). *Ethnocentrism: Theories of conflict, ethnic attitudes, and group behavior*. New York: Wiley.
- Lewandowsky, S., Ecker, U. K., Seifert, C. M., Schwarz, N., & Cook, J. (2012). Misinformation and its correction continued influence and successful debiasing. *Psychological Science in the Public Interest, 13*(3), 106-131. doi:10.1177/1529100612451018
- Leyk, S., Runfola, D., Nawrotzki, R. J., Hunter, L. M., & Riosmena, F. (2017). Internal and international mobility as adaptation to climatic variability in contemporary Mexico: Evidence from the integration of census and satellite data. *Population, Space and Place, 23*(6), e2047. doi:10.1002/psp.2047
- Lippi, K., McKay, F. H., & McKenzie, H. J. (2017). Representations of refugees and asylum seekers during the 2013 federal election. *Journalism, 1*-19. doi:10.1177/1464884917734079
- Lonergan, S. (1994). *Population movement and the environment*. Paper presented at the Seminar on International Migration, Citizenship and Immigration, Quebec, Canada.
- Lonergan, S. (1998). The role of environmental degradation in population displacement. *Environmental Change and Security Project Report, (Vol. 4, pp. 5-15)*.
- Louis, W. R., Duck, J. M., Terry, D. J., Schuller, R. A., & Lalonde, R. N. (2007). Why do citizens want to keep refugees out? Threats, fairness and hostile norms in the treatment of asylum seekers. *European Journal of Social Psychology, 37*(1), 53-73. doi:10.1002/ejsp.329
- Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin, 18*(3), 302-318. doi:10.1177/0146167292183006
- MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology, 51*(1), 201-226.

- Madera, J. M. (2017). Situational perspective taking as an intervention for improving attitudes toward organizations that invest in diversity management programs. *Journal of Business and Psychology*, 33(3), 423-442. doi:10.1007/s10869-017-9502-0
- Markus, A., & Dharmalingam, A. (2014). *Mapping social cohesion: The Scanlon Foundation Surveys*. Retrieved from Victoria, Australia: <http://monash.edu/mapping-population/>
- Markus, A., & Dharmalingam, A. (2017). *Mapping social cohesion*. Retrieved from Victoria, Australia: <https://www.monash.edu/mapping-population>
- Martín-Albo, J., Núñez, J. L., Navarro, J. G., & Grijalvo, F. (2007). The Rosenberg Self-Esteem Scale: Translation and validation in university students. *The Spanish Journal of Psychology*, 10(2), 458-467.
- Matthes, J., & Schmuck, D. (2015). The Effects of Anti-Immigrant Right-Wing Populist Ads on Implicit and Explicit Attitudes A Moderated Mediation Model. *Communication Research*, 44(4), 556-581. doi:10.1177/0093650215577859
- McConahay, J. B., Hardee, B. B., & Batts, V. (1981). Has racism declined in America? It depends on who is asking and what is asked. *Journal of Conflict Resolution*, 25(4), 563-579. doi:10.1177/002200278102500401
- McKay, F. H., Thomas, S. L., & Kneebone, S. (2012). 'It would be okay if they came through the proper channels': Community perceptions and attitudes toward asylum seekers in Australia. *Journal of Refugee Studies*, 25(1), 113-133. doi:10.1093/jrs/fer010
- McKay, F. H., Thomas, S. L., & Warwick Blood, R. (2011). 'Any one of these boat people could be a terrorist for all we know!' Media representations and public perceptions of 'boat people' arrivals in Australia. *Journalism*, 12(5), 607-626. doi:10.1177/1464884911408219
- McLaren, L. M. (2003). Anti-immigrant prejudice in Europe: Contact, threat perception, and preferences for the exclusion of migrants. *Social Forces*, 81(3), 909-936. doi:10.1353/sof.2003.0038
- McNamara, K. E. (2015). Cross-border migration with dignity in Kiribati. *Forced Migration Review*, 49, 62.
- McNeill, S., McGregor, J., & Carter, L. (2018). 'I'm black. I'm seen as a threat'. *Australian Broadcasting Corporation*. Retrieved from <https://www.abc.net.au/news/2018-11-05/crime-and-panic-on-the-streets-of-melbourne/10455244>
- Melde, S., Laczko, F., & Gemenne, F. (eds.). (2017). *Making Mobility Work for Adaptation to Environmental Changes: Results from the MECLEP Global Research*. Retrieved from <https://environmentalmigration.iom.int/making-mobility-work-adaptation-environmental-changes-results-meclep-global-research>
- Moberg, K. K. (2008). Extending refugee definitions to cover environmentally displaced persons displaces necessary protection. *Iowa Law Review*, 94(3), 1107-1136.
- Moeller, S. D. (1999). *Compassion fatigue: How the media sell disease, famine, war and death*. New York: Routledge.
- Monterrubio, C. (2016). The impact of spring break behaviour: An integrated threat theory analysis of residents' prejudice. *Tourism Management*, 54, 418-427. doi:10.1016/j.tourman.2015.12.004
- Moons, W. G., Mackie, D. M., & Garcia-Marques, T. (2009). The impact of repetition-induced familiarity on agreement with weak and strong arguments. *Journal of Personality and Social Psychology*, 96(1), 32. doi:10.1037/a0013461
- Morinière, L. C. E., & Hamza, M. (2012). Environment and mobility: A view from four discourses. *Ambio*, 41(8), 795-807. doi:10.1007/s13280-012-0333-y
- Munck, I. M. (1979). *Model building in comparative education: Applications of the LISREL method to cross-national survey data*: Almqvist & Wiksell international.
- Murray, K. E., & Marx, D. M. (2013). Attitudes toward unauthorized immigrants, authorized immigrants, and refugees. *Cultural Diversity and Ethnic Minority Psychology*, 19(3), 332-341. doi:10.1037/a0030812

- Myers, N. (1993). Environmental refugees in a globally warmed world. *Bioscience*, 43(11), 752-761.
- Myers, N. (1994). Eco-refugees: a crisis in the making. *People and the Planet*, 3(4), 6-9.
- Myers, N. (1997). Environmental refugees. *Population and Environment*, 19(2), 167-182. doi:10.1023/A:1024623431924
- Myers, N. (2002). Environmental refugees: A growing phenomenon of the 21st century. *Philosophical Transactions: Biological Sciences*, 357(1420), 609-613. doi:10.1098/rstb.2001.0953
- Naser, M. M. (2015). Climate change, environmental degradation, and migration: A complex nexus. *William and Mary Environmental Law and Policy Review*, 36(4), 713-768.
- Nevitt, J., & Hancock, G. R. (2001). Performance of bootstrapping approaches to model test statistics and parameter standard error estimation in structural equation modeling. *Structural Equation Modeling*, 8(3), 353-377. doi:10.1207/S15328007SEM0803_2
- Newspoll, & The Australian. (2002). 13/02/02: Detention centres poll. Retrieved from http://polling.newspoll.com.au/cgi-bin/polling/display_poll_data.pl
- Newspoll, & The Australian. (2004). 20/08/04 Opinion poll. Retrieved from <http://www.newspoll.com.au/opinion-polls-2/opinion-polls-2/>
- Newspoll, & The Australian. (2009). 09/11/09: Asylum Seekers. Retrieved from http://polling.newspoll.com.au/cgi-bin/polling/display_poll_data.pl
- Nisbett, R. E., Caputo, C., Legant, P., & Marecek, J. (1973). Behavior as seen by the actor and as seen by the observer. *Journal of Personality and Social Psychology*, 27(2), 154-164. doi:10.1037/h0034779
- Norgaard, K. M. (2011). *Living in denial: Climate change, emotions, and everyday life*. Cambridge, MA: MIT Press.
- O'Malley, N. (2014). 'Australia is a Pacific island - it has a responsibility'. *The Sydney Morning Herald*. Retrieved from <https://www.smh.com.au/world/australia-is-a-pacific-island--it-has-a-responsibility-20140921-10jwdw.html>
- Obokata, R., Veronis, L., & McLeman, R. (2014). Empirical research on international environmental migration: A systematic review. *Population and Environment*, 36(1), 111-135. doi:10.1007/s11111-014-0210-7
- Oh, S. Y., Bailenson, J., Weisz, E., & Zaki, J. (2016). Virtually old: Embodied perspective taking and the reduction of ageism under threat. *Computers in Human Behavior*, 60, 398-410. doi:10.1016/j.chb.2016.02.007
- Oliver-Smith, A. (2009). Sea level rise and the vulnerability of coastal peoples: Responding to the local challenges of global climate change in the 21st century. *InterSecTions No. 7*. Bonn, Germany: United Nations University Institute for Environment and Human Security.
- Paolini, S., Hewstone, M., Voci, A., Harwood, J., & Cairns, E. (2006). Intergroup contact and the promotion of intergroup harmony: The influence of intergroup emotions. In R. Brown & D. Capozza (Eds.), *Social identities: Motivational, emotional, and cultural influences* (pp. 209-238). Hove, East Sussex, United Kingdom: Psychology Press.
- Parks, B. C., & Roberts, J. T. (2006). Globalization, vulnerability to climate change, and perceived injustice. *Society and Natural Resources*, 19(4), 337-355. doi:10.1080/08941920500519255
- Pauline Hanson's One Nation Political Party. (2015). One Nation Policies: Illegal immigration & people smugglers. Retrieved from <http://www.onenation.com.au/policies/illegal-immigration>
- Pedersen, A., Attwell, J., & Heveli, D. (2005). Prediction of negative attitudes toward Australian asylum seekers: False beliefs, nationalism, and self-esteem. *Australian Journal of Psychology*, 57(3), 148-160. doi:10.1080/00049530500125157
- Pedersen, A., Beven, J., Walker, I., & Griffiths, B. (2004). Attitudes toward indigenous Australians: The role of empathy and guilt. *Journal of Community & Applied Social Psychology*, 14(4), 233-249. doi:10.1002/casp.771

- Pedersen, A., Clarke, S., Dudgeon, P., & Griffiths, B. (2005). Attitudes toward Indigenous Australians and asylum seekers: The role of false beliefs and other social-psychological variables. *Australian Psychologist*, 40(3), 170-178. doi:10.1080/00050060500243483
- Pedersen, A., Griffiths, B., & Watt, S. E. (2008). Attitudes toward Out-groups and the perception of consensus: All feet do not wear one shoe. *Journal of Community & Applied Social Psychology*, 18(6), 543-557. doi:10.1002/casp.964
- Pedersen, A., & Hartley, L. K. (2015). Can we make a difference? Prejudice towards asylum seekers in Australia and the effectiveness of antiprejudice interventions. *Journal of Pacific Rim Psychology*, 9(1), 1-14. doi:10.1017/prp.2015.1
- Pedersen, A., & Hartley, L. K. (2017). False beliefs about asylum seekers to Australia: The role of confidence in such beliefs, prejudice, and the third person effect. *Journal of Pacific Rim Psychology*, 11, e5. doi:10.1017/prp.2017.5
- Pedersen, A., & Thomas, E. F. (2013). "There but for the grace of God go we": Prejudice toward asylum seekers. *Peace and Conflict: Journal of Peace Psychology*, 19(3), 253-265. doi:10.1037/a0033738
- Pedersen, A., Walker, I., Paradies, Y., & Guerin, B. (2011). How to cook rice: A review of ingredients for teaching anti-prejudice. *Australian Psychologist*, 46(1), 55-63. doi:10.1111/j.1742-9544.2010.00015.x
- Pedersen, A., Watt, S., & Hanser, S. (2006). The role of false beliefs in the community's and the federal government's attitudes toward Australian asylum seekers. *The Australian Journal of Social Issues*, 41(1), 105-124.
- Perth Now. (2018). 'They don't nationalise, they colonise': Footy Show co-host Sam Newman attacks Muslims. *Perth Now*. Retrieved from <https://www.perthnow.com.au/news/immigration/they-dont-nationalise-they-colonise-footy-show-co-host-sam-newman-launches-attack-on-muslims-ng-b88934888z>
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90(5), 751-783. doi:10.1037/0022-3514.90.5.751
- Piaget, J. (1932). *The moral development of the child*. New York: Free Press, 1965.
- Pierce, J. R., Kilduff, G. J., Galinsky, A. D., & Sivanathan, N. (2013). From glue to gasoline: How competition turns perspective takers unethical. *Psychological Science*, 24(10), 1986-1994. doi:10.1177/0956797613482144
- Plous, S. (2003). The psychology of prejudice, stereotyping, and discrimination: An overview. In S. Plous (Ed.), *Understanding prejudice and discrimination* (pp. 3-48). New York: McGraw-Hill.
- Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, 67(4), 741. doi:10.1037/0022-3514.67.4.741
- Quillian, L. (2006). New approaches to understanding racial prejudice and discrimination. *Annual Review of Sociology*, 32(1), 299-328. doi:10.1146/annurev.soc.32.061604.123132
- Ramlogan, R. (1996). Environmental refugees: a review. *Environmental Conservation*, 23(01), 81-88. doi:10.1017/S0376892900038285
- Ransan-Cooper, H., Farbotko, C., McNamara, K. E., Thornton, F., & Chevalier, E. (2015). Being(s) framed: The means and ends of framing environmental migrants. *Global Environmental Change*, 35, 106-115. doi:10.1016/j.gloenvcha.2015.07.013
- Rattazzi, A. M. M., Bobbio, A., & Canova, L. (2007). A short version of the Right-Wing Authoritarianism (RWA) Scale. *Personality and Individual Differences*, 43(5), 1223-1234. doi:10.1016/j.paid.2007.03.013
- Reuveny, R. (2007). Climate change-induced migration and violent conflict. *Political Geography*, 26(6), 656-673. doi:10.1016/j.polgeo.2007.05.001

- Richardson, D. R., Hammock, G. S., Smith, S. M., Gardner, W., & Signo, M. (1994). Empathy as a cognitive inhibitor of interpersonal aggression. *Aggressive Behavior*, 20(4), 275-289. doi:10.1002/1098-2337(1994)20:4<275::AID-AB2480200402>3.0.CO;2-4
- Riek, B. M., Mania, E. W., & Gaertner, S. L. (2006). Intergroup threat and outgroup attitudes: A meta-analytic review. *Personality and Social Psychology Review*, 10(4), 336-353. doi:10.1207/s15327957pspr1004_4
- Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, 27(2), 151-161. doi:10.1177/0146167201272002
- Saxton, A. (2003). I certainly don't want people like that here': The discursive construction of 'asylum seekers. *Media International Australia, Incorporating Culture and Policy*, 109(1), 109-120. doi:10.1177/1329878X0310900111
- Schlueter, E., Schmidt, P., & Wagner, U. (2008). Disentangling the causal relations of perceived group threat and outgroup derogation: Cross-national evidence from German and Russian panel surveys. *European Sociological Review*, 24(5), 567-581. doi:10.1093/esr/jcn029
- Schmitt, D. P., & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology*, 89(4), 623. doi:10.1037/0022-3514.89.4.623
- Schneider, A., & Ingram, H. (1993). Social construction of target populations: Implications for politics and policy. *American Political Science Review*, 87(02), 334-347. doi:10.2307/2939044
- Schneider, D. J. (2004). *The psychology of stereotyping*. New York: Guilford.
- Schreiber, J. B. (2008). Core reporting practices in structural equation modeling. *Research in Social and Administrative Pharmacy*, 4(2), 83-97. doi:10.1016/j.sapharm.2007.04.003
- Schuemie, M. J., Van Der Straaten, P., Krijn, M., & Van Der Mast, C. A. (2001). Research on presence in virtual reality: A survey. *CyberPsychology & Behavior*, 4(2), 183-201. doi:10.1089/109493101300117884
- Schweitzer, R., Perkoulidis, S., Krome, S., Ludlow, C., & Ryan, M. (2005). Attitudes towards refugees: The dark side of prejudice in Australia. *Australian Journal of Psychology*, 57(3), 170-179. doi:10.1080/00049530500125199
- Sears, D. O. (1988). Symbolic racism. In P. A. Katz & D. A. Taylor (Eds.), *Eliminating racism: Profiles in controversy* (pp. 53-84). New York, NY: Plenum Press.
- Sears, D. O., & Henry, P. J. (2003). The origins of symbolic racism. *Journal of Personality and Social Psychology*, 85(2), 259-275. doi:10.1037/0022-3514.85.2.259
- Shapiro, M. A., & McDonald, D. G. (1992). I'm not a real doctor, but I play one in virtual reality: implications of virtual reality for judgments about reality. *Journal of Communication*, 42(4), 94-114.
- Sherif, M., Harvey, O., White, B. J., Hood, W. R., & Sherif, C. W. (1961). Intergroup cooperation and competition: The Robbers Cave experiment. Norman, OK: University Book Exchange.
- Sherif, M., & Sherif, C. W. (1966). The rise of attitudes toward ingroup and outgroup: Experimental verification. In M. Sherif & C. W. Sherif (Eds.), *Groups in harmony and tension: An integration of studies of intergroup relations*. New York: Octagon Books.
- Shih, M., Wang, E., Bucher, A. T., & Stotzer, R. (2009). Perspective taking: Reducing prejudice towards general outgroups and specific individuals. *Group Processes & Intergroup Relations*, 12(5), 565-577. doi:10.1177/1368430209337463
- Shook, N. J., & Fazio, R. H. (2008). Interracial roommate relationships: An experimental field test of the contact hypothesis. *Psychological Science*, 19(7), 717-723. doi:10.1111/j.1467-9280.2008.02147.x
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. New York: John Wiley.

- Sibson, E. (2018). Christian fundamentalists confront Muslim leader at Brisbane mosque to condemn Islam. *Australian Broadcasting Corporation*. Retrieved from <https://www.abc.net.au/news/2018-07-05/baptists-confront-islamic-leader-at-brisbane-mosque/9944580>
- Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. New York: Cambridge University Press.
- Slater, M., Pertaub, D.-P., Barker, C., & Clark, D. M. (2006). An experimental study on fear of public speaking using a virtual environment. *CyberPsychology & Behavior*, 9(5), 627-633. doi:10.1089/cpb.2006.9.627
- Sluckin, W., Hargreaves, D. J., & Colman, A. M. (1982). Some experimental studies of familiarity and liking. *Bulletin of the British Psychological Society*, 35, 189-194.
- Small, D. A., & Loewenstein, G. (2003). Helping a victim or helping the victim: Altruism and identifiability. *Journal of Risk and Uncertainty*, 26(1), 5-16. doi:10.1023/A:1022299422219
- Snellman, A., & Ekehammar, B. (2005). Ethnic hierarchies, ethnic prejudice, and social dominance orientation. *Journal of Community & Applied Social Psychology*, 15(2), 83-94. doi:10.1002/casp.812
- Sparkman, D. J., & Blanchar, J. C. (2017). Examining relationships among epistemic motivation, perspective taking, and prejudice: A test of two explanatory models. *Personality and Individual Differences*, 114, 48-56. doi:10.1016/j.paid.2017.03.049
- Sparkman, D. J., & Eidelman, S. (2016). "Putting myself in their shoes": Ethnic perspective taking explains liberal-conservative differences in prejudice and stereotyping. *Personality and Individual Differences*, 98, 1-5. doi:10.1016/j.paid.2016.03.095
- Stavropoulou, M. (2008). Drowned in definitions. *Forced Migration Review*, 31(11), 11-12.
- Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology*, 69(5), 797. doi:10.1037/0022-3514.69.5.797
- Stephan, C. W., & Stephan, W. G. (1993). Reducing intercultural anxiety through intercultural contact. *International Journal of Intercultural Relations*, 16(1), 89-106. doi:10.1016/0147-1767(92)90007-H
- Stephan, C. W., & Stephan, W. G. (2000). An integrated threat theory of prejudice. In S. Oskamp (Ed.), *Reducing prejudice and discrimination* (pp. 33-56). Mahwah, NJ: Erlbaum.
- Stephan, C. W., Stephan, W. G., Demitakis, K. M., Yamada, A. M., & Clason, D. L. (2000). Women's attitudes toward men: An integrated threat theory approach. *Psychology of Women Quarterly*, 24(1), 63-73. doi:10.1111/j.1471-6402.2000.tb01022.x
- Stephan, W. G. (2014). Intergroup anxiety: Theory, research, and practice. *Personality and Social Psychology Review*, 18(3), 239-255. doi:10.1177/1088868314530518
- Stephan, W. G., Boniecki, K. A., Ybarra, O., Bettencourt, A., Ervin, K. S., Jackson, L. A., . . . Renfro, C. L. (2002). The role of threats in the racial attitudes of Blacks and Whites. *Personality and Social Psychology Bulletin*, 28(9), 1242-1254. doi:10.1177/01461672022812009
- Stephan, W. G., Diaz-Loving, R., & Duran, A. (2000). Integrated threat theory and intercultural attitudes Mexico and the United States. *Journal of Cross-Cultural Psychology*, 31(2), 240-249. doi:10.1177/0022022100031002006
- Stephan, W. G., & Finlay, K. (1999). The role of empathy in improving intergroup relations. *Journal of Social Issues*, 55(4), 729-743. doi:10.1111/0022-4537.00144
- Stephan, W. G., & Renfro, C. L. (2002). The role of threat in intergroup relations. In E. M. Mackie & E. R. Smith (Eds.), *From prejudice to intergroup emotions: Differentiated reactions to social groups* (pp. 191-207). New York: Psychology Press.

- Stephan, W. G., Renfro, C. L., Esses, V. M., Stephan, C. W., & Martin, T. (2005). The effects of feeling threatened on attitudes toward immigrants. *International Journal of Intercultural Relations*, 29(1), 1-19. doi:10.1016/j.ijintrel.2005.04.011
- Stephan, W. G., & Stephan, C. W. (1985). Intergroup anxiety. *Journal of Social Issues*, 41(3), 157-175. doi:10.1111/j.1540-4560.1985.tb01134.x
- Stephan, W. G., & Stephan, C. W. (1989a). Antecedents of intergroup anxiety in Asian-Americans and Hispanic-Americans. *International Journal of Intercultural Relations*, 13(2), 203-219. doi:10.1016/0147-1767(89)90006-0
- Stephan, W. G., & Stephan, C. W. (1989b). Emotional reactions to interracial achievement outcomes. *Journal of Applied Social Psychology*, 19(7), 608-621. doi:10.1111/j.1559-1816.1989.tb00273.x
- Stephan, W. G., & Stephan, C. W. (1993). Cognition and affect in stereotyping: Parallel interactive networks. In D. Mackie & D. Hamilton (Eds.), *Affect, cognition, and stereotyping: Interactive processes in group perception* (pp. 111-136). Orlando, FL: Academic Press.
- Stephan, W. G., & Stephan, C. W. (1996a). *Intergroup relations*: Westview Press.
- Stephan, W. G., & Stephan, C. W. (1996b). Predicting prejudice. *International Journal of Intercultural Relations*, 20(3), 409-426. doi:10.1016/0147-1767(96)00026-0
- Stephan, W. G., Stephan, C. W., & Gudykunst, W. B. (1999). Anxiety in intergroup relations: A comparison of anxiety/uncertainty management theory and integrated threat theory. *International Journal of Intercultural Relations*, 23(4), 613-628. doi:10.1016/S0147-1767(99)00012-7
- Stephan, W. G., Ybarra, O., Martinez, C. M., Schwarzwald, J., & Tur-Kaspa, M. (1998). Prejudice toward immigrants to Spain and Israel: An integrated threat theory analysis. *Journal of Cross-Cultural Psychology*, 29(4), 559-576. doi:10.1177/0022022198294004
- Stephan, W. G., Ybarra, O., & Morrison, K. (2009). Intergroup threat theory. In T. Nelson (Ed.), *Handbook of prejudice, stereotyping and discrimination*. Hove, UK: Psychology Press.
- Stevens, J. (1986). *Applied Multivariate Statistics for the Social Sciences*. New York: Erlbaum.
- Streiner, D. L., & Norman, G. R. (1989). *Health measurement scales: A practical guide to their development and use*. United States: Oxford University Press.
- Stuber, J., Meyer, I., & Link, B. (2008). Stigma, prejudice, discrimination and health. *Social Science & Medicine*, 67(3), 351-355. doi:10.1016/j.socscimed.2008.03.023
- Stürmer, S., Snyder, M., Kropp, A., & Siem, B. (2006). Empathy-motivated helping: The moderating role of group membership. *Personality and Social Psychology Bulletin*, 32(7), 943-956. doi:10.1177/0146167206287363
- Stürmer, S., Snyder, M., & Omoto, A. M. (2005). Prosocial emotions and helping: The moderating role of group membership. *Journal of Personality and Social Psychology*, 88(3), 532. doi:10.1037/0022-3514.88.3.532
- Suriyaarachchi, R. (2016). This is why refugees can't always go back to where they came from. Why would you risk everything to leave your home? Retrieved from <https://www.unicef.org.au/blog/news-and-insights/july-2016/refugees-cant-go-back-to-where-they-came-from>
- Swim, J. K., Aikin, K. J., Hall, W. S., & Hunter, B. A. (1995). Sexism and racism: Old-fashioned and modern prejudices. *Journal of Personality and Social Psychology*, 68(2), 199. doi:10.1037/0022-3514.68.2.199
- Tajfel, H. (1969). Cognitive aspects of prejudice. *Journal of Biosocial Science*, 1, 173-191. doi:10.1017/S0021932000023336
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Wadsworth.

- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & A. W. G (Eds.), *The psychology of intergroup relations* (pp. 7-24). Chicago: Nelson-Hall.
- Tarman, C., & Sears, D. O. (2005). The conceptualization and measurement of symbolic racism. *The Journal of Politics*, 67(3), 731-761. doi:10.1111/j.1468-2508.2005.00337.x
- Tarrant, M., Calitri, R., & Weston, D. (2012). Social identification structures the effects of perspective taking. *Psychological Science*, 23(9), 973-978. doi:10.1177/0956797612441221
- Tausch, N., Hewstone, M., & Roy, R. (2009). The relationships between contact, status and prejudice: An integrated threat theory analysis of Hindu-Muslim relations in India. *Journal of Community & Applied Social Psychology*, 19(2), 83-94. doi:10.1002/casp.984
- Taylor, L. (2012). Privacy or censorship? *The Australian*. Retrieved from <https://www.theaustralian.com.au/news/inquirer/privacy-or-censorship/news-story/ba17bc9670dba998e7ee1b21e8ca9a81>
- Teigen, K. H. (1985). Preference for news as a function of familiarity. *Scandinavian Journal of Psychology*, 26(1), 348-356. doi:10.1111/j.1467-9450.1985.tb01174.x
- Terrizzi, J. A., Shook, N. J., & Ventis, W. L. (2010). Disgust: A predictor of social conservatism and prejudicial attitudes toward homosexuals. *Personality and Individual Differences*, 49(6), 587-592. doi:10.1016/j.paid.2010.05.024
- Thomas, E. F., McGarty, C., & Mavor, K. I. (2009). Transforming "apathy into movement": The role of prosocial emotions in motivating action for social change. *Personality and Social Psychology Review*, 13(4), 310-333. doi:10.1177/1088868309343290
- Todd, A. R., Bodenhausen, G. V., & Galinsky, A. D. (2012). Perspective taking combats the denial of intergroup discrimination. *Journal of Experimental Social Psychology*, 48(3), 738-745. doi:10.1016/j.jesp.2011.12.011
- Todd, A. R., Bodenhausen, G. V., Richeson, J. A., & Galinsky, A. D. (2011). Perspective taking combats automatic expressions of racial bias. *Journal of Personality and Social Psychology*, 100(6), 1027-1042. doi:10.1037/a0022308
- Todd, A. R., & Burgmer, P. (2013). Perspective taking and automatic intergroup evaluation change: Testing an associative self-anchoring account. *Journal of Personality and Social Psychology*, 104(5), 786-802. doi:10.1037/a0031999
- Todd, A. R., & Galinsky, A. D. (2014). Perspective-taking as a strategy for improving intergroup relations: Evidence, mechanisms, and qualifications. *Social and Personality Psychology Compass*, 8(7), 374-387. doi:10.1111/spc3.12116
- Todd, A. R., Galinsky, A. D., & Bodenhausen, G. V. (2012). Perspective taking undermines stereotype maintenance processes: Evidence from social memory, behavior explanation, and information solicitation. *Social Cognition*, 30(1), 94-108. doi:10.1521/soco.2012.30.1.94
- United Nations High Commissioner for Refugees [UNHCR]. (2000). Flight from Indochina. In Mark Cutts, Sean Loughna, & F. Nicholson (Eds.), *The State of the World's Refugees 2000: Fifty Years of Humanitarian Action* (pp. 79-105). New York: Oxford University Press.
- United Nations High Commissioner for Refugees [UNHCR]. (2006). *Convention and Protocol Relating to the Status of Refugees*. Retrieved from <http://www.unhcr.org/protect/PROTECTION/3b66c2aa10>
- United Nations High Commissioner for Refugees [UNHCR]. (2010). *Asylum Levels and Trends in Industrialized Countries 2009: Statistical overview of asylum applications lodged in Europe and selected non-European countries*. Retrieved from <http://www.unhcr.org/en-au/statistics/unhcrstats/4ba7341a9/asylum-levels-trends-industrialized-countries-2009-statistical-overview.html>
- Vanman, E. J. (2016). The role of empathy in intergroup relations. *Current Opinion in Psychology*, 11, 59-63. doi:10.1016/j.copsyc.2016.06.007

- Velasco González, K., Verkuyten, M., Weesie, J., & Poppe, E. (2008). Prejudice towards Muslims in the Netherlands: Testing integrated threat theory. *British Journal of Social Psychology*, 47(4), 667-685. doi:10.1348/014466608X284443
- Vescio, T. K., Sechrist, G. B., & Paolucci, M. P. (2003). Perspective taking and prejudice reduction: The mediational role of empathy arousal and situational attributions. *European Journal of Social Psychology*, 33(4), 455-472. doi:10.1002/ejsp.163
- Vorauer, J. D. (2013). The case for and against perspective-taking. *Advances in Experimental Social Psychology*, 48, 59-115. doi:10.1016/B978-0-12-407188-9.00002-8
- Vorauer, J. D., & Sasaki, S. J. (2014). Distinct effects of imagine-other versus imagine-self perspective-taking on prejudice reduction. *Social Cognition*, 32(2), 130-147. doi:10.1521/soco.2014.32.2.130
- Wang, Y., & Hamilton, A. F. C. (2012). Social top-down response modulation (STORM): A model of the control of mimicry in social interaction. *Frontiers in Human Neuroscience*, 6. doi:10.3389/fnhum.2012.00153
- Warner, K. (2010). Global environmental change and migration: Governance challenges. *Global Environmental Change*, 20(3), 402-413. doi:10.1016/j.gloenvcha.2009.12.001
- Warner, K., Ehrhart, C., Sherbinin, A. d., Adamo, S., & Chai-Onn, T. (2009). *In search of shelter: Mapping the effects of climate change on human migration and displacement*. Retrieved from <https://careclimatechange.org/publications/search-shelter-migration/>
- Whitley, B. E. (1999). Right-wing authoritarianism, social dominance orientation, and prejudice. *Journal of Personality and Social Psychology*, 77(1), 126-134. doi:10.1037/0022-3514.77.1.126
- Wilder, D. A., & Shapiro, P. N. (1989). Role of competition-induced anxiety in limiting the beneficial impact of positive behavior by an out-group member. *Journal of Personality and Social Psychology*, 56(1), 60. doi:10.1037/0022-3514.56.1.60
- Wilkinson, E., Schipper, L., Simonet, C., & Kubik, Z. (2016). *Climate change, migration and the 2030 Agenda for Sustainable Development*. Retrieved from <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11144.pdf>
- Williams, A. (2008). Turning the tide: Recognizing climate change refugees in international law. *Law & Policy*, 30(4), 502-529. doi:10.1111/j.1467-9930.2008.00290.x
- Wilson, C. J., & Soranzo, A. (2015). The use of virtual reality in psychology: A case study in visual perception. *Computational and Mathematical Methods in Medicine*, 2015, 1-7. doi:10.1155/2015/151702
- Wirtz, C., van der Pligt, J., & Doosje, B. (2015). Negative attitudes toward muslims in the Netherlands: The role of symbolic threat, stereotypes, and moral emotions. *Peace and Conflict: Journal of Peace Psychology*, 22(1), 75-83. doi:10.1037/pac0000126
- Yee, N., & Bailenson, J. N. (2006). *Walk a mile in digital shoes: The impact of embodied perspective-taking on the reduction of negative stereotyping in immersive virtual environments*. Paper presented at the PRESENCE 2006: The 9th Annual International Workshop on Presence, Cleveland, OH.
- Zetter, R. (2007). More labels, fewer refugees: Remaking the refugee label in an era of globalization. *Journal of Refugee Studies*, 20(2), 172-192. doi:10.1093/jrs/fem011

Appendix A: Study 1 survey – Environmentally displaced people version

Are you an Australian citizen?

- ☐ Yes
- ☐ No

Do you consent to participate in this study?

- ☐ Yes
- ☐ No

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other _____

What is your age? Please use whole numerals. _____

What is your postcode? _____

What ethnicity do you identify with? _____

Were you born in Australia?

- ☐ Yes
- ☐ No

Display This Question:

If Were you born in Australia? No Is Selected

What country were you born in?

Display This Question:

If Were you born in Australia? No Is Selected

What year did you become an Australian citizen? _____

What is your highest level of education?

- ☐ Primary school
- ☐ Grade 10
- ☐ Grade 12
- ☐ TAFE
- ☐ Vocational Education Training
- ☐ Undergraduate degree
- ☐ Postgraduate degree

Are you currently studying?

- ☐ Yes
- ☐ No

Display This Question:

If Are you currently studying? Yes Is Selected

What level are you currently studying at?

- ☐ TAFE or Vocational Education Training
- ☐ Undergraduate degree
- ☐ Postgraduate degree
- ☐ Other _____

Please read the below excerpt from an Australian newspaper article. You will be asked several questions about this excerpt so please read carefully.

The term environmentally displaced people refers to those who are displaced from their place of living due to environmental factors such as sea level rise, coastal erosion, desertification (fertile land becoming desert), and extreme weather disasters such as cyclones and droughts. Current estimates predict the number of people to be environmentally displaced annually is 26.4 million. These displaced persons will need to be sheltered and re-homed in other non-affected locations. Many experts have suggested Australia has the resources to assist and is a viable option for many of these environmentally displaced people.

When answering the following questions, please consider this newspaper excerpt. If you feel you need to read this excerpt again to answer these questions, please do so.

Please indicate the degree to which you feel the following emotions towards environmentally displaced people.

	Not at all	2	3	4	5	6	7	8	9	Extremely
Sympathy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compassion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Warm-hearted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moved	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For this set of questions, please consider the statements in relation to yourself as an individual.

Environmentally displaced people coming to Australia will pose a personal threat to my safety.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people hold values that threaten my personal worldviews.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people coming to Australia will negatively impact the access I have to healthcare.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

My sense of personal identity will be threatened with the arrival of environmentally displaced people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The arrival of environmentally displaced people in Australia will not result in economic or financial loss for me personally.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people within Australia will lower my self-esteem.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people in Australia will not pose a personal threat to the access I have to education.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The arrival of environmentally displaced people within Australia will make my Australian identity stronger.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people in Australia will make it more difficult for me to buy and/or rent property.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people do not hold my religious views, and this will affect how I live my life if they come to Australia.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people in Australia will lead to individuals like myself being inflicted with physical pain or worse.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

If environmentally displaced people come to Australia, their different moral standards will pose a risk to my way of life.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The arrival of environmentally displaced people in Australia will make it more difficult for me to find employment.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Interacting with environmentally displaced people will be humiliating for me.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

For the following set of questions, please consider the statements in relation to the whole of Australia and all Australian citizens.

Environmentally displaced people in Australia will increase the rate of unemployment across the country.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The religion of environmentally displaced people is not compatible with Australia and will threaten the Australian way of life.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people in Australia will increase the amount of crime in the country.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral

- ☐ Agree
- ☐ Strongly agree

If environmentally displaced people come to Australia, their moral standards will make Australia a better place to live.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people in Australia will take welfare benefits away from Australian citizens.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The Australian way of life will not be modified if environmentally displaced people come here.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people do not pose a threat to the Australian healthcare system.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The ethical views of environmentally displaced people poses a serious threat to the Australian culture.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The Australian economy will suffer with the arrival of environmentally displaced people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The values and beliefs of environmentally displaced people regarding work are quite similar to those of most Australians, which is good for the Australian work sector.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people pose a health hazard to Australians.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people hold different values about education which will damage the Australian education system.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people will not place a drain on Australia's education system.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

It would be good for the Australian culture to be more diverse and encompass the values, world views and beliefs of environmentally displaced people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Please rate how you would feel when interacting with environmentally displaced people. For instance, rate how you would feel if you were talking to an environmentally displaced person at a dinner party.

[illegible]

Please indicate the degree to which you feel the following emotions towards environmentally displaced people.

	Not at all	1	2	3	4	5	6	7	8	9	Extremely
Hostility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Admiration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dislike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acceptance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Superiority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Affection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disdain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approval	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hatred	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sympathy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rejection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Warmth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate your level of agreement to each of the statements below.

There is a great difference between the social status of Australians and environmentally displaced people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Relations between Australians and environmentally displaced people are characterised by conflict.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people are the primary cause for their own displacement.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The relationship between Australians and environmentally displaced people could be described as peaceful.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

I know a great deal about environmentally displaced people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Australians are of a higher social status than environmentally displaced people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

In the past, there has been conflict between Australians and environmentally displaced people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Environmentally displaced people are recognised and protected under international law.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Don't know
- ☐ Agree
- ☐ Strongly agree

I have read a lot about environmentally displaced people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

There is no conflict between Australians and environmentally displaced people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

The position of environmentally displaced people within society is the same as that of Australian citizens.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

How many environmentally displaced people do you know?

Q112 Have you ever had contact with environmentally displaced people?

- ☐ Yes
- ☐ No

Display This Question:

If Have you ever had contact with environmental refugees? Yes Is Selected

How often do you have contact with environmentally displaced people?

- ☐ Very little
- ☐ A little
- ☐ Often
- ☐ Very often

Display This Question:

If Have you ever had contact with environmental refugees? Yes Is Selected

Would you view this contact as positive or negative?

- ☐ Extremely negative
- ☐ Somewhat negative
- ☐ Neither positive nor negative
- ☐ Somewhat positive
- ☐ Extremely positive

Please select each relationship type below that you would be comfortable to have with an environmentally displaced person. Please make your selection based on your immediate reactions. Check as many of the seven options as your feelings dictate.

- ☐ Would marry into group
- ☐ Would have as close friends
- ☐ Would have as next door-neighbours
- ☐ Would work in same office
- ☐ Would have as speaking acquaintance only
- ☐ Would have as visitors only to my nation
- ☐ Would debar from my nation

Please indicate how much you agree with the following statements.

The Australian way of life is an important part of my self-image.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Some groups of people are simply inferior to other groups.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

It's ok if some groups have more of a chance in life than others.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

To get ahead in life, it is sometimes necessary to step on other groups.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Inferior groups should stay in their place.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

My identity is strongly based in the Australian culture.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral

- ☐ Agree
- ☐ Strongly agree

Group equality should be our ideal.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

We should do what we can to equalise conditions for different groups.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

We should increase social equality.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Being Australian is an important part of how I see myself.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

We would have fewer problems if we treated people more equally.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

When I talk to people from other countries, I am proud of my Australian identity.

- ☐ Strongly disagree
- ☐ Disagree

- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Please indicate your level of agreement to each of the following statements.

On the whole, I am satisfied with myself.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

At times, I think I am no good at all.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

I feel that I have a number of good qualities.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

I am able to do things as well as most other people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

I feel I do not have much to be proud of.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

I certainly feel useless at times.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

I feel that I'm a person of worth, at least on an equal plane with others.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

I wish I could have more respect for myself.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

All in all, I am inclined to feel that I am a failure.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

I take a positive attitude toward myself.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

We are all members of different social groups or social categories. For this set of statements, we would like you to consider your membership within Australia and as an Australian citizen. Please respond to the following statements on the basis of how you feel about being an Australian. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions. Please read each statement carefully, and respond by using the following scale.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I am a worthy member of Australian society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often regret that I belong to the Australian society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, Australians are considered good by other countries.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, my Australian group membership has very little to do with how I feel about myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I don't have much to socially offer to Australia.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I'm glad to be a member of the Australian society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people from other countries consider Australians, on the average, to be more ineffective than other countries.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My membership in Australian society is an important reflection of who I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a cooperative participant in Australian society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, other countries respect the Australian society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My membership in the Australian society is unimportant to my sense of what kind of a person I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel I'm a useless member of the Australian society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel good about my membership in Australian society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, belonging to the Australian society is an important part of my self image.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate your level of agreement to the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Our country desperately needs a mighty leader who will do what has to be done to destroy the radical new ways and sinfulness that are ruining us.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A lot of our rules regarding sexual behaviour are just customs which are not necessarily any better or holier than those which other people follow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The majority of those who criticize proper authorities in government and religion only create useless doubts in people's mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is absolutely nothing wrong with nudist camps.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Homosexuals and feminists should be praised for being brave enough to defy 'traditional family values'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The situation in our country is getting so serious, the strongest method would be justified if they eliminated the troublemakers and got us back to our true path.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everyone should have their own lifestyle, religious beliefs, and sexual preferences, even if it makes them different from everyone else.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People should pay less attention to the Church and the Pope, and instead develop their own personal standards of what is moral and immoral.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is good that nowadays young people have greater freedom "to make their own rules" and to protest against things they don't like.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What our country really needs instead of more "civil rights" is a good stiff dose of law and order.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obedience and respect for authority are the most important values children should learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The facts on crime, sexual immorality and the recent public disorders all show we have to crack down harder on deviant groups and troublemakers, if we are going to save our moral standards and preserve law and order.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What our country needs most is disciplined citizens, following national leaders in unity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix B: Study 1 Online information sheet



INFORMATION SHEET

PROJECT TITLE: Australian attitudes towards displaced people.

You are invited to take part in a research project investigating attitudes and perceptions towards certain groups. The study is being conducted by Anna Bajema and will contribute to her PhD at James Cook University.

If you agree to be involved in the study, you will be asked to complete a brief online questionnaire. The questionnaire will gather information on your demographics and perceptions towards groups of people who have been displaced due to a number of different reasons. The questionnaire should only take approximately 20 minutes of your time. As it is an online study, participation can be done at the time and place of your choice. Please note that in this study we are specifically asking for the participation of people who are Australian citizens. Later studies will ask for a broader range of participation.

Taking part in this study is completely voluntary and you can stop taking part in the study at any time without explanation or prejudice by simply closing your internet browser.

Your responses and contact details will be strictly anonymous. The data from the study will be used in a PhD thesis and research publications. You will not be identified in any way in these publications. By undertaking and submitting the questionnaire your informed consent will be assumed.

If you know of others that might be interested in this study, can you please pass on the link to the study so they may participate.

If you have any questions about the study, please contact Anna Bajema and/or Anne Swinbourne.

Principal Investigator:

Name: Anna Bajema
School of Arts and Social Sciences
James Cook University
Phone: 4781 6022
Email: anna.bajema@my.jcu.edu.au

Supervisor:

Name: Anne Swinbourne
School of Arts and Social Sciences
James Cook University
Phone: 4781 4809
Email: anne.swinbourne@jcu.edu.au

If you have any concerns regarding the ethical conduct of the study, please contact:
Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
Phone: (07) 4781 5011 (ethics@jcu.edu.au)

Appendix C: Frequency tables for Study 1 results

Table C1: *Frequencies of prejudice scores categorised from negligible prejudices to extreme prejudices across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Negligible prejudice (1-2.9)	230(35.5%)	44(38.3%)	37(30.8%)	311(35.2%)
Low prejudice (3-5.9)	333(51.4%)	59(51.3%)	62(51.7%)	454(51.4%)
High prejudice (6-8.9)	77(11.9%)	10(8.7%)	16(13.3%)	103(11.7%)
Extreme prejudice (9-11)	8(1.2%)	2(1.7%)	5(4.2%)	15(1.7%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C2: *Frequencies of negative stereotype scores categorised from no negative stereotypes to extreme negative stereotypes across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
No negative stereotypes (-55-0)	30(4.6%)	5(4.3%)	7(5.8%)	42(4.7%)
Low negative stereotypes (0-20)	538(83%)	92(80%)	84(70%)	714(80.9%)
High negative stereotypes (20-40)	70(10.8%)	16(13.9%)	26(21.7%)	112(12.7%)
Extreme negative stereotypes (40-55)	10(1.5%)	2(1.7%)	3(2.5%)	15(1.7%)
	648(100%)	115(100%)	120(100%)	833(100%)

Table C3. *Frequencies of realistic individual threat perceptions categorised from negligible threat perceptions to strong threat perceptions across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Negligible threat per. (1-1.9)	161(24.8%)	32(27.8%)	23(19.2%)	216(24.5%)
Low threat per. (2-2.9)	318(49.1%)	62(53.9%)	65(54.2%)	445(50.4%)
Moderate threat per. (3-3.9)	156(24.1%)	18(15.7%)	24(20%)	198 (22.4%)
Strong threat per. (4-5)	13(2%)	3(2.6%)	8(6.6%)	24(2.7%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C4: *Frequencies of realistic group threat perceptions categorised from negligible threat perceptions to strong threat perceptions across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Negligible threat per. (1-1.9)	97(15%)	27(23.5%)	26(21.7%)	150(17%)
Low threat per. (2-2.9)	279(43%)	45(39.1%)	44(36.6%)	368(41.7)
Moderate threat per. (3-3.9)	237(36.6%)	39(33.9%)	38(31.7%)	314(35.4%)
Strong threat per. (4-5)	35(5.4%)	4(3.5%)	12(10%)	51(5.8%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C5. *Frequencies of symbolic individual threat perceptions categorised from negligible threat perceptions to strong threat perceptions across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Negligible threat per. (1-1.9)	292(45.1%)	60(52.2%)	60(50%)	412(46.7%)
Low threat per. (2-2.9)	269(41.5%)	44(38.3%)	38(31.7%)	351(39.7%)
Moderate threat per. (3-3.9)	82(12.6%)	9(7.8%)	19(15.8%)	110(12.5%)
Strong threat per. (4-5)	5(.8%)	2(1.7%)	3(2.5%)	10(1.1%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C6. *Frequencies of symbolic group threat perceptions categorised from negligible threat perceptions to strong threat perceptions across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Negligible threat per. (1-1.9)	107(16.5%)	28(24.4%)	31(25.8%)	166(18.8%)
Low threat per. (2-2.9)	324(50%)	55(56.5%)	41(34.2%)	420(47.6%)
Moderate threat per. (3-3.9)	198(30.6%)	30(17.4%)	38(31.7%)	266(30.1%)
Strong threat per. (4-5)	19(2.9%)	2(1.7%)	10(8.3%)	31(3.5%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C7. *Frequencies of intergroup anxiety scores categorised from low anxiety to high anxiety across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Low anxiety (1-3.9)	414(63.9%)	77(67%)	73(60.8%)	564(63.9%)
Moderate anxiety (4-6.9)	201(31%)	35(30.4%)	38(31.7%)	274(31%)
High anxiety (7-10)	33(5.1%)	3(2.6%)	9(7.5%)	45(5.1%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C8. *Frequencies of empathy scores categorised from low anxiety to high anxiety across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Negligible empathy (1-2.9)	25(3.9%)	2(1.7%)	6(5%)	33(3.7%)
Low empathy (3-5.9)	161(24.8%)	35(30.4%)	40(33.3%)	236(26.7%)
High empathy (6-8.9)	327(50.5%)	51(44.4%)	49(40.8%)	427(48.4%)
Extreme empathy (9-11)	135(20.8%)	27(23.5%)	25(20.8%)	187(21.2%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C9. *Frequencies of conflict scores categorised from negligible perceptions of conflict to high perceptions of conflict across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Negligible conflict per. (1-1.9)	6(.9%)	2(1.7%)	1(.8%)	9(1%)
Low conflict per. (2-2.9)	178(27.5%)	33(28.7%)	12(10%)	223(25.3%)
Moderate conflict per. (3-3.9)	347(53.5%)	62(53.9%)	66(55%)	475(53.8%)
Strong conflict per. (4-5)	117(18.1%)	18(15.7%)	41(34.2%)	176(19.9%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C10. *Frequencies of empathy scores categorised from negligible perceptions of status inequalities to strong perceptions of status inequalities across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Negligible status ineq. (1-1.9)	48(7.4%)	8(7%)	11(9.2%)	67(7.6%)
Low status ineq. (2-2.9)	175(27%)	27(23.5%)	26(40.8%)	228(25.8%)
Moderate status ineq. (3-3.9)	283(43.7%)	56(48.7%)	48(20.8%)	387(43.8%)
Strong status ineq. (4-5)	142(21.9%)	24(20.9%)	35(29.2%)	201(22.8%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C11. *Frequencies of self-reported knowledge scores categorised from very little self-reported knowledge to excellent self-reported knowledge across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Very little self-rep. knowl. (1-2)	133(20.5%)	28(24.3)	12(10%)	173(19.6%)
Poor self-rep. knowl. (2 -3)	276(42.6%)	47(40.9%)	40(33.3%)	363(41.1%)
Good self-rep. knowl. (3-4)	195(30.1%)	30(26.1%)	39(32.5%)	264(29.9%)
Excellent self-rep. knowl. (4-5)	44(6.8%)	10(8.7%)	29(24.2%)	83(9.4%)
	648(100%)	115(100%)	120(100%)	883(100%)

Table C12. *Frequencies of actual knowledge scores categorised from very little actual knowledge to excellent actual knowledge across the three conditions.*

	Condition			
	Env. Displaced people	Env. Refugee	Refugee	Total
Very little actual knowl. (1-2)	3(.5%)	1(.9%)	1(.8%)	5(.6%)
Poor actual knowl. (2 -3)	59(9.1%)	9(7.8%)	10(8.3%)	78(8.8%)
Good actual. Knowl. (3-4)	382(58.9%)	72(62.6%)	56(46.7%)	510(57.8%)
Excellent actual knowl. (4-5)	204(31.5%)	33(28.7%)	53(44.2%)	290(32.8%)
	648(100%)	115(100%)	120(100%)	883(100%)

Appendix D: Sample correlation tables for Study 1 confirmatory factor analyses

Table D1: *Sample correlations between the prejudice scale items for the original factor structure.*

	1	2	3	4	5	6	7	8	9	10	11	12
Warmth (1)	1											
Rejection (2)	.250	1										
Sympathy (3)	.698	.400	1									
Hatred (4)	.190	.845	.388	1								
Approval (5)	.724	.377	.656	.287	1							
Disdain (6)	.233	.774	.375	.755	.315	1						
Affection (7)	.697	.102	.481	.035	.599	.027	1					
Superiority (8)	.193	.591	.257	.567	.255	.657	.030	1				
Acceptance (9)	.699	.467	.668	.371	.774	.428	.515	.326	1			
Dislike (10)	.337	.792	.475	.784	.436	.762	.144	.605	.497	1		
Admiration (11)	.636	.305	.564	.206	.620	.225	.596	.181	.627	.292	1	
Hostility (12)	.242	.586	.377	.602	.304	.640	.086	.515	.371	.684	.165	1

Table D2: *Sample correlations between the prejudice scale items in the revised factor structure.*

	1	2	3	4	5	6	7
Affection (1)	1						
Warmth (2)	.697	1					
Rejection (3)	.102	.250	1				
Hatred (4)	.035	.190	.845	1			
Approval (5)	.599	.724	.377	.287	1		
Acceptance (4)	.515	.699	.467	.371	.774	1	
Dislike (3)	.144	.337	.792	.784	.436	.497	1

Table D3: *Sample correlations between the negative stereotypes scale items in the revised factor structure.*

	1	2	3	4	5
Violent (1)	1				
Dishonest (2)	.871	1			
Unethical (3)	.854	.858	1		
Aggressive (4)	.890	.862	.877	1	
Dangerous (5)	.861	.817	.839	.871	1

Table D4: *Sample correlations between the intergroup anxiety scale items in the revised factor structure.*

	1	2	3	4	5
Nervous (1)	1				
Threatened (2)	.516	1			
Anxious (3)	.665	.606	1		
Worried (4)	.589	.699	.752	1	
Fearful (45)	.552	.771	.652	.731	1

Table D5: *Sample correlations between the realistic individual scale items in the revised factor structure.*

	1	2	3	4
Access to employment (1)	1			
Physical pain (2)	.429	1		
Access to healthcare (3)	.590	.582	1	
Safety (4)	.509	.661	.669	1

Table D6: *Sample correlations between the realistic group scale items in the revised factor structure.*

	1	2	3	4	5
Economy (1)	1				
Healthcare (2)	.555	1			
Social assistance benefits (3)	.642	.614	1		
Crime (4)	.630	.565	.609	1	
Unemployment rate (5)	.578	.478	.583	.572	1

Table D7: *Sample correlations between the symbolic individual scale items in the revised factor structure.*

	1	2	3	4
Moral standards (1)	1			
Religious views (2)	.701	1		
Personal identity (3)	.635	.639	1	
Value systems (4)	.710	.626	.678	1

Table D8: *Sample correlations between the symbolic group scale items in the revised factor structure.*

	1	2	3	4
Cultural diversity (1)	1			
Values about education (2)	.503			
Ethics views threats Aus. Culture (3)	.546	.679		
Religion threatens way of life (4)	.550	.626	.700	1

Appendix E: Confirmatory factor analyses for empathy

To examine the construct validity of the empathy measure, a CFA was conducted on the five items used to measure empathy. The factor structure used in the CFA can be seen in Figure E1. Model fit indices from the CFA indicate the four items used to assess empathy have poor model fit ($\chi^2 = 348.11$, $df = 5$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .300, PCLOSE = .000, 90% RMSEA CI = .274-327; SRMR = .045; GFI = .844; AGFI = .531). Poor model fit suggests that the factor model does not adequately represent the relationships amongst the variables. This indicates the measure for empathy has poor construct validity.

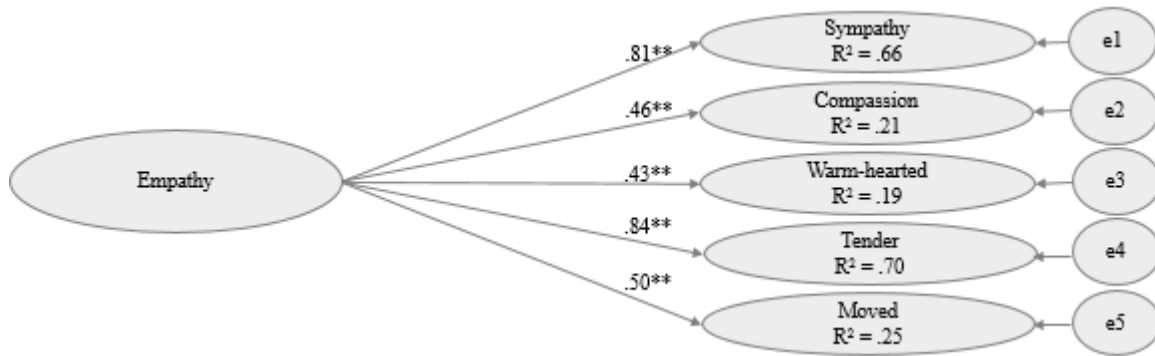


Figure E1. Original factor structure of the empathy measure. Standardised factor loadings shown.

* = $p < .01$, ** = $p < .001$.

To improve model fit the item with the lowest variance explained by the factor was removed. The removal of item 4 resulted in a factor structure with good fit ($\chi^2 = .029$, $df = 1$, $p = .865$; Bollen-Stine Bootstrap $p = .912$; RMSEA = .000, PCLOSE = .948, 90% RMSEA CI = .000-.051; SRMR = .000; GFI = 1.00; AGFI = 1.00). Inspection of the sample correlations (see Table E1) indicates there is only one factor with all items correlating adequately together ($>.3$). Furthermore, all factor loadings were adequate ($>.6$). The final factor structure can be seen in Figure E2. The good model fit indices for this final factor structure suggests these remaining items are good measures for empathy and together these final items have good construct validity.

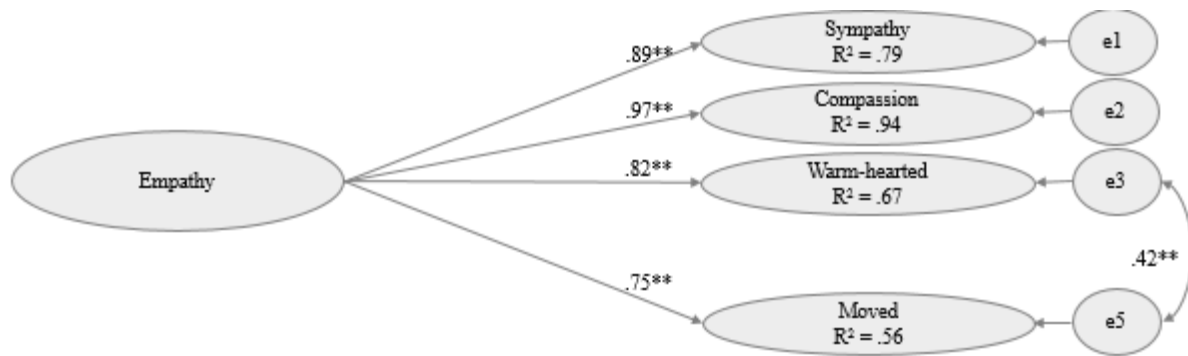


Figure E2. Revised factor structure for the empathy measure with standardised factor loadings and error covariances. * = $p < .01$, ** = $p < .001$.

Table E1. Sample correlations between scale items.

	1	2	3	4
Sympathy	1			
Compassion	.858	1		
Warm-hearted	.723	.790	1	
Moved	.664	.728	.774	1

Appendix F: Study 2 North Queensland flood exposure analyses

As noted in the methods section in Chapter 10, the recruitment site experienced an extreme flooding event mid-way through recruitment. As such, an additional question was added into the survey after the flooding event. This question asked if the participants if they or their friends/family had been directly affected by the floods. Seventy-eight of the participants were recruited prior to the flooding event. The remaining 116 were recruited within the following two months after the flooding event. Of the 116 participants, 71 indicated they or their family/friends were directly impacted by the floods and 44 indicated neither themselves nor their family/friends were directly impacted by the floods. The flooding event which occurred during recruitment presented the opportunity to investigate whether personal experience with environmental displacement influenced out-group attitudes. Table F1 presents the descriptive data for the participant's attitudes towards environmentally displaced people depending on whether they were recruited prior to the flooding event, and were/were not affected by the floods. There appears to be a general trend in the descriptive data presented in Table xx which suggests that participants in the *Post – not affected* group held slightly more negative views towards environmentally displaced people compared to both the *Prior* and *Post – affected* groups.

Table F1. Means and standard deviations $M(SD)$ for the dependent variables across three different levels of exposure to the 2019 Queensland floods.

Dependent Variable	Exposure to 2019 Queensland floods			
	Prior	Post – Affected	Post – Not affected	Total
Prejudice ¹	2.84(1.30)	2.64(1.05)	2.68(1.06)	2.73(1.16)
Negative stereotypes ¹	2.48(1.16)	2.37(1.23)	2.52(1.21)	2.45(1.20)
Realistic group ³	2.00(.72)	2.10(.78)	2.42(.71)	2.13(.71)
Realistic individual ³	1.83(.73)	1.87(.74)	2.19(.70)	1.93(.74)
Symbolic group ³	1.81(.72)	1.67(.65)	2.03(.72)	1.81(.70)
Symbolic individual ³	1.54(.64)	1.46(.55)	1.63(.59)	1.53(.60)
Intergroup anxiety ²	2.80(1.07)	2.86(1.10)	3.09(1.32)	2.89(1.14)
Empathy ²	8.02(2.15)	8.34(1.46)	8.11(1.58)	8.16(1.79)
Conflict ³	2.99(.60)	3.27(.58)	3.19(.54)	3.14(.59)
Status inequalities ³	2.94(.83)	3.12(.84)	3.40(.84)	3.11(.85)

Contact quantity ²	2.72(2.14)	3.31(2.04)	2.48(1.7)	2.88(2.03)
Contact quality ²	6.50(2.52)	7.23(2.25)	6.60(2.81)	6.89(2.49)
SDO ³	1.78(.67)	1.65(.58)	1.68(.53)	1.71(.61)
RWA ³	2.92(.59)	2.54(.52)	2.67(.50)	2.72(.57)
Self-other overlap ⁴	3.64(1.97)	3.53(2.03)	2.98(1.66)	3.45(1.93)
Att. thinking - situational ³	4.29(.61)	4.21(.61)	4.27(.69)	4.26(.63)
Att. thinking - dispositional ³	1.71(.80)	1.75(.84)	1.80(.80)	1.74(.81)
Fairness (general env. dis.) ²	2.13(1.87)	2.10(2.15)	2.39(2.21)	2.18(2.05)
Fairness (env. dis. & climate change) ²	2.67(2.27)	2.07(2.02)	2.45(2.39)	2.40(2.21)
Willingness to provide foreign aid ⁵	10.62(11.27)	17.36(14.24)	17.88(15.90)	14.89(13.95)

To examine whether being affected by a significant environmental event affected participants attitudes towards environmentally displaced people a series of one-way ANOVAs were conducted. Participants were grouped as either recruited prior to the floods (Prior, N = 76), recruited after the floods but reported that they nor their family/friends were directly affected by the floods (Post – not affected, N = 71) or recruited after the floods and reported that they or their family/friends were directly affected by the floods (Post – affected, N = 41). Where the assumption of Levene’s test of homogeneity was not met, Welch’s robust test of equality of means was reported. There were significant differences in mean scores between the three groups for realistic individual threats ($F_{(2, 190)} = 3.87, p = .022, \eta^2 = .04$), realistic group threats ($F_{(2, 190)} = 4.57, p = .012, \eta^2 = .05$), symbolic group threats ($F_{(2, 190)} = 3.84, p = .023, \eta^2 = .04$), status inequalities ($F_{(2, 190)} = 4.26, p = .015, \eta^2 = .04$), conflict ($F_{(2, 190)} = 4.41, p = .013, \eta^2 = .04$), RWA ($F_{(2, 190)} = 9.18, p < .001, \eta^2 = .09$) and willingness to provide foreign aid (Welch’s $F_{(2, 94.40)} = 6.02, p = .003, \eta^2 = .06$). No other significant differences were detected for prejudice, negative stereotypes, symbolic individual threats, intergroup anxiety, empathy, SDO, contact, self-other overlap, perceptions of fairness and situational and dispositional attributional thinking (all p ’s $> .05$, all η^2 s $> .03$).

Post hoc Bonferroni and where appropriate Games-Howell tests indicated participants who were recruited after the floods but indicated they were not affected by the floods (*Post – not affected*) reported significantly higher perceptions of realistic individual threats (.36, 95% CI [.035, .70], $p = .025$), realistic group threats (.42, 95% CI [.08, .76], $p = .010$) and status inequalities (.46, 95% CI [.08, .84], $p = .012$) compared to participants who were recruited prior to the floods (*Prior*). Furthermore, participants in the *Post – not affected* group reported significantly higher symbolic

group threat perceptions than participants who were recruited after the floods and reported being affected by the floods (*Post – affected*) (.37, 95% CI [.05, .69], $p = .018$). Participants in the *Post – affected* group reported significantly higher levels of perceived conflict than those in the *Prior* group (.27, 95% CI [.05, .51], $p = .012$). Participants in the *Prior* group reported significantly higher levels of RWA compared to participants in the *Post – affected* group (.38, 95% CI [.16, .60], $p < .001$). Lastly, participants in both the *Post – not affected* and *Post – affected* groups reported significantly higher willingness to provide foreign aid than those who were in the *Prior* group (7.25, 95% CI [.44, 14.06], $p = .034$; 6.74, 95% CI [1.45, 12.03], $p = .008$).

Appendix G: Study 2 Survey

The term *environmentally displaced people* refers to those who have had to leave their place of living because of environmental reasons such as sea level rise, coastal erosion and extreme weather like cyclones and droughts.

In worst case scenarios, people may have to leave their homes and come to places like Australia. Pacific Islanders are particularly at risk of environmental displacement due to sea level rise and coastal erosion. While answering the following questions, try to keep this in mind.

Please indicate the degree to which you feel the following emotions towards environmentally displaced people.

	Not at all	2	3	4	5	6	7	8	9	Extremely
Sympathy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compassion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Warm-hearted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moved	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate your level of agreement to the below statements on the scale provided.

Discrimination against environmentally displaced people will not be a problem in Australia.

Strongly disagree Disagree Neutral Agree Strongly agree

☐ ☐ ☐ ☐ ☐

There have been enough programs designed to create jobs for environmentally displaced people.

Strongly disagree Disagree Neutral Agree Strongly agree

☐ ☐ ☐ ☐ ☐

Racist groups will not be a threat to environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It would be easy for me to understand environmentally displaced peoples demands for equal rights.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people get too little attention in the media.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people will be too demanding in the push for equal rights.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It is important to invest money in teaching environmentally displaced people their mother tongue.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Special programs are needed to create jobs for environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A multicultural Australia would be good.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the degree to which you feel the following emotions towards environmentally displaced people.

[illegible]

For this set of questions, please consider the statements in relation to yourself as an individual.

Environmentally displaced people coming to Australia will pose a personal threat to my safety.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people hold values that threaten my personal worldviews.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people coming to Australia will negatively impact the access I have to healthcare.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My sense of personal identity will be threatened with the arrival of environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people in Australia will make it more difficult for me to buy and/or rent property.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people do not hold my religious views, and this will affect how I live my life if they come to Australia.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The arrival of environmentally displaced people in Australia will make it more difficult for me to find employment.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If environmentally displaced people come to Australia, their different moral standards will pose a risk to my way of life.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the following set of questions, please consider the statements in regards to how Australia and the Australian people will be impacted. Please provide your own personal views to the statements.

Environmentally displaced people in Australia will increase the amount of crime in the country.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The religion of environmentally displaced people is not compatible with Australia and will threaten the Australian way of life.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people in Australia will take social assistance benefits away from Australian citizens.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The ethical views of environmentally displaced people poses a threat to the Australian culture.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The Australian economy will suffer with the arrival of environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people hold different values about education which will damage the Australian education system.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people pose a health hazard to Australians.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It would be good for the Australian culture to be more diverse and encompass the values, world views and beliefs of environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please rate how you would feel when interacting with environmentally displaced people. For instance, rate how you would feel if you were talking to an environmentally displaced person at social event.

[illegible]

Please indicate on the scale below the percentage of environmentally displaced people which you think have the following traits.

[illegible]

Now please indicate on the scale below how favourable you find each of these traits.

	Not at all favourable	2	3	4	5	6	7	8	9	Extremely favourable
Courageous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dangerous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Untrustworthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greedy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aggressive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unethical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dishonest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resilient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Violent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lazy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uneducated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unsophisticated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radicalised	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Queue jumpers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selfish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Illegal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Criminality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate your level of agreement to each of the statements below.

There is a great difference between the social status of Australians and environmentally displaced people.

Strongly disagree Disagree Neutral Agree Strongly agree

☐ ☐ ☐ ☐ ☐

Relations between Australians and environmentally displaced people are characterised by conflict.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Environmentally displaced people are the primary cause for their own displacement.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The relationship between Australians and environmentally displaced people could be described as peaceful.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I know a great deal about environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Australians are of a higher social status than environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the past, there has been conflict between Australians and environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I have read a lot about environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

There is no conflict between Australians and environmentally displaced people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The position of environmentally displaced people within society is the same as that of Australian citizens.

Strongly disagree Disagree Neutral Agree Strongly agree

☐ ☐ ☐ ☐ ☐

The reason environmentally displaced people leave their homes is because of the situation.

Strongly disagree Disagree Neutral Agree Strongly agree

☐ ☐ ☐ ☐ ☐

The reason environmentally displaced people leave their homes is because of personal factors, such as their personality.

Strongly disagree Disagree Neutral Agree Strongly agree

☐ ☐ ☐ ☐ ☐

On the scale below, please indicate how much contact you have had with environmentally displaced people.

None	2	3	4	5	6	7	8	9	A lot
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Now, please indicate how you would rate this contact from negative (Neg) to positive (Pos).

Neg	2	3	4	5	6	7	8	9	Pos
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate if you think the below statements are true or false.

	True	False	Unsure
Sea levels across the Pacific could rise by up to 18 centimeters by 2030.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The World Bank estimates the cost of significantly reducing Fiji's climate change vulnerability is US\$2 billion over the next 10 years.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In 2016, Cyclone Winston hit Fiji, killing 44 people and affecting more than 60% of the population.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

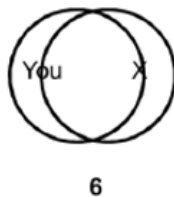
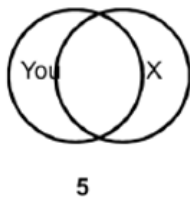
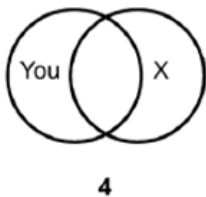
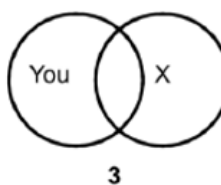
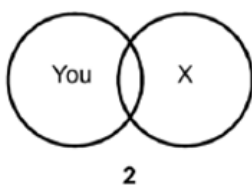
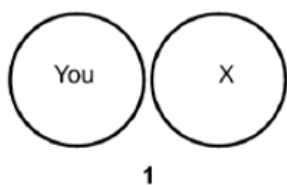
Please answer the below questions on the scale provided.

	Very unfair	2	3	4	5	6	7	8	9	Very fair
Do you think it is fair/unfair when people are forced to leave their homes because of environmental reasons, such as flooding or food insecurity?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you think it is fair/unfair that people who have made little contribution to climate change may be forced to leave their homes because of climate change?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What percentage of the Australian government's budget would you be willing to spend on foreign aid for environmentally displaced people?

_____ %

Please identify the pair of circles which best shows how similar environmentally displaced people (X) are to yourself. Please write the matching number for the identified pair of circles on the line below. _____



Please indicate your level of agreement to each of the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Our country desperately needs a mighty leader who will do what has to be done to destroy the radical new ways and sinfulness that are ruining us.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A lot of our rules regarding sexual behaviour are just customs which are not necessarily any better or holier than those which other people follow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The majority of those who criticize proper authorities in government and religion only create useless doubts in people's minds.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is absolutely nothing wrong with nudist camps.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Homosexuals and feminists should be praised for being brave enough to defy 'traditional family values'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The situation in our country is getting so serious, the strongest method would be justified if they eliminated the troublemakers and got us back to our true path.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everyone should have their own lifestyle, religious beliefs, and sexual preferences, even if it makes them different from everyone else.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People should pay less attention to church and the Pope, and instead develop their own personal standards of what is moral and immoral.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is good that nowadays young people have greater freedom to make their own rules and to protest against things they don't like.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obedience and respect for authority are the most important values children should learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The facts on crime, sexual immorality and the recent public disorders all show we have to crack down harder on deviant groups and troublemakers, if we are going to save our moral standards and preserve law and order.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What our country needs most is disciplined citizens, following national leaders in unity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
On the whole, I am satisfied with myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At times, I think I am no good at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I have a number of good qualities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to do things as well as most other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I do not have much to be proud of.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I certainly feel useless at times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I'm a person of worth, at least on an equal plane with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish I could have more respect for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All in all, I am inclined to feel that I am a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take a positive attitude toward myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate your level of agreement to each of the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Some groups of people are simply inferior to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's ok if some groups have more of a chance in life than others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To get ahead in life, it is sometimes necessary to step on other groups.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inferior groups should stay in their place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group equality should be our ideal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We should do what we can to equalize conditions for different groups.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We should increase social equality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We would have fewer problems if we treated people more equally.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Australian way of life is an important part of my self-image.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My identity is strongly based in the Australian culture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being Australian is an important part of how I see myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I talk to people from other countries, I am proud of my Australian identity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In one or two sentences, explain what you think might be the goal of this study.

Before completing this questionnaire, what did you watch?

- A normal 2D film.
- A virtual reality film.
- I did not watch anything. **Please skip the rest of this page.**

While watching the film, how immersed in the experience did you feel? Please mark on the scale below.

Not at all immersed										Completely immersed				
0	1	2	3	4	5	6	7	8	9	10				

While watching the film, did you imagine how you would think, feel and behave in the same situation?

- ☐ Yes
- ☐ No

While watching the film, to what extent did you try to imagine how you would think, feel and behave?

Not at all										Completely				
0	1	2	3	4	5	6	7	8	9	10				

Have you used virtual reality before?

- ☐ Yes
- ☐ No

How many times have you used virtual reality? Please use whole numbers. _____

Did you consent to the follow-up component of this study?

- ☐ Yes
- ☐ No. Please skip the next question.

Please ask the researcher for your numerical code and enter it on the line. _____

What is your gender? Male Female Other: _____

What is your age? Please use whole numerals. _____

What is your postcode? _____

What ethnicity do you identify with? _____

Are you an Australian citizen?

- ☐ Yes. **Please skip the next two questions.**
- ☐ No

Do you live in Australia?

- ☐ Yes
- ☐ No. **Please skip the next two questions.**

How many years have you lived in Australia? _____

What Australian political party best aligns with your values and beliefs?

- ☐ Liberal Party of Australia
- ☐ Australian Labour Party
- ☐ Australian Greens
- ☐ Pauline Hanson's One Nation Party
- ☐ Katter's Australian Party
- ☐ Other _____

What is your highest level of education **obtained**?

- ☐ Primary school
- ☐ Grade 10
- ☐ Grade 12
- ☐ TAFE
- ☐ Vocational Education Training
- ☐ Undergraduate degree
- ☐ Postgraduate degree

Are you currently studying?

- ☐ Yes
- ☐ No. Please skip the next question.

What level are you currently studying at?

- ☐ TAFE or Vocational Education Training
- ☐ Undergraduate degree
- ☐ Postgraduate degree
- ☐ Other _____

Appendix H: Study 2 information sheet

INFORMATION SHEET

PROJECT TITLE: Using virtual reality and 2D video for storytelling.

You are invited to take part in a research project investigating the use of virtual reality and 2D films for storytelling. The study is being conducted by Anna Bajema and will contribute to her PhD at James Cook University.

If you agree to be involved in the study, you may be asked to watch a film in either virtual reality or 2D that tells the story and experiences of people who live in Fiji. After either viewing the film (VR or 2D) or not, you will be asked to complete a brief questionnaire. The questionnaire will ask for you to tell us some basic information about yourself and ask about your perceptions towards people who may be displaced because of environmental reasons. The video will take approximately seven minutes and the questionnaire will take approximately 20-25 minutes of your time.

There is also an optional two week follow-up component to this study. If you would like to participate in the follow-up, it will involve an online questionnaire that you can do at a time and location of your choice. The questionnaire will ask you about your perceptions towards people who may be displaced because of environmental reasons. If you wish to participate, you will be asked to provide your preferred contact information.

Taking part in this study is completely voluntary and you can stop taking part in the study at any time without explanation or prejudice.

Your responses will be strictly confidential. While you will be asked to sign a consent form, any responses to the questionnaire will not be identified with your name. The data from the study will be used in a PhD thesis and research publications. You will not be identified in any way in these publications.

If you know of others that might be interested in this study, can you please pass on this information sheet so they may participate.

If you have any questions about the study, please contact Anna Bajema and/or Anne Swinbourne.

Principal Investigator:

Anna Bajema
College of Healthcare Sciences
James Cook University
Phone: 4781 6022
Email: anna.bajema@my.jcu.edu.au

Supervisor:

Anne Swinbourne
College of Healthcare Sciences
James Cook University
Phone: 4781 4809
Email: anne.swinbourne@jcu.edu.au

If you have any concerns regarding the ethical conduct of the study, please contact:

Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
Phone: (07) 4781 5011 (ethics@jcu.edu.au)

Appendix I: Study 2 informed consent form

INFORMED CONSENT FORM

PRINCIPAL INVESTIGATOR: Anna Bajema
PROJECT TITLE: Using virtual reality and 2D video for storytelling
COLLEGE: College of Healthcare Sciences

I understand the aim of this research study is to investigate the effectiveness of virtual reality and 2D films for storytelling. I also understand there is a follow-up phase which I can choose to complete if I wish. I consent to participate in this project, the details of which have been explained to me, and I have been provided with a written information sheet to keep.

I understand that my participation may involve watching a virtual reality experience or 2D film which tells the story of people living in Fiji. After either viewing the film (VR or 2D) or not, I understand I will also be asked to complete a questionnaire and I agree that the researcher may use the results as described in the information sheet. I also understand the follow-up phase involves an online questionnaire.

I acknowledge that:

- taking part in this study is voluntary and I am aware that I can stop taking part in it at any time without explanation or prejudice and to withdraw any unprocessed data I have provided;
- that any information I give will be kept strictly confidential and that no names will be used to identify me with this study without my approval;

(Please tick to indicate consent)

I consent to watch the described 2D video or virtual reality film if requested	<input type="checkbox"/>	es	<input type="checkbox"/>	o
I consent to complete a questionnaire	<input type="checkbox"/>	es	<input type="checkbox"/>	o
I consent to be contacted for the follow-up phase	<input type="checkbox"/>	es	<input type="checkbox"/>	o

Name: <i>(printed)</i>	
Signature:	Date:

Appendix J: Study 2 follow-up contact information form

CONTACT INFORMATION FORM

PRINCIPAL INVESTIGATOR: Anna Bajema
PROJECT TITLE: Using virtual reality and 2D video for storytelling
COLLEGE: College of Healthcare Sciences

Participant Name: _____

Please provide you preferred contact information.

E-mail	
Postal address	
Other	

Numerical code (please ask researcher): _____

Appendix K: Study 2 follow-up online information sheet



INFORMATION SHEET

PROJECT TITLE: Using virtual reality and 2D video for storytelling – follow up.

You are invited to take part in the follow-up component of a research project investigating the use of virtual reality and 2D films for storytelling. The study is being conducted by Anna Bajema and will contribute to her PhD at James Cook University.

If you agree to be involved in the follow-up phase, you will be asked to complete an online questionnaire that you can do at a time and location of your choice. The questionnaire will ask you about your perceptions towards people who may be displaced because of environmental reasons.

Taking part in this study is completely voluntary and you can stop taking part in the study at any time without explanation or prejudice.

Your responses will be strictly confidential. Any responses to the questionnaire will not be identified with your name. The data from the study will be used in a PhD thesis and research publications. You will not be identified in any way in these publications.

If you have any questions about the study, please contact Anna Bajema and/or Anne Swinbourne.

Principal Investigator:

Anna Bajema
College of Healthcare Sciences
James Cook University
Phone: 4781 6022
Email: anna.bajema@my.jcu.edu.au

Supervisor:

Anne Swinbourne
College of Healthcare Sciences
James Cook University
Phone: 4781 4809
Email: anne.swinbourne@jcu.edu.au

If you have any concerns regarding the ethical conduct of the study, please contact:

Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
Phone: (07) 4781 5011 (ethics@jcu.edu.au)

Do you consent to complete this questionnaire?

- ☐ Yes
- ☐ No

>>

Appendix L: Study 2 confirmatory factor analyses

Confirmatory Factor Analysis of the Prejudice Scale

The factor structure found to have model fit in Study 1 was tested in the current sample. This factor structure can be seen in Figure L1. The model fit indices for this factor structure indicate good model fit ($\chi^2 = 1.77$, $df = 6$, $p = .939$; Bollen-Stine Bootstrap $p = .914$; RMSEA = .000, PCLOSE = .981, 90% RMSEA CI = .000-.021; SRMR = .013; GFI = .997; AGFI = .988). However, inspection of the estimated variances and standardised values revealed impossible solutions (negative variances and standardised estimates > 1). Furthermore, there were multiple factor loadings which were not adequate and suggest a poor factor structure.

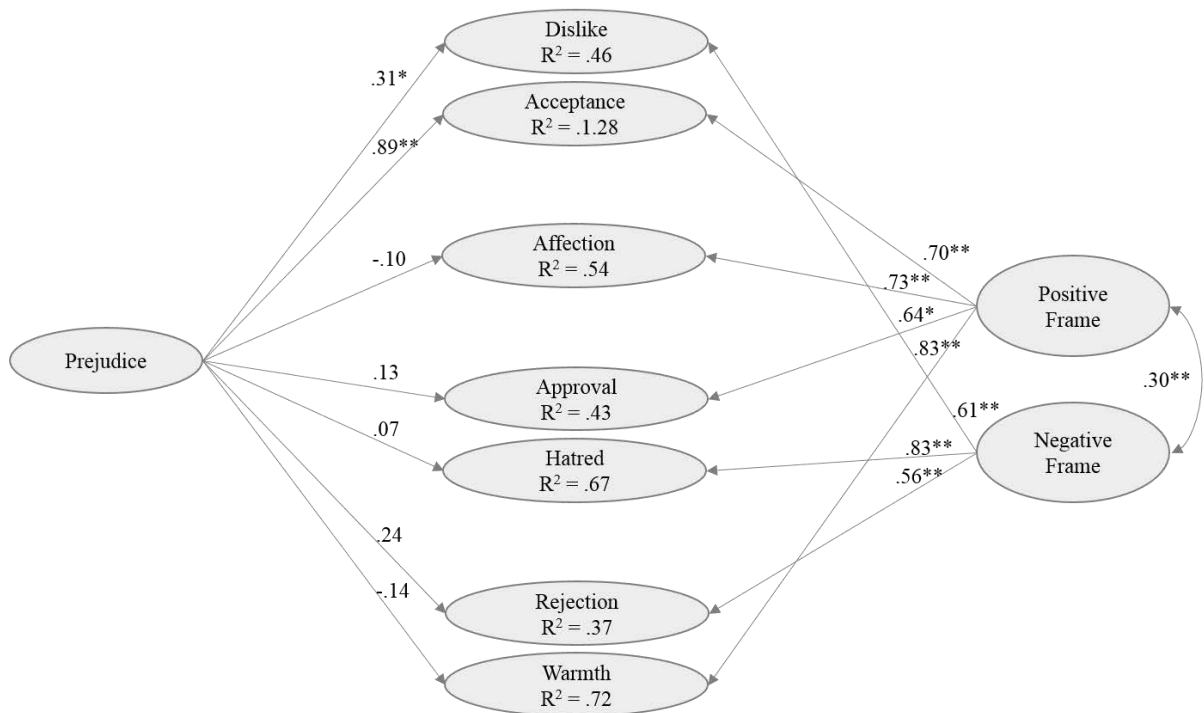


Figure L1. Study 1 factor structure for the prejudice measure. Standardised factor loadings shown. * = $p < .01$, ** = $p < .001$.

As the factor structure found in Study 1 resulted in impossible solutions and inadequate factor loadings in this sample, the factor structure for the entire prejudice scale was re-examined. The full factor structure can be seen in Figure L2. Model fit indices from this CFA indicate the 12 items used to assess prejudice have poor model fit ($\chi^2 = 421.82$, $df = 54$, $p < .001$; Bollen-Stine Bootstrap $p = .002$; RMSEA = .188, PCLOSE = .000, 90% RMSEA CI = .171-.205; SRMR = .148; GFI = .682; AGFI = .541). Poor model fit suggests that the factor model does not adequately

represent the relationships amongst the variables. This indicates the measure for prejudice has poor construct validity.

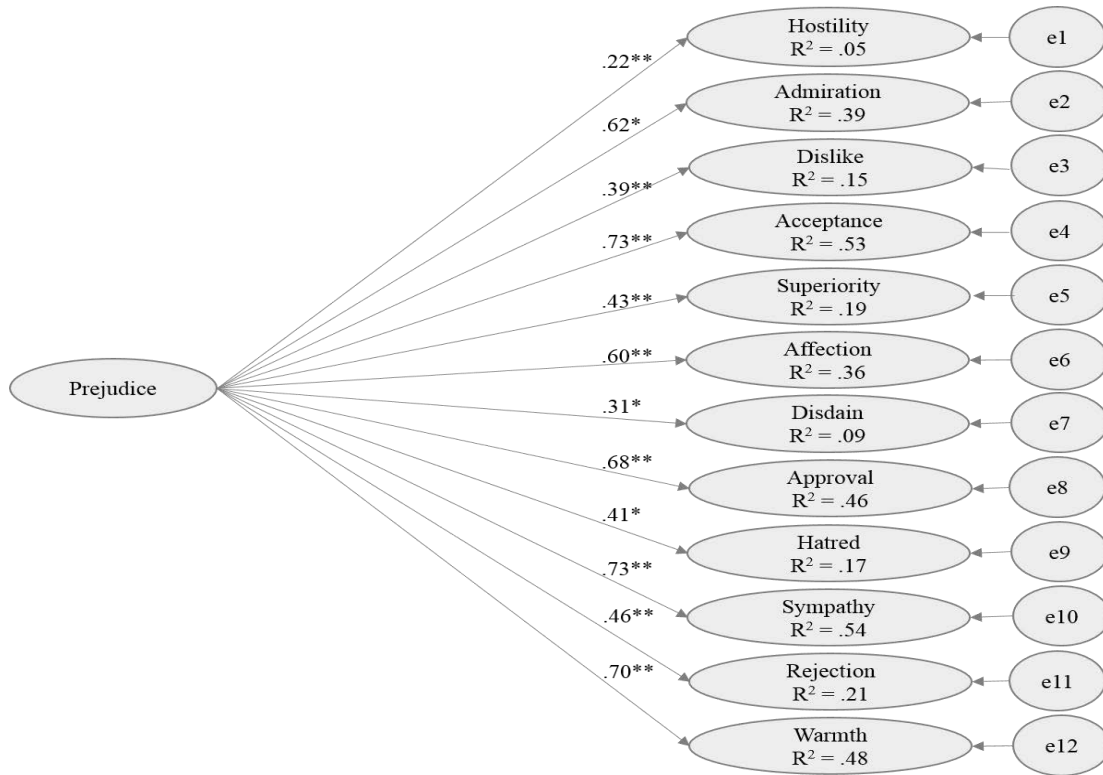


Figure L2. Original factor structure for the prejudice measure. Standardised factor loadings shown.
* = $p < .01$, ** = $p < .001$.

As with Study 1, it appeared there was a method effect. A method effect can occur when some of the items in a multi-factor survey are positively worded and some of the items are negatively worded. This can result in some of the correlations amongst the items being due to the positive and negative wording of the items being interpreted differently and resulting in different participant responding, rather than the underlying first-order factor (prejudice). This appeared to be occurring with the prejudice measure as all the positively worded items correlated together while all the negatively worded items correlated together. This suggests the positive or negative wording of the items influenced the participants responding. To account for the variability introduced into the data because of the positive and negative wording, two factors were added into the model. One for positively worded items and one for negatively worded items. Adding factors into the model to account for the method effect substantially improved the model fit. However, model fit was still poor ($\chi^2 = 122.47$, $df = 41$, $p < .001$; Bollen-Stine Bootstrap $p = .012$; RMSEA = .101, PCLOSE = .000, 90% RMSEA CI = .081-.122; SRMR = .059; GFI = .905; AGFI = .819). Items with the

lowest variance explained by the factor were removed. The removal of the items with the lowest variance explained by the factor (affection, disdain, approval and warmth) resulted in a factor structure with better fit ($\chi^2 = 22.55$, $df = 11$, $p = .020$; Bollen-Stine Bootstrap $p = .179$; RMSEA = .074, PCLOSE = .165, 90% RMSEA CI = .028-.117; SRMR = .040; GFI = .972; AGFI = .909). However, it is noted this final factor structure did not meet the acceptable level of fit for the RMSEA fit indicity. The values for all other fit indices were appropriate. Furthermore, one of the factor loadings for this revised factor structure was not adequate ($<.32$). As such, this revised factor structure does not have construct validity within this sample. The final factor structure can be seen in Figure L3.

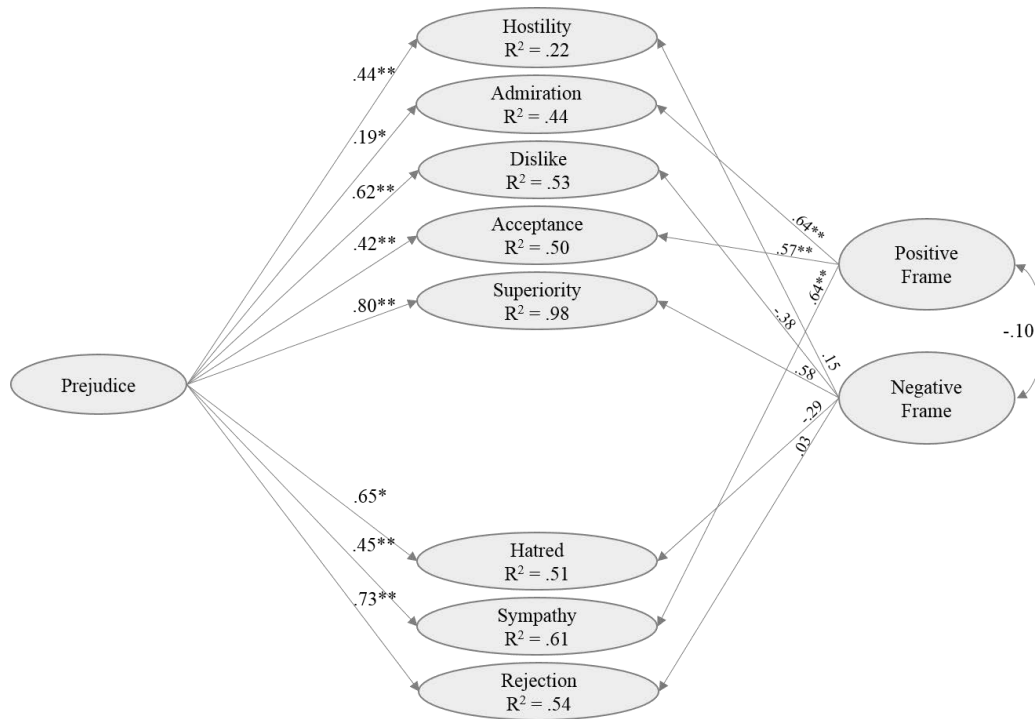


Figure L3. Revised factor structure for the prejudice measure with standardised factor loadings correlation coefficients. * = $p < .05$, ** = $p < .01$.

Confirmatory factor analysis of the negative stereotypes scale.

The factor structure found to have model fit in Study 1 was tested in the current sample. This factor structure can be seen in Figure L1. Model fit indices suggest this factor structure has good fit ($\chi^2 = 1.08$, $df = 3$, $p = .782$; Bollen-Stine Bootstrap $p = .928$; RMSEA = .000, PCLOSE = .878, 90% RMSEA CI = .000-.079; SRMR = .008; GFI = .998; AGFI = .989). Furthermore, all factor loadings were adequate ($>.6$). The final factor structure can be seen in Figure L4. The good model fit indices for this final factor structure suggests these remaining items are good measures for negative stereotypes and together these final items have good construct validity.

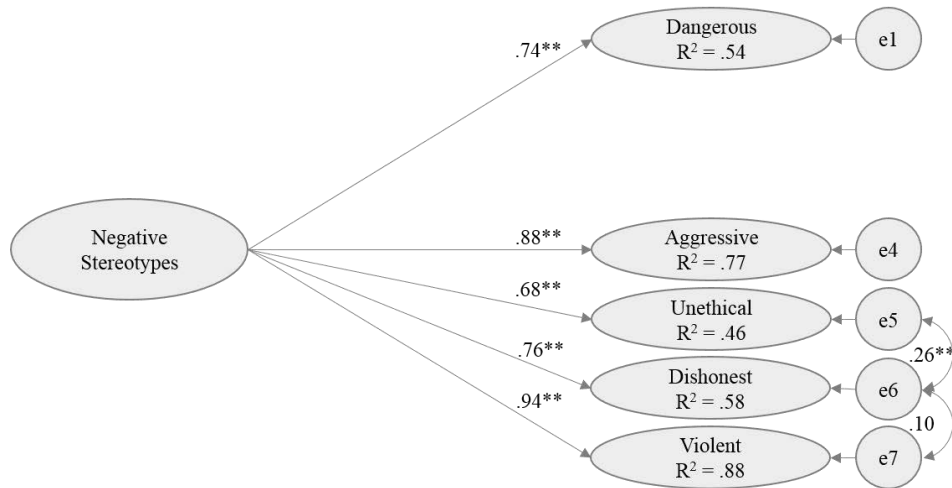


Figure L4. Confirmed factor structure of the negative stereotypes measure. Standardised factor loadings shown. * = $p < .01$, ** = $p < .001$.

Confirmatory factor analysis of the intergroup anxiety scale. The factor structure found to have model fit in Study 1 was tested in the current sample. This factor structure can be seen in Figure L5. Model fit indices suggest this factor structure has good fit ($\chi^2 = 1.30$, $df = 3$, $p = .730$; RMSEA = .000, PCLOSE = .845, 90% RMSEA CI = .000-.087; SRMR = .011; GFI = .997; AGFI = .987). Furthermore, all factor loadings were adequate ($> .32$). The final factor structure can be seen in Figure L4. The good model fit indices for this final factor structure suggests these remaining items are good measures for negative stereotypes and together these final items have good construct validity.

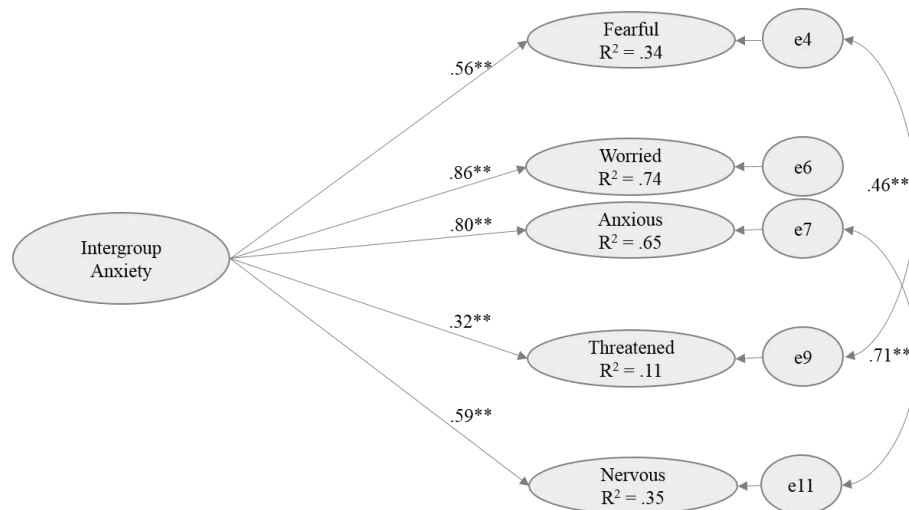


Figure L4. Original factor structure of the intergroup anxiety measure. Standardised factor loadings shown. * = $p < .01$, ** = $p < .001$.

Appendix M: Study 2 follow-up correlations

	1	2	3	4	5	6	7	8
1. Prejudice	1							
2. Negative stereotypes	.361**	1						
3. Intergroup anxiety	.637**	.466**	1					
4. Empathy	-.653**	-.184	-.407**	1				
5. Realistic individual	.523	.413**	.577**	-.342**	1			
6. Realistic group	.587**	.444**	.606**	-.412**	.782**	1		
7. Symbolic individual	.553**	.324**	.542**	-.349**	.801**	.700**	1	
8. Symbolic group	.582**	.362**	.540**	-.412**	.620**	.737**	.792**	1

Appendix N: Study 1 ANOVA output

Condition comparison

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
PrejudiceTOTALAvg	3.961	2	880	.019
NegStereotypeINDEX	3.832	2	880	.022
EmpathyTOTALAvg	2.495	2	880	.083
RealIndTOTALAvg	1.023	2	880	.360
SymIndTOTALAvg	2.344	2	880	.097
RealGrpTOTALAvg	4.326	2	880	.014
SymGrpTOTALAvg	10.149	2	880	.000
AnxietyTOTALAvg	2.155	2	880	.117
StutsTOTALAvg	2.399	2	880	.091
ConflictTOTALAvg	.052	2	880	.949
SelfreportknowledgeTOTALAvg	2.038	2	880	.131
ActualknowledgeTOTALAvg	16.175	2	880	.000

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PrejudiceTOTALAvg	Between Groups	12.559	2	6.279	1.894	.151
	Within Groups	2918.120	880	3.316		
	Total	2930.678	882			
NegStereotypeINDEX	Between Groups	942.449	2	471.225	4.547	.011
	Within Groups	91192.661	880	103.628		
	Total	92135.110	882			
EmpathyTOTALAvg	Between Groups	12.537	2	6.269	1.403	.246
	Within Groups	3930.830	880	4.467		
	Total	3943.367	882			
RealIndTOTALAvg	Between Groups	2.061	2	1.030	1.828	.161
	Within Groups	496.025	880	.564		
	Total	498.086	882			
SymIndTOTALAvg	Between Groups	1.065	2	.532	1.045	.352
	Within Groups	448.113	880	.509		
	Total	449.178	882			
RealGrpTOTALAvg	Between Groups	1.745	2	.873	1.284	.277
	Within Groups	597.970	880	.680		
	Total	599.715	882			
SymGrpTOTALAvg	Between Groups	2.229	2	1.115	2.121	.121
	Within Groups	462.518	880	.526		
	Total	464.748	882			
AnxietyTOTALAvg	Between Groups	7.475	2	3.737	1.491	.226
	Within Groups	2205.847	880	2.507		
	Total	2213.322	882			
StutsTOTALAvg	Between Groups	1.939	2	.970	1.326	.266
	Within Groups	643.468	880	.731		
	Total	645.407	882			
ConflictTOTALAvg	Between Groups	15.767	2	7.884	19.559	.000
	Within Groups	354.697	880	.403		
	Total	370.465	882			
SelfreportknowledgeTOTALAvg	Between Groups	27.211	2	13.606	17.646	.000
	Within Groups	678.521	880	.771		
	Total	705.732	882			
ActualknowledgeTOTALAvg	Between Groups	8.066	2	4.033	10.708	.000
	Within Groups	331.454	880	.377		
	Total	339.520	882			

Robust Tests of Equality of Means

		Statistic ^a	df1	df2	Sig.
PrejudiceTOTALAvg	Welch	1.644	2	196.081	.196
NegStereotypeINDEX	Welch	3.934	2	205.037	.021
EmpathyTOTALAvg	Welch	1.177	2	201.184	.310
RealIndTOTALAvg	Welch	1.588	2	196.555	.207
SymIndTOTALAvg	Welch	1.046	2	199.514	.353
RealGrpTOTALAvg	Welch	1.223	2	195.127	.297
SymGrpTOTALAvg	Welch	1.781	2	191.186	.171
AnxietyTOTALAvg	Welch	1.302	2	199.899	.274
StutsTOTALAvg	Welch	1.114	2	200.077	.330
ConflictTOTALAvg	Welch	18.495	2	199.379	.000
SelfreportknowledgeTOTALAvg	Welch	14.079	2	196.099	.000
ActualknowledgeTOTALAvg	Welch	6.918	2	191.442	.001

a. Asymptotically F distributed.

Realistic and symbolic threat comparison

Mauchly's Test of Sphericity^a

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^b		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Threat	.880	97.262	5	.000	.930	.933	.333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: Threat

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Threat	Sphericity Assumed	192.844	3	64.281	510.995	.000	.401
	Greenhouse-Geisser	192.844	2.789	69.152	510.995	.000	.401
	Huynh-Feldt	192.844	2.800	68.874	510.995	.000	.401
	Lower-bound	192.844	1.000	192.844	510.995	.000	.401
Error(Threat)	Sphericity Assumed	287.571	2286	.126			
	Greenhouse-Geisser	287.571	2124.980	.135			
	Huynh-Feldt	287.571	2133.577	.135			
	Lower-bound	287.571	762.000	.377			

Pairwise Comparisons

Measure: MEASURE_1

(I) Threat	(J) Threat	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	.375 [*]	.017	.000	.329	.420
	3	-.286 [*]	.017	.000	-.332	-.240
	4	-.182 [*]	.019	.000	-.231	-.132
2	1	-.375 [*]	.017	.000	-.420	-.329
	3	-.660 [*]	.021	.000	-.715	-.606
	4	-.556 [*]	.017	.000	-.600	-.512
3	1	.286 [*]	.017	.000	.240	.332
	2	.660 [*]	.021	.000	.606	.715
	4	.104 [*]	.018	.000	.057	.151
4	1	.182 [*]	.019	.000	.132	.231
	2	.556 [*]	.017	.000	.512	.600
	3	-.104 [*]	.018	.000	-.151	-.057

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Gender comparison

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
PrejudiceTOTALAvg	7.708	1	754	.006
NegStereotypeINDEX	22.347	1	754	.000
EmpathyTOTALAvg	.001	1	754	.970
RealIndTOTALAvg	.339	1	754	.561
SymIndTOTALAvg	14.062	1	754	.000
RealGrpTOTALAvg	.115	1	754	.735
SymGrpTOTALAvg	.548	1	754	.459
AnxietyTOTALAvg	9.454	1	754	.002
StutsTOTALAvg	.448	1	754	.503
ConflictTOTALAvg	.587	1	754	.444
SelfreportknowledgeTOTALAvg	.036	1	754	.850
ActualknowledgeTOTALAvg	21.780	1	754	.000

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PrejudiceTOTALAvg	Between Groups	135.099	1	135.099	46.675	.000
	Within Groups	2182.398	754	2.894		
	Total	2317.496	755			
NegStereotypeINDEX	Between Groups	53.735	1	53.735	.550	.459
	Within Groups	73726.811	754	97.781		
	Total	73780.546	755			
EmpathyTOTALAvg	Between Groups	225.751	1	225.751	56.561	.000
	Within Groups	3009.431	754	3.991		
	Total	3235.182	755			
RealIndTOTALAvg	Between Groups	13.893	1	13.893	27.209	.000
	Within Groups	385.011	754	.511		
	Total	398.904	755			
SymIndTOTALAvg	Between Groups	15.474	1	15.474	33.764	.000
	Within Groups	345.544	754	.458		
	Total	361.018	755			
RealGrpTOTALAvg	Between Groups	10.998	1	10.998	17.857	.000
	Within Groups	464.380	754	.616		
	Total	475.377	755			
SymGrpTOTALAvg	Between Groups	11.386	1	11.386	24.899	.000
	Within Groups	344.786	754	.457		
	Total	356.172	755			
AnxietyTOTALAvg	Between Groups	46.340	1	46.340	20.536	.000
	Within Groups	1701.449	754	2.257		
	Total	1747.789	755			
StutsTOTALAvg	Between Groups	5.825	1	5.825	8.416	.004
	Within Groups	521.861	754	.692		
	Total	527.686	755			
ConflictTOTALAvg	Between Groups	1.034	1	1.034	2.645	.104
	Within Groups	294.722	754	.391		
	Total	295.755	755			
SelfreportknowledgeTOTALAvg	Between Groups	6.023	1	6.023	8.433	.004
	Within Groups	538.464	754	.714		
	Total	544.487	755			
ActualknowledgeTOTALAvg	Between Groups	9.633	1	9.633	29.918	.000
	Within Groups	242.777	754	.322		
	Total	252.410	755			

Education comparison

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
PrejudiceTOTALAvg	5.277	3	759	.001
NegStereotypeINDEX	4.290	3	759	.005
EmpathyTOTALAvg	2.890	3	759	.035
RealIndTOTALAvg	6.848	3	759	.000
SymIndTOTALAvg	7.223	3	759	.000
RealGrpTOTALAvg	9.627	3	759	.000
SymGrpTOTALAvg	10.587	3	759	.000
AnxietyTOTALAvg	1.640	3	759	.179
StutsTOTALAvg	1.556	3	759	.199
ConflictTOTALAvg	6.205	3	759	.000
SelfreportknowledgeTOTALAvg	4.682	3	759	.003
ActualknowledgeTOTALAvg	2.909	3	759	.034

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PrejudiceTOTALAvg	Between Groups	10.520	3	3.507	1.124	.338
	Within Groups	2368.069	759	3.120		
	Total	2378.589	762			
NegStereotypeINDEX	Between Groups	362.628	3	120.876	1.203	.308
	Within Groups	76294.210	759	100.519		
	Total	76656.838	762			
EmpathyTOTALAvg	Between Groups	16.198	3	5.399	1.255	.289
	Within Groups	3264.233	759	4.301		
	Total	3280.431	762			
RealIndTOTALAvg	Between Groups	2.903	3	.968	1.798	.146
	Within Groups	408.485	759	.538		
	Total	411.388	762			
SymIndTOTALAvg	Between Groups	.532	3	.177	.362	.780
	Within Groups	371.769	759	.490		
	Total	372.302	762			
RealGrpTOTALAvg	Between Groups	4.405	3	1.468	2.322	.074
	Within Groups	479.968	759	.632		
	Total	484.373	762			
SymGrpTOTALAvg	Between Groups	.487	3	.162	.339	.797
	Within Groups	363.266	759	.479		
	Total	363.753	762			
AnxietyTOTALAvg	Between Groups	1.075	3	.358	.151	.929
	Within Groups	1805.822	759	2.379		
	Total	1806.897	762			
StutsTOTALAvg	Between Groups	5.719	3	1.906	2.734	.043
	Within Groups	529.284	759	.697		
	Total	535.003	762			
ConflictTOTALAvg	Between Groups	6.033	3	2.011	5.103	.002
	Within Groups	299.113	759	.394		
	Total	305.146	762			
SelfreportknowledgeTOTALAvg	Between Groups	8.138	3	2.713	3.733	.011
	Within Groups	551.527	759	.727		
	Total	559.665	762			
ActualknowledgeTOTALAvg	Between Groups	3.991	3	1.330	4.001	.008
	Within Groups	252.394	759	.333		
	Total	256.386	762			

Robust Tests of Equality of Means

		Statistic ^a	df1	df2	Sig.
PrejudiceTOTALAvg	Welch	.741	3	29.777	.536
NegStereotypeINDEX	Welch	.505	3	29.455	.682
EmpathyTOTALAvg	Welch	.738	3	29.650	.538
RealIndTOTALAvg	Welch	.878	3	29.477	.464
SymIndTOTALAvg	Welch	.169	3	29.460	.917
RealGrpTOTALAvg	Welch	1.054	3	29.396	.383
SymGrpTOTALAvg	Welch	.144	3	29.368	.933
AnxietyTOTALAvg	Welch	.076	3	29.648	.972
StutsTOTALAvg	Welch	2.603	3	30.251	.070
ConflictTOTALAvg	Welch	2.651	3	29.649	.067
SelfreportknowledgeTOTALAvg	Welch	3.582	3	29.971	.025
ActualknowledgeTOTALAvg	Welch	2.332	3	29.635	.094

a. Asymptotically F distributed.

Appendix O: Study 2 ANOVA output

Examining the effect of SPT and VR on out-group attitudes

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
PrejudiceTOTALAvg	2.954	2	190	.055
NegSterFreqEDPTOTALAvg	4.671	2	190	.010
IntAnxTOTALAvg	.236	2	190	.790
EmpathyTOTALAvg	4.833	2	190	.009
RealIndTOTALAvg	2.008	2	190	.137
SymIndTOTALAvg	4.080	2	190	.018
RealGrpTOTALAvg	.969	2	190	.381
SymGrpTOTALAvg	1.859	2	190	.159
StatusTOTALAvg	4.177	2	190	.017
ConflictTOTALAvg	.839	2	190	.434
SDOTOTALAvg	.432	2	190	.650
RWATOTALAvg	.412	2	190	.663
Contact_quant_1	1.520	2	190	.221
Contact_pos_1	1.018	2	131	.364
SelfOtherOverlap	1.934	2	190	.147
Immersion	61.175	2	190	.000
Fairness_1	9.196	2	190	.000
Fairness_2	1.926	2	190	.149
AttThink_Situation	1.386	2	190	.253
AttThink_Disposition	.069	2	190	.934
VidKnowledgeTOTALAvg	1.772	2	190	.173

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PrejudiceTOTALAvg	Between Groups	23.585	2	11.793	8.549	.000
	Within Groups	262.093	190	1.379		
	Total	285.678	192			
NegSterFreqEDPTOTALAvg	Between Groups	19.054	2	9.527	6.649	.002
	Within Groups	272.246	190	1.433		
	Total	291.301	192			
IntAnxTOTALAvg	Between Groups	4.161	2	2.080	1.563	.212
	Within Groups	252.873	190	1.331		
	Total	257.034	192			
EmpathyTOTALAvg	Between Groups	35.872	2	17.936	5.748	.004
	Within Groups	592.903	190	3.121		
	Total	628.774	192			
RealIndTOTALAvg	Between Groups	4.927	2	2.463	4.374	.014
	Within Groups	106.999	190	.563		
	Total	111.926	192			
SymIndTOTALAvg	Between Groups	4.469	2	2.234	6.081	.003
	Within Groups	69.819	190	.367		
	Total	74.288	192			
RealGrpTOTALAvg	Between Groups	7.108	2	3.554	6.220	.002
	Within Groups	108.560	190	.571		
	Total	115.667	192			
SymGrpTOTALAvg	Between Groups	6.484	2	3.242	6.494	.002
	Within Groups	94.854	190	.499		
	Total	101.338	192			
StatusTOTALAvg	Between Groups	.095	2	.047	.064	.938
	Within Groups	140.065	190	.737		
	Total	140.159	192			
ConflictTOTALAvg	Between Groups	1.216	2	.608	1.770	.173
	Within Groups	65.237	190	.343		
	Total	66.452	192			
SDOTOTALAvg	Between Groups	.692	2	.346	.945	.390
	Within Groups	69.575	190	.366		
	Total	70.267	192			
RWATOTALAvg	Between Groups	.233	2	.117	.360	.698
	Within Groups	61.417	190	.323		
	Total	61.650	192			
Contact_quant_1	Between Groups	1.232	2	.616	.149	.861
	Within Groups	784.260	190	4.128		
	Total	785.492	192			
Contact_pos_1	Between Groups	7.042	2	3.521	.562	.571
	Within Groups	820.279	131	6.262		
	Total	827.321	133			
SelfOtherOverlap	Between Groups	4.122	2	2.061	.551	.577
	Within Groups	710.854	190	3.741		
	Total	714.976	192			

Immersion	Between Groups	2483.160	2	1241.580	567.158	.000
	Within Groups	415.934	190	2.189		
	Total	2899.093	192			
Fairness_1	Between Groups	29.830	2	14.915	3.667	.027
	Within Groups	772.837	190	4.068		
	Total	802.667	192			
Fairness_2	Between Groups	23.555	2	11.777	2.462	.088
	Within Groups	908.967	190	4.784		
	Total	932.522	192			
AttThink_Situation	Between Groups	.697	2	.348	.886	.414
	Within Groups	74.689	190	.393		
	Total	75.386	192			
AttThink_Disposition	Between Groups	.666	2	.333	.511	.601
	Within Groups	123.829	190	.652		
	Total	124.495	192			
VidKnowledgeTOTALAvg	Between Groups	1.477	2	.739	12.319	.000
	Within Groups	11.393	190	.060		
	Total	12.871	192			

Robust Tests of Equality of Means^b

		Statistic ^a	df1	df2	Sig.
PrejudiceTOTALAvg	Welch	8.204	2	124.854	.000
NegSterFreqEDPTOTALAvg	Welch	5.349	2	121.239	.006
IntAnxTOTALAvg	Welch	1.490	2	126.606	.229
EmpathyTOTALAvg	Welch	5.713	2	123.764	.004
RealIndTOTALAvg	Welch	3.902	2	125.540	.023
SymIndTOTALAvg	Welch	5.921	2	122.774	.004
RealGrpTOTALAvg	Welch	5.887	2	125.742	.004
SymGrpTOTALAvg	Welch	6.351	2	124.473	.002
StatusTOTALAvg	Welch	.075	2	125.464	.928
ConflictTOTALAvg	Welch	2.002	2	126.401	.139
SDOTALAvg	Welch	.963	2	126.392	.385
RWOTALAvg	Welch	.378	2	126.608	.686
Contact_quant_1	Welch	.138	2	125.270	.871
Contact_pos_1	Welch	.583	2	86.096	.560
SelfOtherOverlap	Welch	.595	2	125.880	.553
Immersion	Welch
Fairness_1	Welch	3.369	2	120.137	.038
Fairness_2	Welch	2.490	2	126.658	.087
AttThink_Situation	Welch	.889	2	126.593	.414
AttThink_Disposition	Welch	.520	2	126.387	.596
VidKnowledgeTOTALAvg	Welch	12.944	2	125.222	.000

a. Asymptotically F distributed.

b. Robust tests of equality of means cannot be performed for Immersion because at least one group has 0 variance.

Examining the Long-term effects of the SPT intervention on out-group attitudes

Prejudice

Box's Test of Equality of Covariance Matrices^a

Box's M	9.721
F	1.569
df1	6
df2	185272.204
Sig.	.151

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Time	Sphericity Assumed	9.612	1	9.612	26.130	.000	.219	26.130	.999
	Greenhouse-Geisser	9.612	1.000	9.612	26.130	.000	.219	26.130	.999
	Huynh-Feldt	9.612	1.000	9.612	26.130	.000	.219	26.130	.999
	Lower-bound	9.612	1.000	9.612	26.130	.000	.219	26.130	.999
Time * Condition	Sphericity Assumed	.247	2	.124	.336	.715	.007	.673	.102
	Greenhouse-Geisser	.247	2.000	.124	.336	.715	.007	.673	.102
	Huynh-Feldt	.247	2.000	.124	.336	.715	.007	.673	.102
	Lower-bound	.247	2.000	.124	.336	.715	.007	.673	.102
Error(Time)	Sphericity Assumed	34.212	93	.368					
	Greenhouse-Geisser	34.212	93.000	.368					
	Huynh-Feldt	34.212	93.000	.368					
	Lower-bound	34.212	93.000	.368					

a. Computed using alpha = .05

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
PrejudiceTOTALAvg	.651	2	93	.524
FUPrejudiceTOTALAvg	.537	2	93	.587

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Condition
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	1510.907	1	1510.907	915.879	.000	.908	915.879	1.000
Condition	18.073	2	9.037	5.478	.006	.105	10.956	.839
Error	153.420	93	1.650					

a. Computed using alpha = .05

Negative stereotypes

Box's Test of Equality of Covariance Matrices^a

Box's M	17.744
F	2.865
df1	6
df2	185272.204
Sig.	.009

Tests the null

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Time	Sphericity Assumed	.224	1	.224	.419	.519	.004	.419	.098
	Greenhouse-Geisser	.224	1.000	.224	.419	.519	.004	.419	.098
	Huynh-Feldt	.224	1.000	.224	.419	.519	.004	.419	.098
	Lower-bound	.224	1.000	.224	.419	.519	.004	.419	.098
Time * Condition	Sphericity Assumed	1.772	2	.886	1.657	.196	.034	3.314	.341
	Greenhouse-Geisser	1.772	2.000	.886	1.657	.196	.034	3.314	.341
	Huynh-Feldt	1.772	2.000	.886	1.657	.196	.034	3.314	.341
	Lower-bound	1.772	2.000	.886	1.657	.196	.034	3.314	.341
Error(Time)	Sphericity Assumed	49.723	93	.535					
	Greenhouse-Geisser	49.723	93.000	.535					
	Huynh-Feldt	49.723	93.000	.535					
	Lower-bound	49.723	93.000	.535					

a. Computed using alpha = .05

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
NegSterFreqEDPTOTALA vg	1.919	2	93	.153
FUNegStereoTOTALAvg	1.391	2	93	.254

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Condition
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	1117.669	1	1117.669	692.299	.000	.882	692.299	1.000
Condition	3.595	2	1.798	1.113	.333	.023	2.227	.240
Error	150.142	93	1.614					

a. Computed using alpha = .05

Intergroup Anxiety

Box's Test of Equality of Covariance Matrices^a

Box's M	7.609
F	1.229
df1	6
df2	185272.204
Sig.	.288

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Time	Sphericity Assumed	.625	1	.625	1.107	.295	.012	1.107	.180
	Greenhouse-Geisser	.625	1.000	.625	1.107	.295	.012	1.107	.180
	Huynh-Feldt	.625	1.000	.625	1.107	.295	.012	1.107	.180
	Lower-bound	.625	1.000	.625	1.107	.295	.012	1.107	.180
Time * Condition	Sphericity Assumed	.390	2	.195	.345	.709	.007	.690	.104
	Greenhouse-Geisser	.390	2.000	.195	.345	.709	.007	.690	.104
	Huynh-Feldt	.390	2.000	.195	.345	.709	.007	.690	.104
	Lower-bound	.390	2.000	.195	.345	.709	.007	.690	.104
Error(Time)	Sphericity Assumed	52.498	93	.564					
	Greenhouse-Geisser	52.498	93.000	.564					
	Huynh-Feldt	52.498	93.000	.564					
	Lower-bound	52.498	93.000	.564					

a. Computed using alpha = .05

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
IntAnxTOTALAvg	2.409	2	93	.095
FUIntAnxTOTALAvg	.203	2	93	.816

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Condition
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	1762.436	1	1762.436	761.383	.000	.891	761.383	1.000
Condition	.880	2	.440	.190	.827	.004	.380	.079
Error	215.275	93	2.315					

a. Computed using alpha = .05

Empathy

Box's Test of Equality of Covariance Matrices^a

Box's M	9.537
F	1.540
df1	6
df2	185272.204
Sig.	.161

Tests the null

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Time	Sphericity Assumed	15.562	1	15.562	15.890	.000	.146	15.890	.976
	Greenhouse-Geisser	15.562	1.000	15.562	15.890	.000	.146	15.890	.976
	Huynh-Feldt	15.562	1.000	15.562	15.890	.000	.146	15.890	.976
	Lower-bound	15.562	1.000	15.562	15.890	.000	.146	15.890	.976
Time * Condition	Sphericity Assumed	3.817	2	1.908	1.949	.148	.040	3.897	.395
	Greenhouse-Geisser	3.817	2.000	1.908	1.949	.148	.040	3.897	.395
	Huynh-Feldt	3.817	2.000	1.908	1.949	.148	.040	3.897	.395
	Lower-bound	3.817	2.000	1.908	1.949	.148	.040	3.897	.395
Error(Time)	Sphericity Assumed	91.080	93	.979					
	Greenhouse-Geisser	91.080	93.000	.979					
	Huynh-Feldt	91.080	93.000	.979					
	Lower-bound	91.080	93.000	.979					

a. Computed using alpha = .05

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
EmpathyTOTALAvg	1.052	2	93	.353
FUEmpathyTOTALAvg	.701	2	93	.499

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Condition
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	12500.223	1	12500.223	3227.628	.000	.972	3227.628	1.000
Condition	26.292	2	13.146	3.394	.038	.068	6.789	.626
Error	360.178	93	3.873					

a. Computed using alpha = .05

Realistic individual threat perceptions

Box's Test of Equality of Covariance Matrices^a

Box's M	12.026
F	1.942
df1	6
df2	185272.204
Sig.	.070

^a Tests the null

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Time	Sphericity Assumed	1.444	1	1.444	8.509	.004	.084	8.509	.823
	Greenhouse-Geisser	1.444	1.000	1.444	8.509	.004	.084	8.509	.823
	Huynh-Feldt	1.444	1.000	1.444	8.509	.004	.084	8.509	.823
	Lower-bound	1.444	1.000	1.444	8.509	.004	.084	8.509	.823
Time * Condition	Sphericity Assumed	.309	2	.155	.911	.406	.019	1.823	.203
	Greenhouse-Geisser	.309	2.000	.155	.911	.406	.019	1.823	.203
	Huynh-Feldt	.309	2.000	.155	.911	.406	.019	1.823	.203
	Lower-bound	.309	2.000	.155	.911	.406	.019	1.823	.203
Error(Time)	Sphericity Assumed	15.784	93	.170					
	Greenhouse-Geisser	15.784	93.000	.170					
	Huynh-Feldt	15.784	93.000	.170					
	Lower-bound	15.784	93.000	.170					

a. Computed using alpha = .05

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
RealIndTOTALAvg	2.612	2	93	.079
FURealIndTOTALAvg	1.917	2	93	.153

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Condition
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	798.566	1	798.566	872.318	.000	.904	872.318	1.000
Condition	1.016	2	.508	.555	.576	.012	1.110	.139
Error	85.137	93	.915					

a. Computed using alpha = .05

Symbolic Individual Threat Perceptions

Box's Test of Equality of Covariance Matrices^a

Box's M	5.971
F	.964
df1	6
df2	181515.350
Sig.	.448

a. Tests the null

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Time	Sphericity Assumed	1.740	1	1.740	10.534	.002	.103	10.534	.895
	Greenhouse-Geisser	1.740	1.000	1.740	10.534	.002	.103	10.534	.895
	Huynh-Feldt	1.740	1.000	1.740	10.534	.002	.103	10.534	.895
	Lower-bound	1.740	1.000	1.740	10.534	.002	.103	10.534	.895
Time * Condition	Sphericity Assumed	.294	2	.147	.889	.415	.019	1.778	.199
	Greenhouse-Geisser	.294	2.000	.147	.889	.415	.019	1.778	.199
	Huynh-Feldt	.294	2.000	.147	.889	.415	.019	1.778	.199
	Lower-bound	.294	2.000	.147	.889	.415	.019	1.778	.199
Error(Time)	Sphericity Assumed	15.199	92	.165					
	Greenhouse-Geisser	15.199	92.000	.165					
	Huynh-Feldt	15.199	92.000	.165					
	Lower-bound	15.199	92.000	.165					

a. Computed using alpha = .05

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
SymIndTOTALAvg	.764	2	92	.469
FUSymIndTOTALAvg	3.047	2	92	.052

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Condition
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	510.968	1	510.968	950.135	.000	.912	950.135	1.000
Condition	1.561	2	.780	1.451	.240	.031	2.902	.303
Error	49.476	92	.538					

a. Computed using alpha = .05

Realistic Group Threat Perceptions

Box's Test of Equality of Covariance Matrices^a

Box's M	8.627
F	1.392
df1	6
df2	181515.350
Sig.	.213

Tests the null

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Time	Sphericity Assumed	.635	1	.635	4.184	.044	.043	4.184	.526
	Greenhouse-Geisser	.635	1.000	.635	4.184	.044	.043	4.184	.526
	Huynh-Feldt	.635	1.000	.635	4.184	.044	.043	4.184	.526
	Lower-bound	.635	1.000	.635	4.184	.044	.043	4.184	.526
Time * Condition	Sphericity Assumed	.411	2	.206	1.356	.263	.029	2.713	.286
	Greenhouse-Geisser	.411	2.000	.206	1.356	.263	.029	2.713	.286
	Huynh-Feldt	.411	2.000	.206	1.356	.263	.029	2.713	.286
	Lower-bound	.411	2.000	.206	1.356	.263	.029	2.713	.286
Error(Time)	Sphericity Assumed	13.952	92	.152					
	Greenhouse-Geisser	13.952	92.000	.152					
	Huynh-Feldt	13.952	92.000	.152					
	Lower-bound	13.952	92.000	.152					

a. Computed using alpha = .05

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
RealGrpTOTALAvg	1.447	2	92	.241
FURealGrpTOTALAvg	3.049	2	92	.052

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Condition
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	948.401	1	948.401	1006.321	.000	.916	1006.321	1.000
Condition	2.283	2	1.142	1.211	.302	.026	2.423	.259
Error	86.705	92	.942					

a. Computed using alpha = .05

Symbolic Group Threat Perceptions

Box's Test of Equality of Covariance Matrices^a

Box's M	5.244
F	.847
df1	6
df2	185272.204
Sig.	.534

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Time	Sphericity Assumed	2.651	1	2.651	18.160	.000	.163	18.160	.988
	Greenhouse-Geisser	2.651	1.000	2.651	18.160	.000	.163	18.160	.988
	Huynh-Feldt	2.651	1.000	2.651	18.160	.000	.163	18.160	.988
	Lower-bound	2.651	1.000	2.651	18.160	.000	.163	18.160	.988
Time * Condition	Sphericity Assumed	.181	2	.090	.619	.540	.013	1.239	.151
	Greenhouse-Geisser	.181	2.000	.090	.619	.540	.013	1.239	.151
	Huynh-Feldt	.181	2.000	.090	.619	.540	.013	1.239	.151
	Lower-bound	.181	2.000	.090	.619	.540	.013	1.239	.151
Error(Time)	Sphericity Assumed	13.578	93	.146					
	Greenhouse-Geisser	13.578	93.000	.146					
	Huynh-Feldt	13.578	93.000	.146					
	Lower-bound	13.578	93.000	.146					

a. Computed using alpha = .05

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
SymGrpTOTALAvg	.092	2	93	.912
FUSymGrpTOTALAvg	1.283	2	93	.282

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Condition
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	683.034	1	683.034	1052.736	.000	.919	1052.736	1.000
Condition	1.693	2	.847	1.305	.276	.027	2.610	.276
Error	60.340	93	.649					

a. Computed using alpha = .05

Self-other overlap

Box's Test of Equality of Covariance Matrices^a

Box's M	7.935
F	1.281
df1	6
df2	185272.204
Sig.	.262

a. Test the null hypothesis that the covariance matrices of the dependent variable are equal across groups.

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Time	Sphericity Assumed	3.352	1	3.352	4.146	.045	.043	4.146	.522
	Greenhouse-Geisser	3.352	1.000	3.352	4.146	.045	.043	4.146	.522
	Huynh-Feldt	3.352	1.000	3.352	4.146	.045	.043	4.146	.522
	Lower-bound	3.352	1.000	3.352	4.146	.045	.043	4.146	.522
Time * Condition	Sphericity Assumed	3.426	2	1.713	2.119	.126	.044	4.237	.425
	Greenhouse-Geisser	3.426	2.000	1.713	2.119	.126	.044	4.237	.425
	Huynh-Feldt	3.426	2.000	1.713	2.119	.126	.044	4.237	.425
	Lower-bound	3.426	2.000	1.713	2.119	.126	.044	4.237	.425
Error(Time)	Sphericity Assumed	75.193	93	.809					
	Greenhouse-Geisser	75.193	93.000	.809					
	Huynh-Feldt	75.193	93.000	.809					
	Lower-bound	75.193	93.000	.809					

a. Computed using alpha = .05

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
SelfOtherOverlap	1.193	2	93	.308
FUSelfotherOverlap	1.230	2	93	.297

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Condition
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Intercept	2241.915	1	2241.915	344.474	.000	.787	344.474	1.000
Condition	1.169	2	.584	.090	.914	.002	.180	.063
Error	605.265	93	6.508					

a. Computed using alpha = .05

Appendix N: Study 1 frequency and favourability distributions for negative stereotypes