

Understanding the Factors that Influence Resilience in a Cyclone Prone Population

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Introduction: Research in the field of climate change has identified that the severity of extreme weather events is likely to increase. As these events can have detrimental effects to both physical and mental health, it is important to understand the factors that promote resilience. Past research suggests that social resilience to hazards encompasses both the avoidance of losses (through preparation) and the ability to recover with minimal social disruptions if disaster occurs. The purpose of this research was to identify the psychosocial factors that influence social resilience in a high risk population in North Queensland.

Methods: Participants (n=356) living in Townsville (n=309) and Cairns (n=47) were recruited via social media to participate in a questionnaire. The questionnaire assessed variables including: age, homeownership, social capital, self-efficacy, preparedness, resilience, psychological distress. Hierarchical multiple regressions were used to identify factors that predicted preparedness and individual level resilience.

Results: No significant relationship was found between preparedness and psychological resilience. However, it was found that self-efficacy (although not related to preparedness) was correlated to both resilience and psychological distress and was the strongest predictor in the multiple regression model.

Conclusions: These results suggest that in populations where weather threats are relatively severe and common, different factors influence different components of social resilience. As high risk populations are usually more prepared (through experience) there should be a separation of focus between preparing for the event and preparing for the outcome. This study suggests that preparing for the outcome (promoting individual resilience) may be facilitated by increasing self-efficacy, locus of control and decreasing psychological distress.

Background

Social Resilience

The ability to survive and cope with the consequence of a disaster². Includes both **reducing or avoiding losses** and **recovering with minimal social disruptions**^{4,11,20}.

Self-Efficacy

Perceived ability to perform tasks, activities and behaviours¹. Promotes both psychological resilience and preparedness behaviour^{13,14}.

Social Capital

Social connectedness is important for both preparedness⁹ and resilience¹⁵.

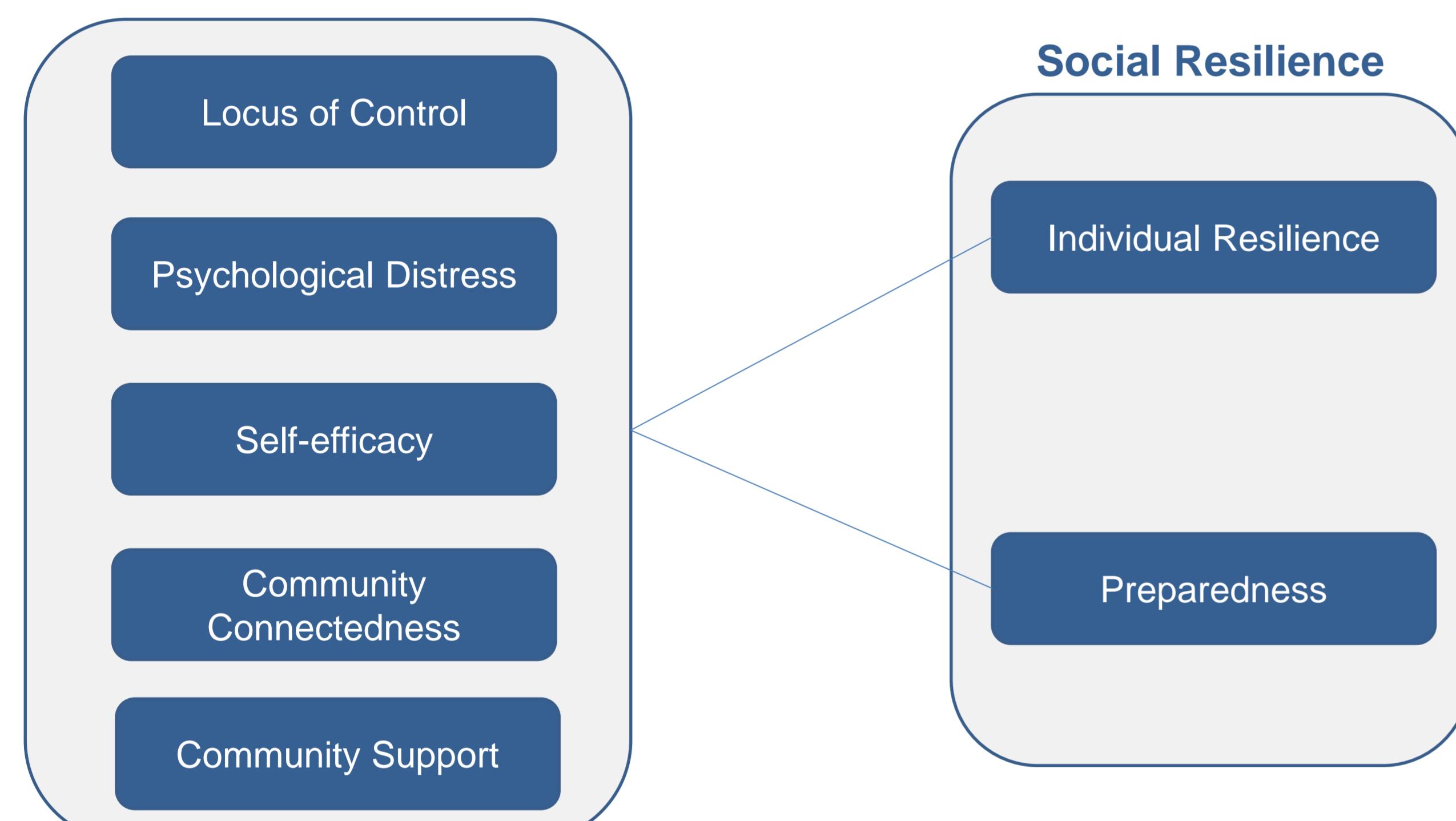
Social support also predicts psychological resilience³.

Psychological distress

Absence of psychopathologies is important for resilience⁷.

Locus of Control

Perceived ability to control events and outcomes predicts level of cyclone preparedness¹⁷.



Adapted from Paton and Johnston (2001) & Sattler, Kaiser, and Hittner (2000)

Preparedness and individual resilience were unrelated constructs in a North Queensland sample.

Different predictor variables for both individual resilience and preparedness. Social factors predicted preparedness whereas individual factors predicted individual resilience.

Feeling socially supported and connected to the community was associated with increased individual preparedness.

Perceived ability to control outcomes and perform tasks effectively predicted individual resilience. Feeling psychologically distressed was associated with less individual resilience.

Low predicted variability in the preparedness model likely due to a relatively high level of preparedness in the North Queensland region. A region that is experienced with similar threats.

Future research should construct a measure of individual resilience for use with cyclone prone populations.

Important to differentiate between pre-event preparedness and outcome preparedness to promote holistic social resilience.

Method

Participants from the Townsville (n=309) and Cairns (n=47) regions were recruited through social media and student recruitment software.

Participants responded to a questionnaire measuring preparedness behaviour¹⁶, psychological resilience¹⁸, self-efficacy⁶, social connectedness^{12,20}, social support⁵, locus of control¹⁰ and psychological distress⁸.

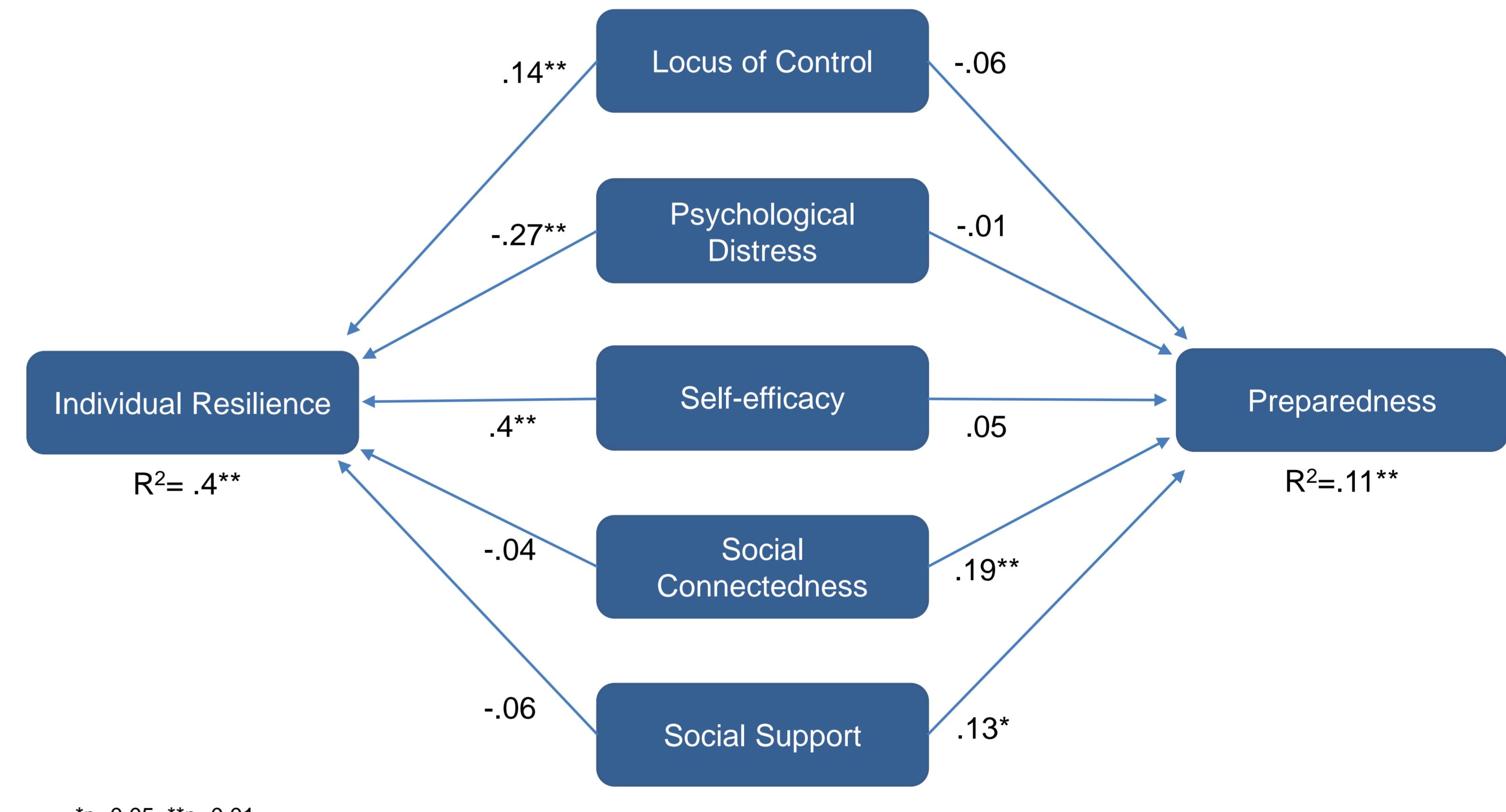
Age (years)	Sex	Total
Range	Male	Female
17 - 71	27.56 (SD = 11.57)	105
	105	251
		356

Results

Non-significant correlation between preparedness and individual resilience
Two separate hierarchical multiple regression analyses for each dependent variable.

Block 1: Age, sex and home ownership
Block 2: Proposed model variables

Predictor Variable Beta Weights from Block 2 of each Regression Model



Discussion

Implications for Risk Reduction

Tailor messages to promote preparedness and recovery independently

Encourage social connectedness and support for preparedness

Increasing individual levels of self-efficacy and locus of control, while keeping psychological distress low, should improve the recovery process

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