Breda McCarthy

10 Neutralization: An overlooked driver of unsustainable household energy consumption?

Abstract: Over-consumption of energy resources by affluent households is a significant contributor to climate change. Even when individuals are motivated to save money and make clear statements in support of a renewable energy transition, saving energy is generally not a priority. This paradox can be explained by neutralization theory—a theory that describes how people justify behaviors that conflict with their values and with social norms, such as by denying responsibility, minimizing harm, or blaming others. Although widely applied in criminology and consumer ethics, neutralization has rarely been examined in relation to household energy use. This chapter examines five neutralization techniques that people use to justify unsustainable energy consumption. Neutralization theory is positioned as an overarching framework that captures related psychological concepts including accounts, motivated reasoning, locus of control, goal conflict, psychological distance, ascription of responsibility, and moral disengagement. The chapter concludes with practical recommendations for policymakers to counter neutralization techniques, and it outlines future research directions.

Keywords: neutralization theory, cognitive biases, energy consumption

10.1 Introduction

Affluent households account for a significant proportion of greenhouse gas emissions, through everyday choices, including home heating and cooling, transportation modes, and product consumption (Wiedmann et al., 2020). The dependence on fossil fuels places enormous strain on the planet, as current energy production and use account for roughly three-quarters of global greenhouse gas emissions (International Energy Agency, 2021). Fossil fuels have significant health and environmental consequences throughout their lifecycle, from extraction and combustion to transportation and consumption, which contributes to climate change, respiratory illnesses, and ecosystem degradation (Finkelman et al., 2021). Everyday household behaviors will play a decisive role in determining how quickly emissions fall and whether climate targets can be met (Sovacool, 2016).

Given the reality of anthropogenic climate change, being an energy consumer inherently involves moral considerations. Moral judgment, in simple terms, entails assessing what is right or wrong, fair or unfair (Hunt & Vitell, 1986). Morality enters en-

© 2026 the author(s) | https://doi.org/10.1515/9783111481432-012
This is an open access publication distributed under the terms of the CC 4.0 license BY-NC-ND.

ergy consumption when people are asked to engage in "curtailment behavior" to reduce energy use (Adua et al., 2021; Gardner & Stern, 2008; Millward-Hopkins et al., 2020; Thøgersen & Grønhøj, 2010), sacrificing some thermal comfort or convenience for the sake of the environment. Energy saving is also aligned with the call to promote "sufficiency" in consumption (Jungell-Michelsson & Heikkurinen, 2022). People must balance self-interest against socio-ecological issues, often described as a conflict between a "want self" and a "should self"—that is, between what people want to do versus what they think they should do (Bazerman et al., 1998). According to Bandura (2007, p. 9): "*The harm to the earth is largely the product of human activity. Societies, therefore, have a moral obligation to preserve the environment so that future generations have a habitable planet.*" Violating moral norms, which are internalized beliefs about what is right or wrong or what is considered acceptable or unacceptable behavior within society, can evoke guilt (Tangney et al., 2007). Yet, research also suggests that despite their best intentions, consumers often fail to act in a pro-environmental manner, known as the "intention-behavior gap" (Shaw et al., 2016). Neutralization theory may explain the intention-behavior gap (Chatzidakis et al., 2007) as neutralization techniques enable people to minimize guilt, avoid self-censure and social blame, and justify untoward behavior.

Neutralization theory starts from the premise that most people accept social norms and want to see themselves as moral. When their actions deviate from norms, they rely on techniques of neutralization—narratives that make questionable behavior seem excusable. Rather than rejecting norms outright, individuals reinterpret their choices in ways that reduce guilt, and these internal dialogues or narratives help people override moral norms (Sykes & Matza, 1957). Originally applied to juvenile delinquency, neutralization theory is largely absent in studies of energy consumption. It has been used to explain numerous crimes and unethical behaviors, ranging from genocide (Bandura, 1999), corruption and white-collar crime (Anand et al., 2004; Fooks et al., 2013), use of plastic packaging (Tao et al., 2024), consumers' revenge behavior after service failure (Yang et al., 2022), and the lack of ethical consumption (McCormack & Chowdhury, 2024). According to McKercher (2025), it has been applied widely to explain cheating in sports ("the team needs me"), shoplifting ("the store has lots of money"), and poor tourist behavior ("I am a tourist and therefore I can do what I want"). In the literature on climate ethics, there is growing interest in the concept of moral disengagement (Bandura, 2007; Peeters et al., 2019; Stoll-Kleemann & O'Riordan, 2020) which is related to neutralization theory (Ribeaud & Eisner, 2010). It is argued that the concepts of neutralization, moral disengagement, and self-serving cognitive distortions overlap because they all explain why a mostly rule-abiding person can minimize the cognitive dissonance that arises when norms of behavior are transgressed (Ribeaud & Eisner, 2010).

To the best of our knowledge, few studies have used neutralization theory as a lens to explore energy consumption in the residential sector. By analyzing five neutralization techniques and connecting them to related psychological concepts, the chapter seeks to develop an overarching framework that captures disparate knowl-

edge on the psychology of energy consumption. The chapter concludes with recommendations for policymakers to counter neutralization techniques and support sustainable energy consumption. Future research directions are briefly outlined.

10.2 Energy consumption through the moral lens: Neutralization theory

Neutralization theory is rooted in the field of criminology; Sykes and Matza (1957) challenged the assumption that criminals are deviant individuals and instead suggested that individuals generally accept societal norms and can construct narratives to deactivate norms and justify unethical and illegal acts. Juvenile delinquents can suppress their moral conscience, or "inner voices," and reduce social controls by drawing on five main neutralization techniques: denial of responsibility, denial of injury, denial of victim, condemning the condemners, and appealing to higher loyalties. Such techniques are evoked before a delinquent act is committed (Sykes & Matza, 1957). Fukukawa et al. (2019, p. 145) characterize neutralization as a process of thinking that results in "moral flexibility," where moral norms become malleable. The concept of accounts, originally proposed by Scott and Lyman (1968), is a similar explanation for how persons manage self-image and stigma when engaged in lapses of ethical behavior. An account, according to Scott and Lyman (1968), refers to a statement made by a social actor to explain unanticipated or untoward behavior. Kunda's concept of motivated reasoning (1990) shows that people can construct reasonable justifications for their self-serving conclusions. In doing so, people access a biased subset of their beliefs and rules. In simple terms, people believe what they want to believe. In the literature, numerous cognitive biases have been identified, such as distorting the facts, negating the norm, and blaming the circumstances (Kaptein & Van Helvoort, 2019).

Subsequent to the publication of Sykes and Matza's (1957) seminal study, neutralization theory has been applied beyond criminal behavior, particularly in consumer settings that require ethical judgment, such as fair trade purchasing (Chatzidakis et al., 2007), recycling (Chatzidakis et al., 2004), green consumption (McCormack & Chowdhury, 2024) and deviant consumer behaviors such as customer revenge (Yang et al., 2022). The investigation of neutralization theory is still limited in the field of energy research, probably because the theory is not widely known, and it is understood as a theory that explains criminal behavior. Yet, neutralization techniques have universal applicability and can be adopted in any ethical situation involving inconsistencies between one's values and actions (Chatzidakis et al., 2007). Some neutralization techniques overlap with other psychological concepts, so it is useful to use neutralization theory as an overarching framework to organize disparate but related concepts.

The remainder of this section analyzes the five neutralization techniques originally identified by Sykes and Matza (1957), drawing parallels to established psychological theories and concepts. Table 10.1 shows how neutralization operates in the context of everyday household energy consumption, highlighting the narratives people use to deflect responsibility and minimize harm.

Table 10.1: Neutralization techniques applied to energy consumption.

Neutralization technique	Example	Applied to energy consumption
Denial of responsibility	"Someone else should deal with this issue."	Perception that other stakeholders, such as the government and the business sector, are responsible for solving climate change—not households.
	"It's not up to me—I can't do anything."	Perception of constraints to action and lack of self-control, skills, capabilities and knowledge.
	"I don't know how to save energy."	
Denial of injury	"There is no harm."	The negative externalities of the energy system are discounted.
	"One person cannot do much."	Perception that energy consumption by a single household does not harm the environment.
	"I have done my bit."	Perception that one energy-saving action is sufficient, and further action is not needed.
Condemnation of condemners	"What they are doing is much worse."	Portraying others as wrongdoers or hypocrites. Distrusting others and assigning negative characteristics to the proponents of renewable energy, which in turn, may affect personal action and support for an energy transition.
	"They are hypocrites."	
Denial of victim	"They got what they deserved."	Perception that there is no victim, or the victim is abstract and non-human, or deserving of harm, and the harmful effects of unsustainable energy consumption are overlooked.
	"There is no real victim."	
Appeal to higher loyalties	"The needs of my family come first."	Obligations and loyalties to a social group may have an impact on energy-saving behavior and support for an energy transition.
	"I want my children to be comfortable."	
	"My loyalty is to the local economy, so I will support coal over climate policy."	

10.2.1 Denial of responsibility

In the context of criminology, denial of responsibility occurs when offenders claim that their actions were beyond their control due to external forces, thus reducing personal accountability. Offenders present themselves as victims of circumstances, for example, by claiming that it was an accident or they were drunk, and they did not mean to do it (Sykes & Matza, 1957). In the field of social psychology, Schwartz and Howard (1981) use the denial of responsibility concept in their Norm Activation Model (NAM) to explain how people avoid the personal obligation to act by attributing responsibility to others, such as the government or charitable organizations. In the literature on climate change beliefs, denial can occur both at the individual level and at the political level, and neutralizations prop up inaction on climate change (White, 2017).

Denial of responsibility is related to the concept of locus of control, a well-known personality attribute in the social sciences. Locus of control, which emerged from Rotter's theory of social learning (Rotter, 1954), refers to whether people believe that a reinforcement or an outcome of their behavior is contingent on their own behavior, personal characteristics or skills, or whether it is a function of chance, luck, or fate (Rotter, 1966). People who tend to externalize locus of control are likely to use the denial of responsibility technique (Ribeaud & Eisner, 2010). External attribution is often used to explain misconduct in workplaces, such as when people state that they were simply following orders from their superiors and therefore were not responsible for the immoral action (Kvalnes, 2019). In the context of conservation, such as recycling, denial of responsibility helps people to dissipate guilt by shifting responsibility for their behavior away from themselves (Chatzidakis et al., 2007).

Since the global energy system is a key contributor to climate change, many studies on residential energy use have taken a normative perspective, based on how things "ought to be" or "how things are," often labeled injunctive and descriptive norms respectively (Cialdini et al., 1991). Energy scholars have focused on moral obligations and personal responsibility. Within this line of research, the Norm Activation Model (NAM; Schwartz, 1973) is widely used to explain prosocial and altruistic behavior and has been shown to predict energy-saving intentions (Van der Werff & Steg, 2015). According to NAM, moral norms—defined as a "moral obligation to perform or refrain from specific actions" (Schwartz & Howard, 1981, p. 191)—are only activated when individuals acknowledge a moral problem and take personal responsibility for addressing it. The denial of responsibility concept overlaps with the "ascription of responsibility" (AR) construct in the NAM (Schwartz, 1973), which Steg and De Groot (2010) define as a person's sense of responsibility for the potential adverse outcomes resulting from their behavior (or inaction). In the context of energy, acceptance of personal responsibility is a powerful predictor of the intention to take energy problems seriously (Sovacool & Dworkin, 2015). For example, higher levels of personal responsibility strengthen moral norms in relation to use of energy in the workplace (Fatoki, 2023). Conversely, when consumers deny responsibility and attribute the re-

sponsibility of protecting the environment to the government, their willingness to pay more for clean energy is reduced due to the "displacement of responsibility" effect (Venugopal & Shukla, 2019, p. 61). However, some studies applying the NAM model have found that normative processes have a limited influence on energy conservation (Van den Broek et al., 2019) when energy saving is a habitual practice.

Bandura's (1999) concept of moral disengagement is very similar to denial of responsibility. In his essay exploring the perpetration of inhumanities, Bandura (1999) proposed that people normally regulate their behavior through moral self-sanctions (i.e., guilt, shame), but they can disengage from these self-regulators using cognitive mechanisms. In his model of moral control and disengagement, Bandura (1999) uses the terms "displacement of responsibility" and "diffusion of responsibility" and posits that these are one of the eight mechanisms used by people to absolve themselves of personal responsibility for harmful actions. In later work, Bandura (2007) argued that selective moral disengagement plays an influential role in explaining ecologically harmful practices.

Other studies support and build on Bandura's (1999) work. Detert et al. (2008) found that an external locus of control orientation is positively related to moral disengagement. Through moral disengagement, consumers use adaptive reasoning processes to meet personal needs (i.e., buying a cheaper, but unsustainable product or service) instead of acting ethically (i.e., buying an eco-friendly product or service) (Kilian & Mann, 2020). To enhance understanding of moral disengagement theory, scholars have added personality traits, such as future orientation, self-control (Zhang et al., 2024), empathy and moral identity (Chowdhury & Fernando, 2014), that explain why some individuals are less prone to disengage their moral standards. Previous research has found that the moral disengagement effect is attenuated among consumers with high moral identity and in the context of high behavioral visibility (Lei et al., 2025). Similarly, some studies present a correlation between altruistic values and moral engagement (Yang et al., 2020).

Denial of responsibility also captures a perceived lack of self-control, skills, capabilities, or knowledge. Individuals can tamper with responsibility through referring to factors outside of their control. Kaptein and Van Helvoort (2019) developed a model of neutralizations that captured a broad inventory of techniques that explain deviant and illegal behavior in the workplace, courtroom, and private sphere. They distinguish several categories of neutralizations, including "hiding behind imperfect capabilities," which captures excuses such as lack of competencies, social skills, or self-control. The imperfect capabilities technique overlaps with the "perceived behavioral control" construct in the seminal Theory of Planned Behavior (Ajzen, 1991), which refers to whether a person believes they have control over the behavior and whether there are perceived barriers to action. Applied to energy saving, an individual may believe that they have no control over the amount of energy used due to the behavior of others, such as teenagers or children, in the home. Various factors such as time, cost, and available infrastructures could also serve to impede or facilitate desirable,

pro-environmental behaviors (Yuriev et al., 2020). Additionally, a systematic review found that other behavioral barriers including habits and a lack of information and understanding can reduce energy consumption (Stankuniene, 2021); denial of responsibility may be one mechanism underlying these effects.

10.2.2 Denial of injury

One of the most common techniques used by people to dampen moral norms is denial of injury. Denial of injury occurs when people are aware that their actions (or lack of action) are inappropriate but assert that harmful consequences do not arise. This is also a common form of moral disengagement, where individuals seek to rationalize uncharacteristic and harmful behavior to reduce their feelings of distress or guilt (Cordeiro-Rodrigues & Achino, 2017). This neutralization technique overlaps with the defense mechanism proposed by Schwartz and Howard (1981), "denial of need" which reduces the perceived severity of the problem. Denial of injury is aligned with the "(un)awareness of consequences" construct in the NAM (Schwartz, 1973). The awareness of consequences construct in the NAM means that awareness of the environmental problems caused by energy use helps activate moral norms (Van der Werff & Steg, 2015), yet denial of injury may explain why people do not act despite having awareness. Likewise, Bandura (2007) states that disregarding, minimizing, and disputing detrimental effect is a common tactic to justify inaction on climate change. Bandura (2007, p. 27) states: "*as long as the harmful results of one's conduct are ignored, minimized, or the evidence is discredited, there is little reason for self-censure to be activated, or any need to change behavioral practices*."

Energy consumers could activate the denial of injury technique when they claim that their purchase behavior and the habits of a single person (i.e., cooking, showering, washing clothes, cooling the home, etc.) will not make a discernible difference to climate change. Perceived consumer effectiveness is "a measure of the extent to which a respondent believes that an individual consumer can be effective in pollution abatement" (Kinnear et al., 1974, p.21). It is an issue in energy conservation because it is often difficult for an individual to see a relationship between their energy choices in the home and broader problems such as climate change, as an individual's contribution might seem like a drop in the ocean (Berger & Corbin, 1992). Likewise, in the literature on climate ethics, denial of harm is a common neutralization technique that forestalls mitigation and adaptation strategies (White, 2017). Claiming that the impact of the small and isolated act is minimal is well documented in the context of organizational misconduct (Kvalnes, 2019).

Denial of injury may also be reflected in "single action bias," which is a tendency for individuals to undertake one class of adaptation and then disregard other, potentially more effective risk-reduction mechanisms (Weber, 2020). Due to this bias, energy users could take easy and convenient actions to reduce energy use in the home

(such as turning off lights), and then disregard other, more energy-intensive activities (such as heating and cooling the home), and thus easily evoke the denial of injury technique. Consistent with this behavior, Bandura (2007) argues that people generally seek "quick fixes" that require no sacrifices in one's lifestyle. They make cosmetic changes—like recycling—that make them feel like conservationists but constitute "token remedies at the individual level" that do little to solve the climate emergency (Bandura, 2007, p. 31).

10.2.3 Condemnation of condemners

Condemnation of condemners is another neutralization technique, and in the case of juvenile offenders, it involves shifting blame away from oneself by attacking the integrity of those who enforce rules (Sykes & Matza, 1957). It is a counterattack and means that attention is directed toward those who disapprove of the specific behavior (e.g., authorities, parents, or teachers) by questioning their actions or motives (i.e., "what are they doing?"). It is designed to deflect attention so that unethical behavior is hidden or is lost to view (Sykes & Matza, 1957). Applied to climate change, studies show that the government is sometimes blamed by the public for failing to deliver supportive policies and there is a belief that economic interests are predominant and powerful (Stoll-Kleemann & O'Riordan, 2020), which may lead people to condemn policymakers and thus discourage energy saving. There is growing research on how people interpret messages from experts on sustainability. On the one hand, advocates of sustainability can arouse the "do-gooder derogation," where people feel defensive about their own shortcomings which leads them to dislike advocates who disclose their highly sustainable lifestyles (Sparkman & Attari, 2020). On the other hand, studies show that "leadership by example" from high-status individuals (such as politicians and celebrities) significantly increases the willingness of people to adopt similar low-carbon behaviors (Westlake et al., 2024).

Condemnation of one's opponents is often deployed in politics, particularly in partisan contexts. Partisanship refers to strong loyalty to a political party or ideology, and dialogue about energy and climate change is found to be deeply polarized in many countries, including the United States (see Bolsen & Palm, Ch. 16 of this volume). Disagreements between Republican and Democratic voters are difficult to resolve, even in the face of expert opinion, and such partisanship inhibits progress on the energy transition (Osofsky & Peel, 2015; Mayer, 2019). Condemnation of condemners and partisanship are linked as politicians seek to discredit and undermine the legitimacy of the opposition.

In the context of energy conservation, consumers may justify their energy consumption by assigning blame to other agents in the energy supply chain. There is an increasing focus on energy justice and the divide between the winners and the losers of the energy transition (Carley & Konisky, 2020). Some people stand to benefit from

the energy transition, such as through high returns on investments while others may face challenges, such as people dealing with a polluted environment due to unsustainable mining practices and poor waste disposal practices (Sovacool & Dworkin, 2015). Consequently, people may be hostile to the advocates of an energy transition if they fail to acknowledge these challenges. The problem of managing waste from batteries and solar panels is a new one, and industry stakeholders are concerned that the lack of policy on managing waste could undermine the "green" image of renewables (Mathur et al., 2021). Thus, individuals might legitimately turn their attention to the shortcomings of the energy transition and attack other stakeholders for being hypocritical.

10.2.4 Denial of victim

Denial of victim means arguing that the victim has done something wrong and does not deserve to be labeled a victim, and therefore harmful or even vengeful acts are justified (Gruber & Schlegelmilch, 2013). This technique is easily invoked when the victim is unknown or abstract (Jenni & Loewenstein, 1997). Strangers can be more easily dehumanized than acquaintances as empathetic emotional reactions based on perceived similarity are not activated (Cordeiro-Rodrigues & Achino, 2017). This technique is grounded in "a discourse of othering" (Cordeiro-Rodrigues & Achino, 2017, p. 325), where the outgroup is characterized as having negative features. When one is dehumanized, one is no longer viewed as a sentient human being, someone who has feelings, who feels pain and has the same basic needs and aspirations as any other person (Bandura, 2007). Thus, the denial of victim technique is aligned with the "dehumanization" form of moral disengagement, which occurs when individuals are perceived as less than human, likened to objects or animals (Bandura, 2007). When a person is dehumanized and stripped of human qualities, it becomes easier for perpetrators to commit harmful acts without self-censure (Bandura, 1999; Mitchell, 2011; Osofsky et al., 2005).

In the context of energy, the victim is often abstract: future generations, the natural environment, and other species. The notion of the environment as a victim is intertwined with notions of energy justice, such as whether the current energy system is fair to future generations or not, or whether environmental and social hazards are distributed without discrimination (Sovacool & Dworkin, 2015). Construal level theory (Trope & Liberman, 2010; Liberman et al., 2007) is a theory that helps explain people's tendency to disregard the need to save energy and feel disengaged from debates about energy and climate change. When an event feels psychologically distant, people think about it in abstract and general terms, which is a high-level construal. When something feels psychologically near, people think about it in concrete and detailed terms, a low-level construal. Psychological distance refers to the degree to which people feel removed from a situation or event, and there are four dimensions of distance: temporal (far off in time), spatial (distant places), social (strangers, other groups) and

hypothetical (possible but unreal scenarios). For example, to persuade people to address climate change, it matters whether the action helps a friend or a stranger (social distance), whether climate risk is seen as real or imaginary (hypotheticality), whether the effects are anticipated in the near or distant future (temporal distance), here or somewhere else (spatial distance) (Trope & Liberman, 2010). Applied to energy use, people may feel that an energy transition will benefit future generations (strangers), so the motivation to act ethically by reducing energy consumption and adopting renewable energy is reduced.

To reduce psychological distance, various strategies are recommended, including education regarding the concrete consequences of climate change, provision of concrete feedback on progress, and the use of kinship cues (Van Lange & Huckelba, 2021). Although it is widely assumed that psychological distance is a major barrier to climate action, scholars report that the relationship between construal level and psychological distance may not hold in the context of climate change (Wang et al., 2019) and the relationship between psychological distance and pro-environmental behavior is complex and unclear (Maiella et al., 2020), and is overestimated (Van Valkengoed et al., 2023). More research on the factors that affect relationships between psychological distance and mitigation behavior is needed.

10.2.5 Appeal to higher loyalties

The appeal to higher loyalties occurs when people accept that they have contravened a norm but justify the unethical act by saying that some higher-order norm, and not self-interest, motivated the action (Kvalnes, 2019). It means that loyalty to a particular social group supersedes adherence to a broader societal norm (Sykes & Matza, 1957). Research shows that people defend blood sports, such as hunting, bullfighting, or dogfighting, by using neutralization techniques. For example, when people say that bullfighting preserves cultural identity and heritage, they are using the appeal to higher loyalties to defend the practice, where loyalty to one's cultural group is placed above animal cruelty and ethical concerns (Cordeiro-Rodrigues & Achino, 2017; Evans & Forsyth, 1998).

In the energy context, opponents of renewable energy might prioritize economic self-interest over the environment, such as citing the need to protect current living standards, economic growth, and employment in fossil fuel industries, which might constitute a higher loyalty to the in-group. Studies report that while people support renewable energy policy, there is an economic threshold, and policies that increase costs, such as carbon taxes, are undesirable (Umit & Schaffer, 2020). There is some overlap between the notion of conflicting loyalties and conflicting goals. Goal conflict is explained in goal-framing theory (Lindenberg & Steg, 2007), and it is posited that people have multiple goals—hedonic, gain, and normative goals—that guide environmental behavior. As people deal with conflicting goals, the goal of safeguarding the

natural environment can easily be sidelined in favor of other goals, such as loyalty to the in-group.

People may justify energy consumption based on obligations to other family members, which is another in-group. For instance, a parent may feel obliged to use energy at night so that young children are comfortable and can sleep easily. Social practice research highlights that everyday practices are shaped by social norms and conventions and influenced by broader, cultural, technological, and infrastructural forces (Watson et al., 2020; see also Thomas, Ch. 6 of this volume). For instance, social norms around being a "good parent" exist, and thus it is hard to blame the individual for wasteful consumption (Evans, 2012). Thus, even though an individual is compelled to save energy, social norms "can constrain opportunities for a green self-identity to be translated into effective pro-environmental behavior" (Whitmarsh & O'Neill, 2010, p. 313).

10.3 Recommendations for practitioners and policymakers

Table 10.2 shows five counter-neutralization techniques which aim to disrupt the process by which people excuse or justify wasteful energy practices. Bem's (1972) self-perception theory, which posits that attitudes are established by observing one's behavior, suggests that people are self-aware and can change their patterns of thinking. Prior research shows that people are capable of ascribing responsibility to themselves for transgressions or unethical acts, and counter-neutralization techniques can disrupt justifications (Piacentini et al., 2012). The counter-neutralization strategies described in this section rely on message reframing, and it must be noted that the reframing of messages about climate change is just one technique that can be used to promote sustainable energy choices.

Re-anchoring of responsibility. Denial of responsibility enables energy users to reduce personal accountability for addressing climate change through everyday energy choices. Re-anchoring personal responsibility could be achieved by building people's confidence that individual action matters and supports collective action. When people perceive that they have a direct influence over outcomes, known as "internal locus of control" (Rotter, 1966), this may increase personal responsibility. Research shows that normative appeals, such as drawing attention to the change of a social norm over time (a dynamic norm) instead of its current state (a static norm) can motivate low-carbon choices (Sparkman & Walton, 2017). The effect of a dynamic norm on behavior depends on mediators such as personal norms and the perceived feasibility of the action (Eriksson, 2025). Normative messages such as *"Households are now switching energy use to off-peak periods and this helps save X kg of CO_2 per year. You*

Table 10.2: Counter-neutralizations and related areas of research.

Neutralization factor	Counter-neutralization strategy	Areas of research
Denial of responsibility	Re-anchoring responsibility	Internal locus of control
Denial of injury	Re-stating injury	Moral foundations theory Cultural cognition theory
Condemnation of condemners	Restoring credible voices	Moral foundations theory Cultural cognition theory Trusted messengers
Denial of victim	Restoring the victim	Construal level theory and psychological distance Moral foundations theory Emotional appeals
Appeal to higher loyalties	Reframing higher loyalties	Moral foundations theory Intergenerational framing

can too. Here are three effective options" may foster an internal locus of control and mitigate denial of responsibility.

Restating injury and restoring credible voices. Denial of injury is often linked to a lack of knowledge or understanding about the true consequences of one's actions. The condemnation of condemners technique enables people to dismiss knowledge by questioning the motives or the integrity of politicians and scientists. Prior research suggests that neutralization techniques are linked with biased information processing (Kahan et al., 2010) and the role of knowledge in influencing behavioral change is an ongoing, multi-decade debate in psychology (Stern, 2011). Yet, some researchers conclude that efforts to improve public knowledge about climate change are not the lost cause as it is often claimed to be (Shi et al., 2016), and a key pathway to greater engagement with energy consumption is to use a carefully framed approach to information dissemination.

Moral foundations theory (Haidt & Joseph, 2007), further developed with colleagues (Graham et al., 2009, 2011), argues that morality is rooted in intuitions and innate psychological mechanisms. The theory argues morality is not just about the welfare of the individual (as Western psychology often assumes) but includes virtues that are connected to the welfare of the group. Five main values are identified, such as harm/care, fairness, in-group loyalty, authority and purity, and these values are prioritized differently by individuals and across cultures. Understanding moral differences helps guide persuasive communication across political or cultural divides. An example of a counter-neutralization statement is "*Climate risk threatens my home, our neighborhood and our insurance pool, that is why I support clean energy and green jobs.*" This type of message frames energy saving as supportive of self-interest and

group obligations, thereby reducing polarization. Policies around "green jobs" could compensate individuals for the loss of jobs in traditional energy sectors, and be seen as fair, and address people's concerns about the harmful effects of climate change. Data from other studies show that the socioeconomic benefits of an energy transition are substantial and provide a strong rationale for policy (Gielen et al., 2019). A U.S. study found that advertising campaigns that feature in-group messengers increased Republicans' understanding of the existence, causes, and harms of climate change (Goldberg et al., 2021). Using credible voices, acknowledging the limitations of the energy transition and highlighting common goals, such as cost savings, energy security, and community wellbeing, may help mitigate the defensive stance created by the condemnation of condemners technique.

Likewise, the cultural cognition theory highlights that information may be processed differently by individuals depending on their values and worldviews (Kahan et al., 2010). It is proposed that cultural worldviews (which include communitarian-individualistic and hierarchical-egalitarian value dimensions) influence people's assessment of expert opinion. Kahan's work (Kahan & Braman, 2006; Kahan et al., 2010) shows that when people encounter information on public policy (i.e., environmental regulation, gun control, outpatient commitment laws, etc.), they do not evaluate it neutrally. Instead, they interpret data in a manner that fits their pre-existing values, and if the information threatens their worldview, they often dismiss it. Kahan and Braman (2006, p. 171) argue there are ways of communicating sound, empirical information in an effective manner, by using "counter-biasing" techniques. As people tend to use a "cultural credibility heuristic" (Kahan et al., 2010, p. 136), they are more likely to accept facts if they come from a trusted messenger, someone who shares their values, such as farmers or business leaders who are trusted within specific communities. In the context of energy, Kahan and Braman's work (2006) suggests that building diverse networks of credible messengers could bridge divides across cultural groups and make it harder for a person to evoke the condemnation of condemners and the denial of injury techniques.

Restoring the victim. Since the denial of victim technique entails erasing victims, such as future generations, distant communities and ecosystems, a counter-neutralization strategy that restores the victim is needed. Liberman and Trope (2014) argue that much of human thought involves going beyond direct experience and adopting a high-level construal. This means people can traverse psychological distance by imagining the future and by perspective-taking (Liberman & Trope, 2014). This work, along with moral foundations theory, suggests that care and empathy for the victim of climate change can be nurtured. It is argued that people's disconnection from nature is one of the root causes of environmental decline and a barrier to systemic transformations (Pascual et al., 2023). Thus, rebuilding a connection with nature is recommended through experiences and media that foster appreciation, such as nature-based tourism, storytelling, and films. Interacting with other species, such as a whale shark or a minke whale, often induces awe, which is the experience of feeling

small and humbled by the presence of something vast, and as a self-transcendent emotion, it motivates people to behave in a more pro-environmental manner (Kaplan et al., 2024). Given that emotions can influence behavior, this leads to a different set of communication imperatives to promote sustainable energy consumption.

Reframing higher loyalties. The appeal to higher loyalties occurs when an individual justifies harmful behavior because they put the needs of in-group above the needs of strangers. Moral foundations theory (Haidt & Joseph, 2007) suggests that a useful way of regulating selfishness is by redefining what loyalty to the group means and aligning communications with the moral values of the target audience. Research on intergenerational framing (Syropoulos & Markowitz, 2024) suggests that increasing a sense of connection between present and future generations and making the perceived responsibility to one's descendants more salient is associated with a greater motivation to act on climate change. In the context of energy-saving, a counter-neutralization message could be "*I save energy because I want my grandchildren to grow up in a safe climate.*"

10.4 Conclusions and recommendations for future research

This chapter presents an integrative theoretical framework to explain how neutralizations, and related psychological factors, constrain the extent to which individuals are willing to reduce their energy consumption, support an energy transition and respond to the challenge of climate change. Neutralization theory is mostly associated with the field of criminology and is largely underexplored in the context of residential energy saving, yet it helps explain how energy users deviate from norms and avoid guilt, self-blame, and social censure. From a policy perspective, this framework supports the design of interventions to promote sustainable energy consumption.

The chapter concludes by outlining areas for future research. It is assumed that psychological distance from an object diminishes the intensity of affective responses to that object, and people react more strongly to events that are closer to them (Trope & Liberman, 2010). Following this line of reasoning, the interaction between neutralization techniques, emotions, and psychological distance could be an area for future research. Does distance to an event diminish the intensity of emotions and amplify neutralization? Further research in this area would make an important and timely contribution to the literature on energy and climate change. We encourage future researchers to augment neutralization theory, explore mediators and moderators, and examine the factors that facilitate or thwart neutralizations.

References

Adua, L., Zhang, K. X., & Clark, B. (2021). Seeking a handle on climate change: Examining the comparative effectiveness of energy efficiency improvement and renewable energy production in the United States. *Global Environmental Change*, *70*, 102351. https://doi.org/10.1016/j.gloenvcha.2021.102351

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Anand, V., Ashforth, B. E., & Joshi, M. (2004). Business as usual: The acceptance and perpetuation of corruption in organizations. *Academy of Management Perspectives*, *18*(2), 39–53. https://doi.org/10.5465/ame.2004.13837437

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, *3*(3), 193–209. https://doi.org/10.1207/s15327957pspr0303_3

Bandura, A. (2007). Impeding ecological sustainability through selective moral disengagement. *International Journal of Innovation and Sustainable Development*, *2*(1), 8–35. https://doi.org/10.1504/IJISD.2007.016056

Bazerman, M. H., Tenbrunsel, A. E., & Wade-Benzoni, K. (1998). Negotiating with yourself and losing: Making decisions with competing internal preferences. *Academy of Management Review*, *23*(2), 225–241. https://doi.org/10.5465/amr.1998.533224

Bem, D. J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 6, pp. 1–62). Academic Press. https://doi.org/10.1016/S0065-2601(08)60024-6

Berger, I. E., & Corbin, R. M. (1992). Perceived consumer effectiveness and faith in others as moderators of environmentally responsible behaviors. *Journal of Public Policy & Marketing*, *11*(2), 79–89. https://doi.org/10.1177/074391569201100208

Carley, S., & Konisky, D. M. (2020). The justice and equity implications of the clean energy transition. *Nature Energy*, *5*(8), 569–577. https://doi.org/10.1038/s41560-020-0641-6

Chatzidakis, A., Hibbert, S., Mittusis, D., & Smith, A. (2004). Virtue in consumption? *Journal of Marketing Management*, *20*(5–6), 526–543. https://doi.org/10.1362/0267257041323972

Chatzidakis, A., Hibbert, S., & Smith, A.P. (2007). Why people don't take their concerns about fair trade to the supermarket: The role of neutralization. *Journal of Business Ethics*, *74*, 89–100. https://doi.org/10.1007/s10551-006-9222-2

Chowdhury, R. M., & Fernando, M. (2014). The relationships of empathy, moral identity and cynicism with consumers' ethical beliefs: The mediating role of moral disengagement. *Journal of Business Ethics*, *124*(4), 677–694. https://doi.org/10.1007/s10551-013-1896-7

Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 24, pp. 201–234). Academic Press. https://doi.org/10.1016/S0065-2601(08)60330-5

Cordeiro-Rodrigues, L., & Achino, E. (2017). A case study on moral disengagement and rationalization in the context of Portuguese bullfighting. *Polish Sociological Review*, *199*(3), 315–328. https://www.jstor.org/stable/26383078

Detert, J. R., Treviño, L. K., & Sweitzer, V. L. (2008). Moral disengagement in ethical decision making: A study of antecedents and outcomes. *Journal of Applied Psychology*, *93*(2), 374–391. https://doi.org/10.1037/0021-9010.93.2.374

Eriksson, L. (2025). The importance of a dynamic norm for climate adapted forest management via personal norm and perceived feasibility. *Journal of Environmental Psychology*, *105*, 102651. https://doi.org/10.1016/j.jenvp.2025.102651

Evans, D. (2012). Beyond the throwaway society: Ordinary domestic practice and a sociological approach to household food waste. *Sociology*, *46*(1), 41–56. https://doi.org/10.1177/0038038511416150

Evans, R. D., & Forsyth, C. J. (1998). Dogmen: The rationalization of deviance. *Society & Animals*, *6*(3), 203–218. https://doi.org/10.1163/156853098X00159

Fatoki, O. (2023). Antecedents of workplace energy saving behavior: An integration of the theory of planned behavior and norm activation model. *International Journal of Energy Economics & Policy*, *13*(4), 394–403. https://doi.org/10.32479/ijeep.13301

Finkelman, R. B., Wolfe, A., & Hendryx, M. S. (2021). The future environmental and health impacts of coal. *Energy Geoscience*, *2*(2), 99–112. https://doi.org/10.1016/j.engeos.2020.11.001

Fooks, G., Gilmore, A., Collin, J., Holden, C., & Lee, K. (2013). The limits of corporate social responsibility: Techniques of neutralization, stakeholder management and political CSR. *Journal of Business Ethics*, *112*, 283–299. https://doi.org/10.1007/s10551-012-1250-5

Fukukawa, K., Zaharie, M. M., & Romonţi-Maniu, A. I. (2019). Neutralization techniques as a moderating mechanism: Ethically questionable behavior in the Romanian consumer context. *Psychology and Marketing*, *36*(2), 138–149. https://doi.org/10.1002/mar.21164

Gardner, G. T., & Stern, P. C. (2008). The short list: The most effective actions US households can take to curb climate change. *Environment: Science and Policy for Sustainable Development*, *50*(5), 12–25. https://doi.org/10.3200/ENVT.50.5.12-25

Gielen, D., Boshell, F., Saygin, D., Bazilian, M. D., Wagner, N., & Gorini, R. (2019). The role of renewable energy in the global energy transformation. *Energy Strategy Reviews*, *24*, 38–50. https://doi.org/10.1016/j.esr.2019.01.006

Goldberg, M. H., Gustafson, A., Rosenthal, S. A., & Leiserowitz, A. (2021). Shifting Republican views on climate change through targeted advertising. *Nature Climate Change*, *11*, 573–577. https://doi.org/10.1038/s41558-021-01070-1

Graham, J., Haidt, J., & Nosek, B. A. (2009). Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology*, *96*(5), 1029–1046. https://doi.org/10.1037/a0015141

Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the moral domain. J*ournal of Personality and Social Psychology*, *101*(2), 366–385. https://doi.org/10.1037/a0021847

Gruber, V., & Schlegelmilch, B. B. (2013). How techniques of neutralization legitimize norm- and attitude-inconsistent consumer behavior. *Journal of Business Ethics*, *121*, 29–45. https://doi.org/10.1007/s10551-013-1667-5

Haidt, J., & Joseph, C. (2007). The moral mind: How 5 sets of innate intuitions guide the development of many culture-specific virtues, and perhaps even modules. In P. Carruthers, S. Laurence, & S. Stich (Eds.), *The innate mind* (Vol. 3, pp. 367–391). Oxford University Press.

Hunt, S. D., & Vitell, S. (1986). A general theory of marketing ethics. *Journal of Macromarketing*, *6*(1), 5–16. https://doi.org/10.1177/027614678600600103

International Energy Agency. (2021). Net zero by 2050: *A roadmap for the global energy sector*. https://www.iea.org/topics/net-zero-emissions

Jenni, K., & Loewenstein, G. (1997). Explaining the identifiable victim effect. *Journal of Risk and Uncertainty*, *14*, 235–257. https://doi.org/10.1023/A:1007740225484

Jungell-Michelsson, J., & Heikkurinen, P. (2022). Sufficiency: A systematic literature review. *Ecological Economics*, *195*, 107380. https://doi.org/10.1016/j.ecolecon.2022.107380

Kahan, D. M., & Braman, D. (2006). Cultural cognition and public policy. *Yale Law & Policy Review*, *24*(1), 149–172. https://www.jstor.org/stable/40239654

Kahan, D. M., Braman, D., Monahan, J., Callahan, L., & Peters, E. (2010). Cultural cognition and public policy: The case of outpatient commitment laws. *Law and Human Behavior*, *34*(2), 118–140. https://doi.org/10.1007/s10979-008-9174-4

Kaplan, B., Miller, E. G., & Iyer, E. S. (2024). Shades of awe: The role of awe in consumers' pro-environmental behavior. *Journal of Consumer Behaviour*, *23*(2), 540–555. https://doi.org/10.1002/cb.2223

Kaptein, M., & van Helvoort, M. (2019). A model of neutralization techniques. *Deviant Behavior*, *40*(10), 1260–1285. https://doi.org/10.1080/01639625.2018.1491696

Kilian, S., & Mann, A. (2020). When the damage is done: Effects of moral disengagement on sustainable consumption. *Journal of Organizational Psychology*, *20*(1). https://doi.org/10.33423/jop.v20i1.2764

Kinnear, T. C., Taylor, J. R., & Ahmed, S. A. (1974). Ecologically concerned consumers: Who are they? Ecologically concerned consumers can be identified. *Journal of Marketing*, *38*(2), 20–24. https://doi.org/10.1177/002224297403800205

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*(3), 480–498. https://doi.org/10.1037/0033-2909.108.3.480

Kvalnes, Ø. (2019). Moral neutralization. In Ø. Kvalnes (Ed.), *Moral reasoning at work: Rethinking ethics in organizations* (pp. 117–131). Palgrave Pivot. https://doi.org/10.1007/978-3-030-15191-1_13

Lei, S., Xie, L., & Peng, J. (2025). Unethical consumer behavior following artificial intelligence agent encounters: The differential effect of AI agent roles and its boundary conditions. *Journal of Service Research*, *28*(4), 598–613. https://doi.org/10.1177/10946705241278837

Liberman, N., Trope, Y., & Wakslak, C. (2007). Construal level theory and consumer behavior. *Journal of Consumer Psychology*, *17*, 113–117. https://doi.org/10.1016/S1057-7408(07)70017-7

Liberman, N., & Trope, Y. (2014). Traversing psychological distance. *Trends in Cognitive Sciences*, *18*(7), 364–369. https://doi.org/10.1016/j.tics.2014.03.001

Lindenberg, S., & Steg, L. (2007). Normative, gain and hedonic goal frames guiding environmental behavior. *Journal of Social Issues*, *63*(1), 117–137. https://doi.org/10.1111/j.1540-4560.2007.00499.x

Maiella, R., La Malva, P., Marchetti, D., Pomarico, E., Di Crosta, A., Palumbo, R., Cetara, L., Di Domenico, A., & Verrocchio, M. C. (2020). The psychological distance and climate change: A systematic review on the mitigation and adaptation behaviors. *Frontiers in Psychology*, *11*, 568899. https://doi.org/10.3389/fpsyg.2020.568899

Mathur, D., Gregory, R., & Hogan, E. (2021). Do solar energy systems have a mid-life crisis? Valorising renewables and ignoring waste in regional towns in Australia's Northern Territory. *Energy Research & Social Science*, *76*, 101934. https://doi.org/10.1016/j.erss.2021.101934

Mayer, A. (2019). Partisanship, politics, and the energy transition in the United States: A critical review and conceptual framework. *Energy Research & Social Science*, *53*, 85–88. https://doi.org/10.1016/j.erss.2019.02.022

McCormack, R., & Chowdhury, R. M. (2024). Moral disengagement and neutralization techniques as explanations of unethical behavior. *Journal of Consumer Affairs*, *58*(2), 630–662. https://doi.org/10.1111/joca.12575

McKercher, B. (2025). Problematic issues in tourism and hospitality scholarship. *Journal of Hospitality and Tourism Horizons*, *1*(1), 5–21. https://doi.org/10.1108/JHTH-01-2025-0018

Millward-Hopkins, J., Steinberger, J. K., Rao, N. D., & Oswald, Y. (2020). Providing decent living with minimum energy: A global scenario. *Global Environmental Change*, *65*, 102168. https://doi.org/10.1016/j.gloenvcha.2020.102168

Mitchell, L. (2011). Moral disengagement and support for nonhuman animal farming. *Society & Animals*, *19*(1), 38–58. https://doi.org/10.1163/156853011X545529

Osofsky, H. M., & Peel, J. (2015). Energy partisanship. *Emory Law Journal*, *65*, 695.

Osofsky, M. J., Bandura, A., & Zimbardo, P. G. (2005). The role of moral disengagement in the execution process. *Law and Human Behavior*, *29*(4), 371–393. https://doi.org/10.1007/s10979-005-4930-1

Pascual, U., Balvanera, P., & Christie, M. (2023). Editorial overview: Leveraging the multiple values of nature for transformative change to just and sustainable futures—Insights from the IPBES Values Assessment. *Current Opinion in Environmental Sustainability*, *64*, 101359. https://doi.org/10.1016/j.cosust.2023.101359

Peeters, W., Diependaele, L., & Sterckx, S. (2019). Moral disengagement and the motivational gap in climate change. *Ethical Theory and Moral Practice*, *22*, 425–447. https://doi.org/10.1007/s10677-019-09995-5

Piacentini, M. G., Chatzidakis, A., & Banister, E. N. (2012). Making sense of drinking: The role of techniques of neutralization and counter-neutralization in negotiating alcohol consumption. *Sociology of Health & Illness*, *34*(6), 841–857. https://doi.org/10.1111/j.1467-9566.2011.01432.x

Ribeaud, D., & Eisner, M. (2010). Are moral disengagement, neutralization techniques, and self-serving cognitive distortions the same? Developing a unified scale of moral neutralization of aggression. *International Journal of Conflict and Violence*, *4*(2), 298–315. https://doi.org/10.4119/ijcv-2833

Rotter, J. B. (1954). *Social learning and clinical psychology*. Prentice Hall.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, *80*(1), 1–28. https://doi.org/10.1037/h0092976

Schwartz, S. H. (1973). Normative explanations of helping behavior: A critique, proposal, and empirical test. *Journal of Experimental Social Psychology*, *9*(4), 349–364. https://doi.org/10.1016/0022-1031(73)90071-1

Schwartz, S. H., & Howard, J. A. (1981). A normative decision-making model of altruism. In J. P. Rushton & R. M. Sorrentino (Eds.), *Altruism and helping behavior* (pp. 189–211). Lawrence Erlbaum.

Scott, M. B., & Lyman, S. M. (1968). Accounts. *American Sociological Review*, *33*(1), 46–62. https://doi.org/10.2307/2092239

Shaw, D., McMaster, R., & Newholm, T. (2016). Care and commitment in ethical consumption: An exploration of the "attitude-behavior gap." *Journal of Business Ethics*, *136*, 251–265. https://doi.org/10.1007/s10551-014-2442-y

Shi, J., Visschers, V. H., Siegrist, M., & Arvai, J. (2016). Knowledge as a driver of public perceptions about climate change reassessed. *Nature Climate Change*, *6*(8), 759–762. https://doi.org/10.1038/nclimate2997

Sovacool, B. K. (2016). How long will it take? Conceptualizing the temporal dynamics of energy transitions. *Energy Research & Social Science*, *13*, 202–215. https://doi.org/10.1016/j.erss.2015.12.020

Sovacool, B. K., & Dworkin, M. H. (2015). Energy justice: Conceptual insights and practical applications. *Applied Energy*, *142*, 435–444. https://doi.org/10.1016/j.apenergy.2015.01.002

Sparkman, G., & Attari, S. Z. (2020). Credibility, communication, and climate change: How lifestyle inconsistency and do-gooder derogation impact decarbonization advocacy. *Energy Research & Social Science*, *59*, 101290. https://doi.org/10.1016/j.erss.2019.101290

Sparkman, G., & Walton, G. M. (2017). Dynamic norms promote sustainable behavior, even if it is counternormative. *Psychological Science*, *28*(11), 1663–1674. https://doi.org/10.1177/0956797617719950

Stankuniene, G. (2021). Energy saving in households: A systematic literature review. *European Journal of Interdisciplinary Studies*, 13(1). https://doi.org/10.24818/ejis.2021.04

Steg, L., & de Groot, J. (2010). Explaining prosocial intentions: Testing causal relationships in the norm activation model. *British Journal of Social Psychology*, *49*(4), 725–743. https://doi.org/10.1348/014466609X477745

Stern, P. C. (2011). Contributions of psychology to limiting climate change. *American Psychologist*, *66*(4), 303–314. https://doi.org/10.1037/a0023235

Stoll-Kleemann, S., & O'Riordan, T. (2020). Revisiting the psychology of denial concerning low-carbon behaviors: From moral disengagement to generating social change. *Sustainability*, *12*(3), 935. https://doi.org/10.3390/su12030935

Syropoulos, S., & Markowitz, E. (2024). Responsibility towards future generations is a strong predictor of pro-environmental engagement. *Journal of Environmental Psychology*, *93*, 102218. https://doi.org/10.1016/j.jenvp.2023.102218

Sykes, G., & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Sociological Review*, *22*(6), 664–670. https://doi.org/10.2307/2089195

Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual Review of Psychology*, 58, 345–372. https://doi.org/10.1146/annurev.psych.56.091103.070145

Tao, Y. M., Quoquab, F., & Mohammad, J. (2024). "Why should I care about pollution?" The role of moral disengagement, guilt and plastic usage intention while ordering food online. *Journal of Social Marketing*, *14*(3–4), 432–458. https://doi.org/10.1108/JSOCM-01-2024-0015

Thøgersen, J., & Grønhøj, A. (2010). Electricity saving in households—A social cognitive approach. *Energy Policy*, *38*(12), 7732–7743. https://doi.org/10.1016/j.enpol.2010.08.025

Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review*, *117*(2), 440–463. https://doi.org/10.1037/a0018963

Umit, R., & Schaffer, L. M. (2020). Attitudes towards carbon taxes across Europe: The role of perceived uncertainty and self-interest. *Energy Policy*, *140*, 111385. https://doi.org/10.1016/j.enpol.2020.111385

van den Broek, K. L., Walker, I., & Klöckner, C. A. (2019). Drivers of energy saving behaviour: The relative influence of intentional, normative, situational and habitual processes. *Energy Policy*, *132*, 811–819. https://doi.org/10.1016/j.enpol.2019.06.048

van der Werff, E., & Steg, L. (2015). One model to predict them all: Predicting energy behaviours with the norm activation model. *Energy Research & Social Science*, *6*, 8–14. https://doi.org/10.1016/j.erss.2014.11.002

van Lange, P. A., & Huckelba, A. L. (2021). Psychological distance: How to make climate change less abstract and closer to the self. *Current Opinion in Psychology*, *42*, 49–53. https://doi.org/10.1016/j.copsyc.2021.03.011

van Valkengoed, A. M., Steg, L., & Perlaviciute, G. (2023). The psychological distance of climate change is overestimated. *One Earth*, *6*(4), 362–391. https://doi.org/10.1016/j.oneear.2023.03.006

Venugopal, A., & Shukla, D. (2019). Identifying consumers' engagement with renewable energy. *Business Strategy and the Environment*, *28*(1), 53–63. https://doi.org/10.1002/bse.2185

Wang, S., Hurlstone, M. J., Leviston, Z., Walker, I., & Lawrence, C. (2019). Climate change from a distance: An analysis of construal level and psychological distance from climate change. *Frontiers in Psychology*, *10*, 230. https://doi.org/10.3389/fpsyg.2019.00230

Watson, M., Browne, A., Evans, D., Foden, M., Hoolohan, C., & Sharp, L. (2020). Challenges and opportunities for re-framing resource use policy with practice theories: The change points approach. *Global Environmental Change*, *62*, 102072. https://doi.org/10.1016/j.gloenvcha.2020.102072

Weber, E. U. (2020). Seeing is believing: Understanding and aiding human responses to global climate change. *Daedalus*, *149*(4), 139–150. https://doi.org/10.1162/daed_a_01823

Westlake, S., Demski, C., & Pidgeon, N. (2024). Leading by example from high-status individuals: Exploring a crucial missing link in climate change mitigation. *Humanities and Social Sciences Communications*, *11*, 1292. https://doi.org/10.1057/s41599-024-03787-8

White, R. (2017). Criminological perspectives on climate change, violence and ecocide. *Current Climate Change Reports*, *3*, 243–251. https://doi.org/10.1007/s40641-017-0075-9

Whitmarsh, L., & O'Neill, S. (2010). Green identity, green living? The role of pro-environmental self-identity in determining consistency across diverse pro-environmental behaviors. *Journal of Environmental Psychology*, *30*(3), 305–314. https://doi.org/10.1016/j.jenvp.2010.01.003

Wiedmann, T., Lenzen, M., Keyßer, L. T., & Steinberger, J. K. (2020). Scientists' warning on affluence. *Nature Communications*, *11*(1), 3107. https://doi.org/10.1038/s41467-020-16941-y

Yang, C., Sun, Y., & Shen, X. L. (2022). Beyond anger: A neutralization perspective of customer revenge. *Journal of Business Research*, *146*, 363–374. https://doi.org/10.1016/j.jbusres.2022.03.076

Yang, L., Cai, G., Yong, S., & Shi, H. (2020). Moral identity: A mediation model of moral disengagement and altruistic attitude. *Social Behavior and Personality: An International Journal*, *48*(7), 1–13. https://doi.org/10.2224/sbp.8867

Yuriev, A., Dahmen, M., Paillé, P., Boiral, O., & Guillaumie, L. (2020). Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review. *Resources, Conservation and Recycling*, *155*, 104660. https://doi.org/10.1016/j.resconrec.2019.104660

Zhang, J., Zhao, H., Zhang, H., & Guo, M. (2024). Future orientation and moral judgment in Chinese youths: The mediating role of moral disengagement and the moderating role of self-control. *Current Psychology*, *43*(6), 5568–5579. https://doi.org/10.1007/s12144-023-04760-5