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Meaning, Morality, and Fluid Compensation in Response to Attitude Threat

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MEANING, MORALITY, AND FLUID COMPENSATION IN RESPONSE TO ATTITUDE THREAT

A Thesis
Presented in Partial Fulfillment of the Requirements for the Degree of Masters of Arts

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CHAPTER I: INTRODUCTION

Existential Meaning: its Functions and Origins

What should a person who cares about the sanctity of life do to someone who violates his or her cherished attitudes towards abortion? It would seem strange for such a person to commit acts of persecution in the name of pro-life attitudes, but pro-life advocates have committed acts of violence against people who challenge their convictions, such as the murder of abortion doctor George Tiller in Wichita, Kansas (Democracy Now, 2012). The fact that people are willing to go to great lengths to defend their threatened attitudes suggests that attitudes have properties that grant people feelings of meaning, leading them to defend, instead of change attitudes. It seems likely that some attitudinal dimensions, such as importance (Boninger, Krosnick & Berent, 1995), certainty (Budd, 1986), or, importantly, moral conviction (Skitka, 2010), may create existential meaning (Lyon & Younger, 2005; Mascaro & Rosen, 2006) that makes them worth defending. Strong attitudes may create a sense of meaning, moral conviction may increase meaning, and people may moralize threatened attitudes to increase existential meaning.

Meaning and its Conceptualization

Meaning can refer to a sense of “cosmic specialness” (Landau, Greenberg, Solomon, Pyszczynski & Martins, 2006; Von Tongeren & Green, 2010) that one adopts to manage existential concerns, (Greenberg, Solomon, Pyszczynski & Lyon, 1989). Meaning can also refer to “predicted or expected connecting links, relationships, and properties between, or shared by external events” (Baumeister,
Meaning can refer to the coherence of more mundane events, such as relationships between physical events or objects in the environment (Bruner & Postman, 1949). For example, people who are presented with cards of impossible combinations of suit and color feel as if they inhabit a type of paradigm purgatory and are unable to articulate what makes these apparently anomalous features strange (Bruner & Postman, 1949). This suggests that a lack of coherence leads to a sense of meaninglessness.

Psychologists have described meaning as the ability to create connecting links between environmental events, aspects of the self, the social groups one belongs to, and one’s own actions (Greenberg, Solomon & Pyszczynski, 1997; Van den bos, 2009; Van den bos et al. 2007; Hogg, 2007; Heine, Proulx & Vohs, 2006; Steger, Frasier, Oishi & Kaler, 2006). People are able to connect social proscriptions into a set of coherent worldviews that relate to the self and others (Markus, 1977) creating a sense the world is coherent place (Koltko-Rivera, 2004). The belief that life operates in continuity allows people to feel the world is meaningful. A specific sense of existential meaning (i.e. meaningfulness) allows people to form coherent links between environmental events, personal beliefs, and social interactions. People can feel existentially meaningful in the absence of environmental coherence, and may even feel a sense of existential meaning amidst external chaos however. Hence, meaning derived from a sense of environmental coherence, and meaning derived from a sense of existential
meaningfulness, are not unrelated, but existential meaning allows people to feel meaningful in the absence of outward tranquility.

Existential meaning fluctuates in relation to life events (Lyon & Younger, 2005; Mascaro & Rosen, 2006). A person may feel that life has a greater purpose because of a great cause or project, and feel they will live on symbolically after they die because of their accomplishments (Greenberg, Solomon, Pyszczynski & Lyon, 1989; Greenberg, Pyszczynski, Solomon, Rosenblatt, Veeder, Kirkland & Lyon, 1990). Developing existential meaning is important to alleviate anxiety. Henie et al, 2006). I focus solely on existential meaning for the remainder of this paper.

**Theoretical Models of Meaning and Purpose**

Feelings of existential meaning have a powerful impact on psychological health (Mascaro & Rosen, 2006; Speck & Higginson, 2004), happiness (McGregor & Little, 1998), and fulfillment (Ventegodt, Jorgen Andersen & Merrick, 2003). Terror (Greenberg, Solomon, Pyszczynski & Lyon, 1989; Greenberg, Pyszczynski, Solomon, Rosenblatt, Veeder, Kirkland & Lyon, 1990) and Uncertainty Management theories (van den Bos & Lind, 2002) propose that people seek existential meaning to escape their own mortality. People attempt to alleviate their fears by adopting cultural worldviews (Rosenblatt, Greenberg, Solomon, Pyszczynski & Lyon, 1989), and to gain self-esteem by adhering to these worldviews (Greenberg, Solomon & Pyszczynski, 1997). Cultural worldviews create self-esteem by allowing people to feel as if the good works that they have done in life will ‘live on” in a sense after they die, allowing them to feel
as if they are symbolically immortal. Cultural worldviews also quell uncertainty by giving people a framework with which to operate in life.

In a similar vein, Uncertainty Identity theorists (Hogg, 2000; Hogg, Hofman & Rivera, 2008) state that people dislike uncertainty, and believe that people seek membership in entitative groups to alleviate uncertainty (Bar-Tal, 1990; 2000; Campbell, 1958; Cartwright & Zander, 1968; Deutch, 1968; Kruglanski et al., 2006; Merton, 1957). These groups have close boundaries, little tolerance for deviance from norms, authoritative leadership to fulfill the need to belong (Baumeister, 1995) and alleviate are capable of alleviating uncertainty.

The Sociometer Model (Hogg et al. 2008; Leary, Tambor, Terdal & Downs, 1995) proposes that people join groups to fulfill the need to belong. This model states that the need to belong, rather than uncertainty per se, is the primary motive behind group membership, and self-esteem associated with group membership is a gauge of successful group inclusion. Regardless of the specific motives for seeking a sense of belonging, adherence to groups creates meaning by allowing people to feel accepted (Johnson et al., 2006), providing support for worldviews and giving people the sense that they fit into something greater than themselves (Hogg, 2007).

Although the fear of death, uncertainty, the need to belong, and a desire for self-esteem may all drive people’s attempts to search for things associated with living a meaningful life, such as adherence to cultural worldviews, self-esteem, and group belonging, some theorists propose that the desire for existential meaning and a meaningful life in and of itself may be an intrinsic human drive
They argue that people seek certainty and closure, adhere to worldviews, desire self-esteem, and search for symbolic immortality primarily to create existential meaning.

The Meaning Maintenance Model

The Meaning Maintenance Model (Heine, Proulx & Vohs, 2006) offers a promising framework subsuming previous theories with regards to the creation of existential meaning. Meaning maintenance theorists test the claim that self-esteem, certainty and closure, affiliation, and symbolic immortality are increased when people feel that meaning is lacking, and argue that when one source of meaningfulness is not available that another is substituted. This process is called “fluid compensation” (Heine, Proulx & Vohs, 2006; Proulx & Heine, 2006; Steele, 1988), and can occur either within or between domains. When one aspect of meaning is threatened, people attempt to repair the damage done to that dimension of meaning. For instance, a threat to self-esteem may decrease a person’s sense of meaning, and people may attempt to restore self-esteem (a form of within domains compensation; e.g, Baumeister & Jones, 1978; Cialdini et al., 1976; Leary et al., 1995) to compensate for this loss. People may also attempt to increase affiliation (a between-domains compensation; Cialdini et al., 1976). Overall, meaning maintenance theorists assert that increasing one facet of meaning increases overall meaning.

Atitudes, Their Strength and Dimensions, Existential Meaning and Fluid Compensation
Attitudes can be defined as general, enduring evaluations comprised of cognition, emotion, and behavior (Petty & Cacioppo, 1988). They may contribute to existential meaning by increasing its facets. Attitudes may create a sense of symbolic immortality, increase one’s sense of affiliation through adherence to shared group beliefs, increase self-esteem through these venues, and offer a sense of certainty and closure. The relationship between the components of meaning outlined in the meaning maintenance model, and attitudes, a set of relationships that has not been explicitly explored to date, will be discussed in the following sections. Attitudes can coalesce into stable worldviews (Golec & Van Bergh, 2007; Jost et al., 2003; Solomon et al., 2000), and may also create a sense of existential meaning and increase its facets in the same fashion that worldviews fulfill this role.

**Attitude Strength**

Attitudes are complex and consist of a variety of dimensions and strong attitudes lead to a variety of cognitive and behavioral outcomes (Petty, 1995). Attitude strength is the extent to which an attitude is important (Boninger, Krosnick & Berent, 1995), certain (Budd, 1986), extreme (Tannenbaum, 1956), or a core part of one’s moral beliefs and convictions (Ableson, 1995). Strong attitudes may be more able than weak attitudes to instill a sense of symbolic immortality (Lifton, 1973), certainty and closure (Webster & Kruglanski, 1994), affiliation (Hogg, Adelman & Blagg, 2010), and self-esteem (Greenberg, Simon, Pyszczynski, Solomon & Chatel, 1992).

**Attitudes and Symbolic Immortality**
Because of their ability to cohere into stable worldviews, adhering to, and living in accordance with strong attitudes may help create symbolic immortality through social validation. Terror management theorists state that fear of death causes adherence to worldviews to alleviate fear (Rosenblatt et al., 1989), creating the sense beliefs are of lasting value. Although the effects of adherence to attitudes (as opposed to overall worldviews) on symbolic immortality have not been specifically investigated, evidence suggests people adhere strongly to attitudes to bolster worldviews (Rosenblatt et al., 1989). Other researchers (Emerson, 1996) propose that worldviews allow people to make sense of the world by shaping interpretations of the environment and predisposing people towards specific attitudes and actions. These conceptions of worldviews and their relation to attitudes support the idea that adherence to attitudes may allow people to gain a sense of symbolic immortality.

Important attitudes may be capable of creating symbolic immortality by allowing people to believe their attitudes matter. The fact that people are more punitive towards those who violate cultural values under mortality salience (Rosenblatt, 1989) suggests that they adhere more strongly to their already existing cultural values when death is made salient. If important attitudes, like worldviews, allow people to cling to a sense of symbolic immortality, they may create a sense of meaning.

Attitudes held with certainty may be capable of creating symbolic immortality. Because people create a sense of symbolic immortality to feel that their impact on the world will continue after death, feeling certain about a
particular attitude may allow that attitude to create meaning and perpetuity.

Attitudes experienced with a sense of certainty may grant a sense of immortality by allowing people to feel certain that the benefits of their adherence to attitudes will live on.

**Attitudes, Certainty, and Closure**

Attitudes may allow people to feel a sense of certainty and closure (Webster & Kruglanski, 1994). Theory regarding effectance motivation (White, 1959) suggests that people adopt worldviews (composed of attitudes) to gain a sense of predictability. For instance, people in meritocratic cultures may adopt attitudes suggesting that hard work leads to success (McCoy & Major, 2007), constituting “knowledge” about the relationship between a variable (work) and an outcome, (success). This may grant a person a sense of predictability and closure because knowledge of cause and effect allows them to predict their own personal life outcomes based on their present work ethic. This research seems more indicative of meaning as defined by a sense of coherence, but as mentioned, the coherence people witness with regards to their beliefs and how they play out in the environment may also help to create a sense of existential meaning. For example, people who work hard and hold meritocratic beliefs may feel especially meaningful when their hard work really does lead to success, in line with their own expectations.

Attitudes that are held with a sense of importance may create certainty and closure because they are stable and resistant to change (Fine, 1957; Gorn, 1975; Schuman & Presser, 1981; Zuwerink, 1996), lead people to store object-relevant
information more effectively in memory, and to weigh object-relevant
information more heavily (Berent, Krosnick & Boninger, 1997). Attitudes held
with certainty may create a sense of closure because they lend a sense of
correctness and clarity to one’s perceptions (Petrocelli, Tormala & Rucker, 2007),
and are resistant to persuasive attacks (Tormala & Petty, 2002; Wu & Schaffer,
2007).

Attitudes and Affiliation

Attitudes may allow people to identify with social groups (Kruglanski,
Manetti & DeGrada, 2006), and to become prototypical group members (Hogg,
2000). Groups have been defined as three or more people who share the same
social identity and group Identification has been defined as a feeling of belonging,
a definition and evaluation of self in terms of shared ingroup attributes, and a
belief that the group is central to one’s sense of self (e.g., Cameron, 2004; Hogg
et al, 2007, pg. 3). Feeling like a prototypical group member allows people to self-
enhance and reduce uncertainty (Hogg, 2007; Tajfel & Turner, 1979).

Strong attitudes may lead people to adhere strongly to attitudinally similar
groups (Cartwright and Zander, 1968; Evans, 1986; Frank, 1957). Important
attitudes may be a source of affiliation and group adherence because they strongly
impact social perception and social behavior, such as voting preferences
held with certainty facilitate connections within tight-knit groups (Visser &
Marabile, 2004), serving as a rallying point for like-minded individuals and
creating affiliation.
Attitudes and Self-esteem

Adhering to personal and group attitudes may increase self-esteem. According to terror management theory (Greenberg et al., 1992), people derive a sense of self-esteem by adhering to the worldviews prescribed by their particular culture. The link between adhering to attitudes and self-esteem has not been explicitly tested, but the link between worldviews and attitudes suggests attitude adherence affects self-esteem. Worldviews guide and organize attitudes (Luker, 1984), so adhering to attitudes may also increase self-esteem. Some studies provide support for the idea that attitudes relate to self-esteem. Latinos with meritocratic, compared to non-meritocratic worldviews who experienced prejudice (a threat to their worldview) experienced a decrease in self-esteem and (Major et al., 2007). These findings suggest that confirming peoples’ views increases self-esteem. In addition, people high in self-esteem react to self-identity threats with increased adherence to worldviews.

Important attitudes may also increase self-esteem. For example, research demonstrates that adherence to cultural worldviews, a powerful guide of attitudes (Koltko-Rivera, 2004) amongst immigrant groups, leads to greater positive self-regard (Hetts, Sakuma & Pelham, 1998). Attitude certainty is also related to high self-esteem, such that people with high self-esteem tend to experience more clarity and attitudinal certainty (Campbell, 1990).

Moral Conviction as a Potential Source of Meaning.

Increasing strength on any specific attitudinal dimension may allow people to bolster the constructs that create meaning. Some attitudinal dimensions,
particularly the moral dimension (Skitka, 2010), may be especially capable of creating a sense of existential meaning. Moral conviction is distinct from other attitudinal dimensions and represents the extent to which an attitude is a core part of a person's moral beliefs and values (Skitka, Bauman, & Sargis, 2005; Skitka, 2010). Moral convictions differ from non-moral attitudes because they are experienced as objective and universal (Skitka, 2010).

The moral dimension of attitudes may seem similar to attitude certainty, there are important differences between these two attitudinal dimensions. Non-moral attitudes are held because of preference or social convention, but moral convictions are seen as inherently correct. Moral convictions may create existential meaning by imbuing an attitude with an ultimate sense of what is correct. This may lead people to believe that adhering to a moral conviction is synonymous with adherence to an absolute truth or meaning.

**Threats to Attitudes and Meaning**

People engage in compensatory processes when their attitudes and sense of meaning are threatened. As will be described shortly, people often cling to their beliefs to a greater extent when constructs such as self-esteem, closure and certainty are threatened. Similar responses to attitude threat have been documented as well. This research supports the idea that people engage in fluid compensation when constructs that help to create meaning are threatened.
Threats to Meaning, its Facets, and Compensatory Measures

Increased adherence to attitudes (i.e. “compensatory zeal”; McGregor & Marigold; 2003) may be a way to compensate for low implicit self-esteem. People with high explicit self-esteem and low implicit self-esteem react with compensatory zeal when made to think about personal uncertainty about a value-relevant aspect of their lives. This suggests that threatened self-esteem can lead to compensatory zeal, a possible way to cope with meaning threats.

Threatening attitudes may decrease certainty. For example, researchers (McGregor, Zanna, Holmes & Spencer, 2001) threatened participants’ certainty using a deliberative mindset task (Taylor and Gollwitzer, 1995) asking them to elaborate on conflicting values, goals, and possible selves. Participants who engaged in this task felt greater uncertainty than in a condition in which they thought about the dilemmas of a friend, and responded with greater adherence to their attitudes about social issues. These findings suggest that a threat to one’s certainty about personal values leads them to compensate by increasing the strength of their attitudes.

Threatening symbolic immortality leads people to strengthen their beliefs. People gain symbolic immortality by adhering to cultural beliefs and standards (Greenberg, Solomon, Pyszczynski & Lyon, 1989). Terror management theory holds that cultural worldviews are constantly under threat. Because cultural worldviews drive attitudes, it seems likely that attitudes are also under constant threat from a variety of disparate and dissenting sources. For example people who violate cultural standards (e.g. a prostitute) elicit harsher treatment when mortality
was salient (Greenberg et al., 1989). Participants recommended especially harsh punishment (high bonds) for a prostitute when mortality was made salient. Mortality salience leads people to feel more negatively towards outgroup members (Greenberg, et al., 1990;), and people critical of their social groups (Dechense, Janssen & van Knippenberg, 2000). These findings reinforce the idea that attitudes protect against the fear of death, which would lead participants to behave especially punitively towards attitude violators.

Overall, research suggests and meaning attitudes are linked, and people attempt to compensate for threats to these facets of meaning by increasing the strength of their attitudes. These results do not explicitly demonstrate that attitudes create meaning, but they do establish links between facets of meaning and attitudes. Other research indicates that people compensate for threats to attitudes by increasing their strength.

Threats to Attitudes and Compensatory Measures.

People engage in compensatory processes (Cooper & Fazio, 1984; Festinger, 1957) to align attitudes with current behaviors they may have previously disapproved of (a realization that may cause dissonance; Aronson, 1968; Greenwald & Ronis, 1978). People may also react to threats to attitudes by becoming more attached to them (Lord, Ross & Lepper, 1979).

Threats to attitudes may affect a person’s sense of affiliation. Attitudes can bind groups together (Friedkin, 2004; Hogg, Adelman & Blagg, 2011), so threats to attitudes may threaten the foundations of group affiliation. Research offers indirect support for this hypothesis. Threats to the beliefs of a group lead
participants high in need for closure to adhere more strongly to their group, but participants low in need for closure to distance themselves from the group (Dechense et al. 2000). In a famous account, Festinger and colleagues (1956) infiltrated an American cult whose leader proclaimed the imminent arrival of a cataclysmic flood and flying saucers to rescue the group. After these predictions failed to occur, the group as a whole became even more convinced of the validity of its beliefs, thinking earth was spared because of their dedication. They began to actively spread their message, as opposed to keeping it secret as they had done before. Similar results have been found in related research that demonstrates that groups become more cohesive when opinion-deviants emerge (Schacter, 1951; Turner, Pratkanis, Probasco & Leve, 1992). Together, these studies suggest that attitudes serve as a rallying point for social affiliation.

Evidence suggests that strong attitudes may be especially likely to lead to motivated reasoning (Baron, 2000; Nickerson, 1998; Oswald & Grosjean 2004; Risen & Gilovich, 2007; Trope & Liberman, 1996). For instance, when threatened attitudes are important, people are more likely to proselytize on their behalf (Gal & Rucker, 2010). Emotions characterized by certainty are more likely to lead people to ignore the quality of arguments, engage in heuristic processes, and stereotype (Tiedens & Linton, 2001). Overall, it seems people are more likely to defend strong attitudes than weaker ones.

**Moral Conviction: A Potent Source of Meaning Under Threat?**

Evidence suggests that adherence to moral convictions may be an especially potent tool for imbuing life with a sense of meaningfulness (Van Tongeren et al.,
By imbuing threatened attitudes with a sense of morality, people may be able to restore and protect meaning when strongly held attitudes are threatened. Several properties of the moral dimension of attitudes make it particularly likely that this moral dimension may be increased in response to attitude threat.

Attitudes that are not imbued with moral conviction can be important, certain, and extreme. However, people are aware that these attitudes reflect personal preference, realize they are not socially mandated, and tolerate people who do not share similar strong preferences (Skitka, Bauman & Sargis, 2005; Skitka, 2010). For example, a person’s preference for vacations in Maui as opposed to Texas may be quite important to them (if they feel pride about a Hawaiian heritage for example). They may be certain of this preference, and hold extreme attitudes towards their support of Hawaiian vacations. However, a strong preference such as this will not elicit the same ire towards people who disagree with them, as would a moral conviction, because the person holding these strong attitudes will realize that their attitudes simply reflect a preference others are free to disagree with without consequences. Social conventions are similar to preferences, but are adhered to by specific groups. For instance, people in a particular nation as a whole may prohibit spitting in the street, feel this is important, and hold certain and extreme attitudes towards “no spitting laws”. However, if there is no moral imperative behind these strong attitudes, citizens will likely take no offense when other societies decide that spitting is acceptable, agree on it, and implement no law against it.
Moral convictions are different from preferences and social proscriptions because they generalize across group boundaries and situations. People who hold strong moral convictions believe that their moral beliefs represent the core of what is right and wrong (Haidt, 2001, 2007; Mullen & Skitka, 2006; Skitka & Mullen, 2002; Skitka, Bauman, & Mullen, 2008). Subsequently, increasing one’s sense that an attitude is a moral imperative may help them to shore up a strongly held attitude when it is threatened more so then simply viewing the attitude as more important or certain. The idea that an attitude is objective, universal, and apparent may help people to “close the book” on attitudes that are threatened so to speak, and give them a sense of finality in regards to their attitude’s validity.

Increasing one’s moral conviction with regards to a particular attitude may help protect and defend attitudes. Because moral imperatives are viewed as objective and universal, they are less likely to be altered or disrupted than simple preferences, or even social rules.

In addition to its potential for increasing the perceived validity of an attitude, increasing the morality of an attitude may also be especially capable of increasing a person’s sense of existential meaning (Van Tongeren et al., 2010, Van Tongeren & Green, 2011). Because of its objective and universal qualities, moral conviction may instill beliefs with a sense of lastingness, increasing symbolic immortality and certainty. Increasing moral conviction may allow people to feel a greater sense of self-esteem and self worth by adhering to righteous beliefs, and may create a more powerful hub around which people can gain a sense of affiliation and association (Haidt & Kesibir, 2010).
Little research has explicitly examined if moral convictions increase one’s sense of existential meaning. Some studies suggest it may be an important component in the cultivation of meaning. Some researchers (Van Tongeren et al., 2010; Van Tongeren & Green, 2011a) posit that morality may be a powerful source of existential meaning. They find that telling people they are immoral decreases meaning (Van Tongeren & Green, 2011a). People also view the act of flipping a switch or shoving a man from a bridge in order to prevent a train from hitting five people, and only hitting one person as less moral when they were led to focus on meaninglessness as opposed to death, uncertainty, or pain (Jarvis & Thompson, 1976). This suggests that moral schemas may be activated to a greater extent when meaning is threatened. To the extent that attitude threat reduces existential meaning, people may attempt to bolster moral frameworks to increase meaning.

The Consequences of Moral Convictions

Although morality and moral convictions may contribute to one’s sense of meaning in life, holding an attitude with moral conviction can lead people to behave aggressively. Because moral convictions are seen as objective and universal (and because they may create a sense of meaningfulness), people feel that it is imperative that they defend them at any cost. Theorists and researchers find that people feel stronger emotional reactions to threats to their moral convictions than non-moral but strong attitudes (Haidt, 2001; 2003; Kohlberg, 1984; Nucci, 2001; Shweder, 2002; Skitka, 2010). For instance people feel an exacerbated sense of contempt and disgust towards people who threaten their
moral beliefs (Haidt, 2003; Lazarus, 1991; Skitka, 2010; Skoe, Eisenberg, & Cumberland, 2002; Tangney, Stuewig, & Mashek, 2007), but also a greater sense of elation and awe toward those who uphold them (Haidt, 2003b). These powerful emotions can lead people to behave in ways that are not normally considered socially acceptable. For instance, Mullen and Skitka (2006) found that participants who read a scenario in which a person is either convicted (or acquitted) of a crime responded with anger, and the belief that the procedures of the trial in which they were acquitted were unfair, to the extent to which the defendant’s morals matched (or did not match) their own. This suggests that the strong emotion associated with moral beliefs biases people towards ends that fit their moral beliefs.

Other influential research demonstrates that people have strong reactions to threats to their moral beliefs even when unable to rationally discern why exactly they have such reactions. Haidt & Björklund (2000) presented subjects with a variety of bizarre scenarios (a family eating their dead dog, incest between a brother and sister using birth control and other contraceptives) and asked them whether or not the actions described in them were morally acceptable. Although nobody was harmed in the scenarios, participants were sure of the immorality of the acts but could not rationally explain why. In combination, these programs of research demonstrate that moral beliefs are associated with stronger reactions than simple strong attitudes, and that these strong reactions and emotions seem to have primacy over reason when it comes to moral judgments.

In line with research demonstrating that people attempt to shore up the
validity of threatened attitudes or meaning by increasing attitude strength, people may also be willing to support more overt, and even illegal or potentially harmful actions to the extent that they threaten their attitudes or sense of meaning. For instance, the extent to which a person felt that physician assisted suicide was a core part of their moral beliefs and values predicted judgments of procedural fairness, decision acceptance, and the legitimacy of the Supreme Court after it ruled in favor of state’s rights to allow physician assisted suicide (Wisneski, Lytle & Sktika, 2009). To the extent that participants were opposed to physician-assisted suicide pre-ruling, they believed the ruling to be unacceptable, the procedures leading up to the ruling to be unfair, and discounted the legitimacy of the Supreme Court to be diminished. Overall, research suggests that, contrary to early seminal studies on authority (Milgram, 1965, 1974), authority figures and institutions may not always have the power to drive people to commit atrocities (Skitka, Bauman, & Lytle, 2008). In fact, people seem to be quite willing to defy authority figures and discount their legitimacy when they violate moral convictions, and may actually use the congruence between the level that an authority figure or institution adheres to one’s moral values as a litmus tests for the legitimacy of the institution (Wisneski, Lytle & Sktika, 2009).

Moral convictions also lead people to behave in harmful ways, and engage in harmful actions against moral violators. For instance, participants desired greater social as well as physical distance from people believed to violate their moral convictions, showed more universal intolerance of morally dissimilar others
in intimate and distant relationships, expressed less goodwill and cooperativeness
in attitudinally-heterogeneous groups, and displayed a general inability to derive
procedures to solve disagreements. In addition, people who believe their moral
convictions have been violated were also more willing to accept extreme
sacrifices, and even approved of vigilantism to repair moral wrongdoings (Skitka
& Houston, 2001; Skitka & Morgan, 2009). I expect the extent to which an
attitude is moralized in response to threat may lead people to approve of anti-
social behavior, greater social distance towards and social distance from attitude
violators, and to see institutions who violate strong attitudes as less legitimate, all
based on moral mandate effects.

Rationale

The purpose of the present studies was to test the extent to which
threatening a person’s attitudes leads them to increase their sense of existential
meaning in life. If attitudes really do create a sense of meaning in life, then
threatening attitudes should lead people to attempt to increase their overall sense
of meaning, as well as the four facets of meaning proposed by the meaning
maintenance model. I also set out to test whether or not a specific facet of attitude
strength, moral conviction, increases in response to attitude threat.

In addition to examining whether or not people report a greater sense of
existential meaning and moral conviction in response to attitude threat, I assessed
the extent to which moral conviction specifically can serve as a mechanism
through which to create a sense of existential meaning. Moral conviction and
meaning may both increase in response to attitude threat, and moral conviction
may mediate the threat to meaning relationship. This does not necessarily mean that moral conviction causes an increase in existential meaning however. Because moral conviction may have special properties that allow it to be an especially powerful creator of meaning in response to attitude threat, I explicitly tested whether an increase in attitude morality following a threat to people’s attitudes (and especially strong attitudes) leads to an increase in their sense of existential meaning and its facets.

Finally, I tested the extent to which people exhibit increased protective behavior indicative of moral mandates when their attitudes are threatened. To the extent that people increase their sense of moral conviction surrounding a particular attitude when the attitude is threatened, I expect that they will be willing to endorse vigilante justice towards people they perceive as threatening the attitude in question, and prefer increased social distance from them.

CHAPTER II: INTRODUCTION STUDY 1

Much research is based on the idea that meaning is a powerful motivating force, but no explicit test has been conducted to assess whether or not attitudes create meaning. In addition, no work has been conducted to assess whether or not a threat to one’s attitudes would lead them to attempt to bolster their sense of moral conviction and existential meaning, let alone the extent to which attitude strength may moderate this effect. Furthermore, no studies have examined the extent to which experiencing moral conviction with regards to particular attitudes contributes to one’s sense of existential meaning. The purpose of Study 1 was to test whether or not threatening participants’ attitudes leads them to engage in
compensatory processes by increasing moral conviction associated with a threatened attitude, and to report greater levels of existential meaning and its four related facets in response to attitude threat.

To test these ideas, in Study 1 participants’ attitudes were threatened or upheld by presenting them with information that either contradicted or confirmed their attitudes towards a topic. These passages were about the proliferation of nuclear power (Study 1) and welfare reform (Study 2). These attitudes were chosen based on a pretest, described below, because they had a wide range of variability in moral conviction ratings, with a large portion of scores falling in the middle of the distribution to allow for the possibility that participants change their level of moral conviction. Attitude strength was measured before the manipulation in the form of attitude support, extremity, certainty and importance. To assess levels of meaning post-threat, participants were asked how much meaning they feel in their lives, as well as how much they experience the four facets of meaning described in the meaning maintenance model. Moral conviction associated with the threatened attitudes was assessed post-threat to test whether or not participants moralize their attitudes to a greater extent when their attitudes are threatened.

Statement Hypotheses Study 1

Hypothesis 1: Participants whose strong attitudes are threatened will report higher levels of meaning and its related facets compared to those whose attitudes are upheld and compared to those with weak attitudes.
Hypothesis 2: Participants whose strong attitudes are threatened will report higher levels of moral conviction compared to those whose attitudes are upheld and compared to those with weak attitudes.

Hypothesis 3: The extent to which people moralize attitudes will mediate the relationship between attitude threat, meaningfulness in life, and facets of meaning.

CHAPTER III: METHOD STUDY 1

Participants

192 undergraduates at a large Mid Western university participated for partial course credit in an introductory psychology course. They were mostly female (72%) and White (70%).

Materials and procedure

The study was administered using an online survey. I conducted a pretest to find attitudes that were relatively uniformly supported and opposed in the Study population. During the pretest, participants filled out demographic measures and were presented with 39 attitude statements (see Appendix A), asked how important the attitude is to them, how certain they are about it, and their level of moral conviction about the attitude. Based on the pretest results, I chose two issues to include in the manipulations: the proliferation of nuclear power (Study 1), and welfare reform (Study 2). I chose these attitudes because they had a large amount of variability in moral conviction (see Figure 1 below).
Figure 1

Pretest results for attitudes threatened in Studies 1 & 2

Distribution of Moral Conviction Ratings for Nuclear Power

Distribution of Moral Conviction Ratings for Welfare Reform
Attitudinal Dimensions

Dimensions of attitude strength (i.e. importance, certainty, and extremity) were measured during the study both before and after the experimental manipulation and were derived from previous work on attitude strength and morality (i.e. Skitka et al., 2005; Petty & Krosnick, 1995; see Appendix B for the items, and Table 1 below for correlation matrices between the Study 1 items). Participants responded to items assessing their feelings about the attitude at hand in each study. These items assessed the extent to which participants were certain about the attitude used in the manipulation (e.g. how certain or uncertain is your position on this issue) and to which the attitude was important to them (e.g. how important or unimportant is this attitude to you personally?). I used a categorical attitude support measure to assess support for nuclear power pre-manipulation. Participants also filled out a measure of the strength (i.e. a measure of extremity) of their support or opposition to increased nuclear power.
Table 1

*Correlations between Studies 1 & 2 attitude strength measures.*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Extrem</td>
<td>.05</td>
<td>--</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Moral Conviction</td>
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<td>.41***</td>
<td>--</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
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<td>.06</td>
<td>.14</td>
<td>--</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Self-esteem</td>
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<td>-.04</td>
<td>.54***</td>
<td>--</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-.10</td>
<td>-.02</td>
<td>-.16*</td>
<td>-.31***</td>
<td>--</td>
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<td>-</td>
</tr>
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<td>Need for closure</td>
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<td>.09</td>
<td>-.04</td>
<td>.02</td>
<td>.01</td>
<td>.17*</td>
<td>--</td>
<td>-</td>
</tr>
<tr>
<td>Symbolic Immortality</td>
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<td>.22**</td>
<td>.14</td>
<td>.61****</td>
<td>-.54***</td>
<td>-.13</td>
<td>.03</td>
<td>--</td>
</tr>
<tr>
<td>M</td>
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<td>3.47</td>
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<td>3.07</td>
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<td>1.20</td>
<td>.50</td>
<td>.60</td>
<td>.59</td>
<td>1.27</td>
</tr>
</tbody>
</table>

*Note:* +p<.10, *p<.05, **p<.01 ***p<.001, all N
Attitude Threat

I designed two passages “written by a university professor” to threaten or uphold attitudes (See Appendix C). Participants were randomly assigned to one of two conditions. In the first passage “Nuclear Energy: A Good Solution,” participants read about the benefits of nuclear power. In the second passage “Nuclear Energy: A Poor Solution” participants read about the drawbacks of nuclear energy. The threat conditions are those in which participants who initially supported nuclear energy read the passage stating that nuclear energy is a poor solution, and participants who did not support nuclear energy read that it is a good solution. The attitude-upholding conditions were those in which participants who supported nuclear power read about its benefits, and participants who opposed nuclear power read about its drawbacks.

Manipulation Check

To test whether or not the threat manipulation successfully threatened participants’ attitudes, participants responded to five items on a one to seven scale (1= not at all, 7 = very much) assessing the extent to which the passage they read threatened their attitudes (i.e. “To what extent does the passage you just read threaten your attitudes towards the proliferation of nuclear power”; see Appendix D). The items formed a reliable scale (α = .86).

Moral Conviction

Moral conviction was measured with one item, post manipulation: “To what extent are your beliefs about the proliferation of nuclear power a part of your core moral values and convictions” on a seven-point scale (1 = not at al, 7 = very
much; see Appendix E). Following this question, participants responded to the same measures of attitude strength assessed pre manipulation (see Appendix E).

**Existential Meaning**

After the attitude threat manipulation, participants’ sense of existential meaning was measured using the “Meaning in Life Scale” (Steger, Frasier, Oishi & Kaler, 2006; See Appendix F; \( \alpha = .86 \)). After completing the meaning in life scale, participants responded to scales assessing constructs that create meaning in randomized order (i.e. self-esteem [Appendix G], need to belong [Appendix H], need for closure [Appendix I], and symbolic immortality [Appendix J]). In line with previous research (Von Tongeren & Greene, 2010) desire for certainty was measured with a short version of the Need for Closure Scale (Houghton & Grewal, 2000; Webster & Kruglanski, 1994; See Appendix I; \( \alpha = .73 \)). Desire for affiliation was measured with the Need to Belong Scale (Baumeister, 1986; Leary, Kelly, Cottrell & Schreindorfer, 2005; see Appendix H; \( \alpha = .80 \)). Participants rated their self-esteem using the Rosenberg Self Esteem scale (1965; see Appendix G; \( \alpha = .85 \)). Symbolic immortality was assessed with a scale designed for this study in which participants respond to four items (see Appendix J; \( \alpha = .89 \)). The four facets of meaning were counterbalanced, but the meaning and life scale always preceded them.
CHAPTER IV: STUDY 1 RESULTS

The Study 1 Hypotheses state that participants with strong attitudes whose attitudes are threatened will exhibit greater meaning and its four facets (Hypothesis 1) and moral conviction (Hypothesis 2). To test these hypotheses, I ran models using three predictors; the essay condition variable, the dichotomous support variable, and the continuous, centered extremity variable. I began by computing models using dichotomous support, condition, and the centered continuous extremity variable and all their possible interaction terms to predict, meaning, all four facets of meaning, and moral conviction. Each dependent variable was tested in a separate model. If the Study hypotheses are supported, threatened participants should report greater meaning and moral conviction than non-threatened participants. This effect should be greater amongst participants who report higher levels of pre-manipulation attitude strength (i.e. extremity) about their beliefs regarding nuclear power. In other words, we would expect a two-way interaction between the passage participants read and their initial support for nuclear power to be qualified by attitude strength. This method allows for a specific test of the Study Hypotheses by allowing for an examination of the extent to which not only threatening attitudes, but strong attitudes (as indexed by the extremity measure), impacts meaning and moral conviction.
To test Hypothesis 3, I used Precher and Hayes’ (2007) “Indirect” macro for SPSS to assess whether or not significant indirect effects existed between any hypothesized interaction terms and the meaning variables via moral conviction.

**Manipulation Checks**

I began with the manipulation check. I first regressed the threat scale on the dichotomous support variable, which was always the support variable given before the manipulation (-1 = oppose, 1 = support) the essay condition variable (-1 = poor solution, 1 = good solution) and their interaction term.

A two way interaction between support and essay condition emerged $F(1,181) = 78.59, p<.001, \eta^2 = .30$ (see Figure 2). Simple effects tests demonstrated that participants who supported nuclear power were more threatened in the anti nuclear power essay condition than in the pro nuclear power condition. The reverse was true of participants who opposed nuclear power, suggesting the manipulation was succesful. No other simple effects emerged.
Figure 2

*Study 1 manipulation check with participant support and essay condition predicting moral conviction*

![Bar chart showing threat levels in Support and Oppose conditions for Pro and Anti nuclear power Essay Condition. Stars indicate significant effects at p < .001.]

*Note: All significant flagged effects are p < .001*
Analyses for Hypothesis 1

Hypothesis 1 states that participants who read a passage that contradicts their attitudes, especially participants high in extremity, will report increased meaning in life and its related facets. I computed models testing Hypothesis 1 by using the support, essay condition, and centered extremity variables, as well as all their possible interactions terms to predict meaning and all of its facets. Only one the three-way interaction pertaining to the Study Hypotheses emerged, with need to belong as the dependent variable (see Table 2 below for the results of the Hypothesis 1 multiple regression analyses, and Figure 3 below for a graph of the need to belong results) F(1,175) = 5.09, \( p = .03, \eta^2 = .08 \). Simple effects tests revealed that amongst participants at low levels of extremity, the interaction between support and condition was not significant F(1,175) = 1.25, \( p = .27 \).

Amongst participants at high levels of extremity, the two way interaction between support and essay condition was significant F(1,175) = 4.13, \( p = .04, \eta^2 = .02 \). Simple effects tests demonstrated that participants who supported nuclear power demonstrated marginally greater need to belong in the good solution condition than in the poor solution condition F(1,175) = 3.08, \( p = .08, \eta^2 = .02 \).

Participants who opposed nuclear power demonstrated no differences in need to belong between conditions F(1,175) = 2.13, \( p = .15, \eta^2 = .01 \). In the pro-reform essay condition, no differences in need to belong emerged between participants who supported or opposed nuclear power F(1,175) = 4.80, \( p = .49, \eta^2 = .003 \), and
in the anti-reform condition no effect of support emerged $F(1,175) = .60, p = .44, \eta^2_p = .004$.

These results are partially consistent with the Study hypotheses. Although the interaction between support for nuclear power and experimental condition was expected to be stronger amongst people high in extremity (as it was), I also expected that participants who read a passage opposing their viewpoints to report increased need to belong, as belonging is a facet of meaning, and people should attempt to increase meaning when strong attitudes are threatened. The apparent (although non-significant) increase in need to belong amongst high extremity supporters of nuclear power in the good solution condition compared to the poor solution condition, and vice versa in the anti-nuclear power condition, was unexpected.

ANALYSES FOR HYPOTHESIS 2

Hypotheses two states that participants who read a passage contradicting their attitudes will demonstrate greater moral conviction, especially when they feel strongly about their attitudes. To test Hypothesis 2 using the dichotomous support and condition variables, and the extremity variable, I regressed moral conviction on these three variables and all their possible interaction terms. Only a main effect of extremity emerged demonstrating that higher levels of extremity were related to higher levels of moral conviction (see Table 2).
Table 2:

*Multiple regression analyses for Study 1 hypotheses 1 & 2*

<table>
<thead>
<tr>
<th></th>
<th>Moral conviction</th>
<th>Meaning</th>
<th>Self esteem</th>
<th>Need for Closure</th>
<th>Need to Belong</th>
<th>Symbolic Immortality</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>DF(1,179)</td>
<td>DF(1,178)</td>
<td>DF(1,174)</td>
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<td>DF(1,175)</td>
<td>DF(1,178)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>(\eta^2)</td>
<td>(p)</td>
<td>F</td>
<td>(\eta^2)</td>
<td>(p)</td>
</tr>
<tr>
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<td>0.59</td>
</tr>
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<td>0.00</td>
<td>0.49</td>
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<td>0.39</td>
<td>0.00</td>
<td>0.54</td>
<td>1.12</td>
</tr>
<tr>
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<td>0.11</td>
<td>0.64</td>
<td>0.00</td>
<td>0.43</td>
</tr>
<tr>
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<td>0.94</td>
<td>&lt;.001</td>
<td>0.00</td>
<td>1.00</td>
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<tr>
<td>3-way</td>
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<td>0.01</td>
<td>0.37</td>
<td>0.95</td>
<td>0.01</td>
<td>0.33</td>
</tr>
</tbody>
</table>
Figure 2

Need to belong results for Study 1

![Graph showing Need to Belong results for Study 1 with low and high extremity conditions for essay condition.](image)
ANALYSES FOR HYPOTHESIS 3

The lack of the predicted three-way interactions on meaning, its facets, and moral conviction precludes mediation.
CHAPTER V: STUDY 1 DISCUSSION

Study 1 represents the first attempt to test whether or not people increase their sense of meaning in life and moral conviction in response to attitude threat. Although research has demonstrated that people with strong attitudes adhere more strongly to them in response to a threat to their attitudes, no research has specifically investigated whether or not people increase their sense of moral conviction regarding threatened attitudes. In addition, previous research (i.e. Festinger, 1956) implies that people may increasingly adhere to threatened attitudes because they provide a strong sense of meaningfulness in life. Study 1 provides the first test of the idea that people increase their moral conviction, a facet of attitude strength that lends attitudes a sense of absolute correctness regarding threatened attitudes, in order to increase a sense of meaning after threat.

Meaning in Life

Overall, the Study 1 hypotheses stating that threatened participants would increase their reports of meaning in life were not supported. Only a three-way interaction between support, essay condition, and extremity emerged on need to belong. However, the overall pattern of effects underlying this three-way interaction was completely consistent with the study hypotheses, and suggested that high extremity participants who read a passage counter to their views were lower in need to belong (one of the four facets of meaning) than participants who read an attitudinally-supportive passage. Although this effect was unexpected, it may not be completely out of line with current research. Van Tongeren and
colleagues (2010) found that people who were implicitly primed with meaninglessness-related words were more likely to report higher levels of symbolic immortality, need for closure, and self esteem, but decreased need to belong. They attribute this finding to participants’ attempt to increase meaningfulness by expressing higher levels of meaning on measures representing established meaningfulness, and lower levels on constructs representing search for meaningfulness. If need to belong represents a desire for meaning, as opposed to actual meaning, participants in the current study may have been reluctant to express this desire when their attitudes were threatened because it may not be a method to increase meaning, but an indication that they do not feel meaningful. Of course, it is also possible that these effects simply represent type 1 error. Out of all the possible effects that could have occurred in Study 1, one of the few was the three-way interaction on need to belong. This effect may simply have been due to chance.

Another reason for the lack of meaning effects may be a lack of connection between the attitude threat manipulation and the meaning measures. Whereas the attitude threat manipulation and attitude strength measures pertained specifically to participants’ beliefs about nuclear power, the meaning measures were very broad in nature and examined participants’ overall level of meaning in life. It may be the case that participants faced with support or threat to their attitudes regarding a specific issue found no immediate connection between threats to that specific attitude and broad measures of meaningfulness and its facets. Simply because a person disagrees or agrees with a statement about a
specific attitude may not affect their broad sense of meaningfulness in life, especially if the attitude in question is not particularly important to them. Consistent with this idea, the pre-manipulation importance rating was below the midpoint of the scale (M = 3.69, SD = 1.43). It will be important in future studies to assure that participants are invested enough in their attitudes that hearing that their attitudes are incorrect truly constitutes a threat.

Moral Conviction

No moral conviction effects occurred in Study 1. Although the manipulation resulted in the expected pattern of threat effects, participants did not seem to be very threatened across the board by the manipulations. Participants whose initial support or opposition to nuclear power was contradicted by the manipulations, reported higher levels of threat than those who were not, overall threat levels were not especially high. Even participants with strong attitudes who read attitudinally-dissimilar passages reported levels of threat not much greater than the midpoint of the scale. The Study hypotheses state that threat should lead people to seek meaning and imbue attitudes with moral conviction. If participants were not very threatened in general, they may not have felt a need to seek meaning and imbue their threatened attitudes with moral conviction. Even if participants reported that the passage contradicted their attitudes about nuclear power, reading a passage about an attitude that people did not deem particularly important may not have lead them to respond with an attempt to shore up their attitudes. In future studies, it may be useful to select an attitude that participants
feel is important to them personally, in addition to making sure that participants exhibit a range of levels of moral conviction about the attitude to be threatened.
CHAPTER VI: STUDY 2 INTRODUCTION

The results of Study 1 did not support the hypothesis that people compensate when their attitudes are threatened by increasing their sense of moral conviction and existential meaning. In Study 2, I further tested the hypothesis that enhancing moral conviction after attitude threat increases one’s sense of existential meaning and its four facets. Although participants in Study 1 did not seem to have strong attitudes about nuclear power, and did not seem to be particularly threatened by the manipulations, participants may have stronger attitudes about other issues. In Study 2, I threatened participants’ attitudes towards welfare reform. To the extent that their attitudes about welfare reform are threatened, participants may be more likely to imbue them with a sense of moral conviction, and strive for a sense of meaning in life.

Study 2 builds upon Study 1 in an important way. Study 1 did not provide an explicit test of the hypothesis that moral conviction per se increases people’s sense of meaning in life as well as its related facets. In Study 2, I attempted to explicitly manipulate moral conviction by instructing participants to think about why their attitudes about welfare reform (the attitude in question in Study 2), are a part of their core moral values and convictions, to think about dental pain (a commonly used control condition (see e.g. Arndt, Greenberg & Cook, 2002), or to think about why the manipulation they read could be correct (in essence, “dwelling” on the information they were given). I expected that this additional moralization condition would moderate the results of the three-way interaction predicted in Study 1. Specifically, reading a counter-attitudinal passage should
increase moral conviction about the threatened attitude, meaningfulness in life and its four facets. This should be especially the case amongst high extremity participants, and that this effect will occur to a greater extent amongst participants who explicitly moralize their attitudes compared to a control condition. I expected participants who dwelled on the correctness of the information they were given to score lower in moral conviction than participants who moralized them, or participants in the control condition. In the dwelling condition, participants may either dwell on a threat (if they disagree with the passage they read) or affirm their beliefs (if they agree with the passage they read). Regardless, Participants who were threatened by the essay manipulation to lose their opportunity to moralize when dwelling on the threat passage, and participants who were affirmed to feel less of a need to moralize an attitude that did not need to be protected from threat. I expected increases in moral conviction to mediate increases in meaning in life and its facets based on the moralization manipulation.

These predictions are in line with work on the process of fluid compensation (Heine et al., 2006) as a tool to increase one’s sense of meaning when sources of meaning are threatened. Because moral convictions are experienced as objective and universal, people may cling to attitudes to a greater extent when they are challenged (potentially to create a sense of meaning), and exploratory evidence suggests that morality may create meaning. It seems likely that morality may be a particularly effective attitudinal dimension for increasing meaning when attitudes (especially strong ones) are under threat.
To test whether or not attitude moralization increases meaning, I threatened participants’ attitudes about welfare reform using the same methodology implemented in Study 1. Following the threat manipulation, I manipulated moral conviction by asking participants to write about how their attitudes about welfare reform are a core part of their moral values and convictions (the moralization condition), dental pain (a neutral or control condition), or to “dwell” on the threat manipulation, and discuss how it is correct in its assertions. To the extent to which participants feel increased meaning in response to an intentional moralization of their threatened attitudes in comparison to a neutral, or aversive condition in which they are asked to dwell on threats, it may be inferred that attitude moralization creates meaning in response to threat.

Study 2 was also designed to test the extent to which threatened participants are willing to support morally mandated behaviors (i.e. vigilante justice and increased social distance from attitude violators) especially to the extent that their attitudes are strong and moralized. When attitudes (which may create meaning) are threatened, participants may be especially likely to want to defend them by punishing attitude violators, even if punishment violates social norms. I expected that threatened participants high in extremity about their beliefs about welfare reform, would desire greater social distance from attitude violators, believe that procedures violating their attitudes are unfair, and be more likely to support vigilante justice towards attitude violators compared to non-threatened participants. I expected these effects to be moderated by the moralization manipulation such that threatened participants will be more likely to exhibit the
abovementioned responses to a greater extent in the moralization condition compared to the control condition, and expected that no increases in these responses amongst participants who dwell on a threat to their attitudes.

**Statement of Hypotheses Study 2**

Hypothesis 1: Threatened participants with strong attitudes in the moralization condition will experience more meaning and its related facets than participants in a control condition and participants who dwell on a threat (who will report the lowest levels of meaning). This overall pattern will hold for threatened participants lower in attitude strength, although this will occur to a lesser extent than amongst high attitude strength participants.

Hypothesis 2: Threatened participants (compared to non-threatened participants) with strong attitudes in the moralization condition will experience their attitudes as more moral than participants in a control condition and participants who dwell on a threat. This overall pattern will hold for threatened participants lower in attitude strength, although their levels of moral conviction will be lower than high strength participants.

Hypothesis 3: Participants in the attitude threat condition who are high in attitude strength will be more likely to engage in “morally mandated” behaviors to a greater extent than people low in attitude strength. Non-threatened participants will not exhibit a desire for morally mandated behaviors towards attitude violators. Threatened participants who are asked to moralize their attitudes will engage in greater moral mandate effects compared to participants in the dental pain condition, followed by the dwelling condition.
Hypothesis 4: Moral conviction associated with the threatened attitude and moralization condition will mediate the relationship between attitude threat and meaning.

Hypothesis 5: Moral conviction associated with the threatened attitude and moralization condition will mediate the relationship between attitude threat and moral mandates.

CHAPTER VII METHOD STUDY 2

Participants

133\(^1\) students at a large Mid-western university participated for partial course credit in their introductory psychology courses. They were mostly female (63\%) and White (72\%).

Materials and Procedure

Study 2 was administered using an online survey. Based on the pretest, I chose to focus on participants’ attitudes towards welfare reform.

Attitudinal Dimensions

First, participants rated their support for welfare reform, the strength of their attitudes about welfare reform, the importance of welfare reform to them personally, and how certain they were about their attitudes about welfare reform (See Appendix B).

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\(^1\) Originally, 240 participants completed the survey. Participants were removed for not following the directions in the moralization condition. They did not complete the moralization manipulation at all, failed to complete the manipulation or explicitly stated that welfare reform is not connected to their moral convictions in the moralization condition, or wrote about how the essay was incorrect in the dwelling condition. I did not include participants who opposed welfare reform because they were too few in number to provide adequate power for the required analyses (N= 46).
Attitude Threat

I designed two passages stating that welfare reform is a good or poor solution to threaten participants (see footnote 1). The manipulations are located in Appendix K. As in Study 1, I created two passages. The pro-welfare reform passage, provided participants with a description of how welfare is a flawed system, which is often exploited by the undeserving. The anti-welfare reform passage described welfare as a system that benefits the poor, and welfare reform as an attempt to unjustly cut public spending (see Appendix K for the manipulation).

Morality Manipulation

To explicitly test whether or not an increase in moral conviction leads to an increased sense of meaning, participants completed a morality manipulation in which they wrote about the extent to which their position on the attitude described in the above manipulation is a part of their core moral beliefs and convictions, write about all the possible reasons the passage they read is correct or wrote about dental pain (See Appendix L).

Manipulation Check

To assess whether or the manipulation was effective in increasing participants’ sense of moral conviction regarding welfare reform, participants responded to the same questions assessing the extent to which participants viewed the attitude in question as a core part of their moral beliefs and convictions used in Study 1 (see Appendix B). Participants also responded to the same five items used to measure attitude threat in Study 1 (see Appendix D; \( \alpha = .88 \)).
Existential Meaning

After the manipulation checks, participants responded to the same scales to assess meaning in life and its related constructs used in Study 1 (see Appendices F,G, H, I & J). All scales demonstrated adequate reliability: meaning in life $\alpha = .92$, self-esteem $\alpha = .91$, need to belong $\alpha = .84$, symbolic immortality $\alpha = .85$, need for closure $\alpha = .77$. As in Study 1, participants responded to the Meaning in Life Scale first, and then responded to the scales assessing the four sources of meaning in counterbalanced order.

Moral Mandates

To assess the extent to which participants adhere to moral mandates by engaging in aggressive behavior towards attitude violators. I asked participants about the extent to which politicians who support welfare reform should be punished for their beliefs even if it requires illegal action (see Appendix O; $\alpha = .93$). I also included items measuring the extent to which participants preferred social distance from people who violate their attitudes (Byrnes and Kiger; 1988; Crandall, 1981; Skitka, Bauman & Sargis, 2005; see Appendix M; $\alpha = .93$). Items were included to assess the extent to which participants see social institutions that disagree with their attitudes as unfair and illegitimate (Skitka, 2002; see Appendix N; $\alpha = .85$). After completing these measures, participants provided basic demographic information (see Appendix P). Correlations between all the Study 2 variables are reported in Table 4.

CHAPTER VIII: STUDY 2 RESULTS

Manipulation Check
To test if the attitude threat passages were effective in inducing a sense of threat, I regressed the threat scale on the essay condition variable. No effect emerged F(1,131) = .03, p = .87.

To test if the moralization condition effectively altered participants’ moral conviction, I regressed the moral conviction variable on the moralization condition variable. No main effect emerged F(1,131) = .21, p = .65, ηp² = .002, suggesting the moralization condition was not effective in altering participants’ moral convictions.

To test the first Study 2 hypotheses, I first analyzed whether or not the essay condition variable, the moralization condition variable, the centered extremity variable, and all their possible interaction terms predicted meaning and all of its facets, as well as moral conviction, in separate models. The moralization condition variable was a three level variable, and all Fs and significance tests including this variable (including interaction terms including the moralization variable) are based on an omnibus F value. When testing underlying simple effects at different levels of the moralization variable, I computed two polynomial orthogonal contrast codes to test differences between the three conditions. These variables were coded using a linear code (1 = moralization condition, 0 = dental pain, -1 = dwelling) and a quadratic code (-1 = moralization, 2 = dental pain, -1 = dwelling). The linear code tests the difference between the moralization condition and the dwelling condition, and the quadratic code tests the difference between the dental pain condition and the other two conditions.
Table 3

*Correlations between Study 2 variables*

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<td>.05</td>
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<td>.19*</td>
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<td>.55***</td>
<td>.51***</td>
<td>-.14</td>
<td>.10</td>
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<td>.11</td>
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<td>-.12</td>
<td>.26**</td>
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<tr>
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<td>.64</td>
<td>.78</td>
<td>1.13</td>
<td>1.19</td>
<td>1.31</td>
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</tbody>
</table>

Note: +p<.10, *p<.05, **p<.01, ***p<.001,
Analyses for Hypothesis 1

Hypothesis 1 states that participants who read a passage contradicting their attitudes would report more meaning in life and its related facets than participants who read a passage confirming their attitudes. This should be especially true among participants who affirm their moral convictions compared to the control (dental pain), and dwelling conditions. Overall, these results should be stronger for participants with higher attitude extremity (strength) regarding welfare reform. Participants who dwell on a passage opposing their attitudes should show lower levels of moral conviction than participants who affirm their moral convictions, and participants in the control condition.

I began the analyses for Hypothesis 1 by entering the moralization condition variable, the dichotomous essay condition variable, the centered extremity variable, and all possible interaction terms between them predicting meaning and its four facets, in five separate multiple regression models (See Table 2 for all multiple regression results from Hypotheses 1).

With meaning in life self esteem, and symbolic immortality as dependent variables, no effects emerged.

With Need for Closure as the dependent variable, a main effect of extremity emerged suggesting that extremity was related to higher need for closure $F(1,116) = 6.01, b = .08, SE = .04, p = .02, \eta^2 = .05$. With need to belong as the dependent variable, a marginal main effect of morality condition $F(1,118) = 2.35, p = .10, \eta^p^2 = .04$, was qualified by a marginal interaction with extremity
F(1,116) = 2.52, \( p = .09 \), \( \eta^2 = .04 \) (see Figure 3). Simple effects tests demonstrated that, amongst participants low in extremity, those in the moralization condition were lower in need to belong than those in the dwelling condition \( F(1,116) = 4.91, \ p = .03, \ \eta^2 = .04 \), but no differences emerged between participants in the dental pain condition compared to the other two conditions \( F(1,116) < .001, \ p = 1.00, \ \eta^2 < .001 \). Amongst participants high in extremity, participants in the moralization condition were marginally lower in need to belong than those in the dwelling condition \( F(1,116) = 3.00, \ p = .08, \ \eta^2 = .03 \), but no differences emerged between the dental pain condition and the other two conditions \( F(1,116) = 1.26, \ p = .26, \ \eta^2 = .01 \).
Table 4

Multiple regression analyses Study 2 hypotheses 1 & 2

<table>
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<tr>
<th></th>
<th>Moral conviction</th>
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<th>Self esteem</th>
<th>Need for Closure</th>
<th>Need to Belong</th>
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<td>$\eta^2$</td>
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<td>$\eta^2$</td>
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53
Figure 3: Need to Belong Results, Study 2

![Bar chart showing Need to Belong results for Moralize, Dental Pain, and Dwell conditions under High and Low Extremity conditions.](image-url)
Analyses for Hypothesis 2

Hypothesis 2 states that participants who read a passage contradicting their attitudes will become more morally convicted about their attitudes than participants who read a passage confirming their attitudes. This should be especially true amongst participants who affirm their moral convictions compared to the control (dental pain) condition, followed by participants who dwell on a passage opposing their attitudes. Overall, these results should be stronger for participants with higher attitude extremity regarding welfare reform.

I began the test of Hypothesis 2 by regressing moral conviction on the essay condition variable, the moralization condition variable, the extremity variable, and all their possible interactions (see Table 4). Only a main effect of extremity emerged $F(1,120) = 45.52, b = .44 \ SE = .07, p < .001 \ \eta^2 = .28$, indicating that participants who had strong beliefs about welfare reform were more likely to have a sense of moral conviction regarding welfare reform.
Analyses for Hypothesis 3

Hypothesis 3 states that participants who read a passage contradicting their attitudes will report greater desire for social distance from people opposing their attitudes, exhibit fewer beliefs that legal procedures opposing their attitudes are fair, and show greater support for vigilantism to protect their attitudes than participants who read a passage confirming their attitudes. This should be especially true among participants who affirm their moral convictions compared to the control (dental pain) condition, followed by participants who dwell on a passage opposing their attitudes. Overall, these results should be stronger for participants with higher attitude extremity (strength) regarding welfare reform.

To test this hypothesis, I regressed the social distance, procedural fairness, and vigilantism variables on the essay condition variable, the moralization condition variable, the centered extremity variable, and all their possible interaction terms in separate models (see Table 5 for the results of these analyses). Only an main effect of extremity emerged on vigilantism, suggesting greater extremity was associated with decreased support for vigilantism $F(1, 119) = 8.07, p = .01, b = -.21, SE = .07, \eta^2 = .06.$
Table 5

*Results for Hypothesis 3 Study 2*

<table>
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<tr>
<th></th>
<th>Social Distance</th>
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<th>Vigilantism</th>
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<tr>
<td>Moral ConditionX Welfare ConditionX Extremity</td>
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<td>.64</td>
<td>.01</td>
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</table>
Analyses for Hypothesis 4

The Hypothesis 4 analyses are not possible because of the lack of predicted effects on moral conviction, meaning, and its facets.

Analyses for Hypothesis 5

The Hypothesis 5 analyses are not possible because of the lack of predicted effects on moral conviction and morally mandated behaviors.
CHAPTER IX STUDY 2 DISCUSSION

Study 2 attempted to test the Study 1 hypotheses, and to provide a more explicit test of the hypothesis stating that an increase in moral conviction associated with attitude threat aids people to boost their sense of meaning in life. To the extent that participants explicitly moralize their attitudes in response to threat, they should increase their sense of meaningfulness in life. If participants are lead to consider the merits of a counter attitudinal passage, it may block their ability to moralize their attitudes and create a sense of subsequent meaningfulness in life.

Manipulation Checks

The manipulation checks suggested that the essay conditions were ineffective in altering participants’ sense of attitude threat. The moralization manipulation was ineffective in altering participants’ sense of moral conviction. Overall, these results demonstrate that pattern of threat was as expected, but not enough to induce a strong sense of threat in participants, and that participants did not moralize their attitudes based on the moralization manipulation.

In future studies, it will be important to make sure that a threatened attitude is important to participants and that they feel strongly about it, as this may increase the likelihood that they will be threatened by counter-attitudinal passages. This may be also be accomplished by making sure that attitudes are well understood to participants. In the case of Study 2, participants may not have had a clear idea of what exactly constituted welfare reform.
It is also important that future studies find a more effective way to increase participants’ moral convictions regarding a particular attitude. Instead of asking participants to write about why their attitudes are a core part of their moral values and convictions, it might be helpful to ask them to write about how an attitude represents absolute right or wrong. If participants did not associate morality with absolute right or wrong specifically, the manipulation may not have been geared towards manipulating moral conviction and all it entails per se (specifically its absolute nature), as moral conviction is a person’s belief that an attitude is absolutely correct or incorrect (Skitka, 2010). It is also possible that moral conviction simply cannot be manipulated in the fashion attempted here because of the fact that it represents ones belief that an attitude is an immutable truth. If participants did in fact understand moral conviction to represent the absolute truth, it may not be possible to alter people’s moral convictions simply by asking them to moralize or dwell on information. Moral convictions may simply be too ingrained to change in this manner.

**Meaningfulness in life**

As in the first study, no reliable differences emerged with meaning in life and its four facets as dependent variables. Only a two-way interaction was present between extremity and moralization condition on need to belong. The pattern of this interaction suggested that participants in the moralization condition were less likely to endorse the need to belong than participants in the dwelling condition overall. This may have occurred if participants feel that a desire to belong is indicative of a lack of belonging (see e.g. Van Tongeren & Green, 2010). If
participants felt more meaningful after moralizing their attitudes, feeling increased moral conviction may have increased a sense of overall belonging, and hence, decreased need to belong.

**Moralization**

No moral conviction effects emerged. This is not surprising because participants did not seem to be threatened by the attitude threat manipulation, and the moralization manipulation was unsuccessful.

**Moral Mandates**

No moral mandate effects occurred. This is also unsurprising because of the failed manipulations.

**CHAPTER X: CONCLUSION**

The present Studies represent the first attempt to test the idea that people increase their sense of moral conviction in response to attitude threats in an attempt to bolster a sense of meaning. Overall, neither study found support for this idea. There may be several reasons why this occurred. First, the issues discussed in the manipulations may have been unimportant (in the case of Study 1) or ambiguous (Study 2) to the participants. In both studies, the threat patterns that emerged were expected, but participants did not seem to be very threatened overall in either study. This may have precluded the possibility of finding threat effects. Third, the measures of meaning in life may have been too broad and disconnected from the attitudes that were manipulated to be affected by the manipulations.
Based on the effects that did emerge in Studies 1 and 2, it does appear that threatening attitudes may impact meaning in life at times, but the results presented here do not necessarily match the predictions put forth in the study hypotheses. In Study 1, threatening participants’ attitudes lead them to endorse a need to belong to a lesser extent than upholding their attitudes, potentially because a greater need to belong may be indicative of a decreased sense of meaning in life. In Study 2, the need to belong results may have emerged if moralizing an attitude imbued participants with a sense of meaning in life, decreasing their need to belong. These results may also represent type 1 error.

The lack of increased moral conviction and morally mandated behaviors (in Study 2) may have occurred because participants were not adequately threatened by the manipulations. The study hypotheses state threat will increase moral conviction. If no threat was present, there is no reason that moral conviction would increase.

Although the results of both Studies were ambiguous with regard to the meaningfulness in life measures, participants seemed mainly to be affected at lower levels of extremity, and low extremity participants seemed to experience less need to belong when they moralized their attitudes compared to dwelling on the passage. People who already feel strongly about something may not be as likely to change their attitudes about it, and the meaning measures did not seem to move in tandem with the moral conviction measures amongst high extremity participants. To the extent that participants did not feel strongly about their attitudes, they may have been more willing (although not significantly) to
moralize them when asked to do so, and this moralization may have resulted in this increase

**Future Research**

In light of the results of the present studies, future research should be conducted to clarify the relationship between attitude threat, moral conviction, and meaningfulness in life. Several steps may be taken to increase the chances that this research will be effective. First, it is important to assure that the attitudes under threat are indeed meaningful to a large number of participants under study, and that they have a good understanding of the issue at hand. Of course, it is also possible that attitude threat did not lead to increased moral conviction and meaningfulness in any consistent way because people do not moralize their attitudes and create meaning in response to threat. The manipulation checks show that the expected threat patterns emerged based on the essay condition and participant support, especially in Study 1. It may simply be the case that the processes proposed here in terms of threat, moral conviction, and meaning, simply do not exist.

Second, it may help to assure that all measures of meaningfulness in life are tailored specifically to the issue addressed in the experimental manipulations. If participants do not make an explicit connection between the attitude under threat, and how it may contribute to meaning in life, it may be very difficult to detect a relationship between moral conviction regarding a specific attitude and its contribution to one’s sense of meaningfulness in life. It would still be possible to capture the inherent abstractness of meaningfulness while measuring it in relation
to a specific attitude. Participants could be asked the extent to which a specific attitude they hold allows them to feel a sense of meaningfulness, and the constructs that create it.

Third, future research should make sure that pretests explicitly measure the extent to which participants feel strongly about an attitude, and assure that the manipulations describe attitudes in such a way that they accurately represent threats or affirmations of peoples’ attitudes. For example, if participants in Study 2 rated their attitudes about welfare reform and had a notion of the nature of welfare reform that was different than the welfare reform policies described in the manipulation, it may have been difficult to create sets of conditions that uniformly opposed or upheld participants’ attitudes about welfare reform. It is important to assure that most participants have the same notion of what exactly constitutes the policies under threat.

Although the moralization results were not consistent with the Study hypotheses, the presence of moral conviction effects based on the experimental manipulations suggest that the manipulations had some effect on moral conviction, but generally failed to find interpretable meaningfulness effects, potentially because of the broad nature of the meaningfulness measures. In future studies, researchers might consider examining how factors such as construal level (Trope & Liberman, 2003) affect the extent to which people are willing to moralize attitudes under threat and associate these attitudes with a sense of meaningfulness in life. Current research (Conway & Peetz, 2012) demonstrates that construal level moderates the extent to which memories of committing an
immoral act lead to behavioral consistency, or an attempt to compensate by behaving differently. Concrete construal, operationalized as remembering an immoral act committed recently, lead to behavior change, whereas abstract construal, operationalized as remembering an immoral act committed in the distant past, leads to behavioral consistency.

People who are in a state of concrete construal, and are focused specifically on the attitude under threat, they may increase their moral conviction regarding the specific attitude in question, and associate it with their sense of meaningfulness in life (especially if the attitude is specifically implicated in meaning). To the extent that people are in a broad state of construal, threatening a specific attitude may lead participants to moralize their attitudes in general, and associate a wider variety of attitudes associated with meaningfulness in life. Although the current research did not take these factors into account, future research may explore the way in which specific vs. concrete threats affect specific attitudes.
References


Dechesne, M., Janssen, J., & van Knippenberg, A (2000) Derogation and distancing as terror management strategies: The moderating role of need for closure and


Schachter, S (1951) Deviation, rejection, and communication. The Journal of Abnormal and Social Psychology, 46, 190-207


Appendix A
Pretest Items

Please answer the questions that follow using the scales provided.

Universal healthcare (example)

Do you support or oppose universal healthcare?

Totally oppose 1----------2---------3---------4---------5---------6---------7 Totally support

How certain is your position on this issue?

Totally uncertain 1---------2---------3---------4---------5---------6---------7 Totally certain

How important or unimportant is this issue to you?

Totally unimportant 1---------2---------3---------4---------5---------6---------7 Totally important

To what extent are your feelings about universal healthcare a reflection of your core moral values and convictions?

Not at all 1---------2---------3---------4---------5---------6---------7 Very much

List of issues:
Universal healthcare
Permanent closure of all abortion clinics
A democratic candidate for U.S. president
Government surveillance of private internet browsing
HIV/AIDs education in the schools
Embryonic stem-cell research
A declaration of war against Iran
Government regulation of religious congregation
Same-sex marriage Prayer in public school
Policies designed to end income disparity
Condom distribution in public high schools
A constitutional amendment outlawing the death penalty
Marijuana for approved medical purposes
A constitutional amendment outlawing same-sex marriage
Immediate U.S. withdrawal from Iraq
Death penalty for convicted murderers
North Korea’s right to have a nuclear weapons program  
Continuing the war on drugs  
Enforcing food and drug safety standards  
Government enforcement of disability rights  
Decreased gun control  
Funding for genetic engineering  
The increased availability of pornography  
Increased emphasis on recycling and conservation  
Prison reform and prisoner rights  
Teacher’s promotions based on student’s test scores  
An increase in labor unions’ power  
Comprehensive sex education in public schools  
Additional subsidies for organic farming  
Physician-assisted suicide  
War on terror  
Welfare reform  
Tight restrictions on immigration  
Campaign finance reform  
Decreased spending on federal housing  
The availability of divorce  
The expansion of nuclear power  
Offshore oil drilling  
A comprehensive exam requirement for graduation

### Appendix B

**Attitude Strength Measures Pre Manipulation**

Directions: The following questions assess your feelings about (INSERT ATTITUDE). Please respond to the following scales about your feelings about this attitude using the scales provided below.

<table>
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<tr>
<th>Question</th>
<th>Scale</th>
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<td>Do you generally support or oppose (INSERT ATTITUDE)</td>
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</tr>
<tr>
<td>How important or unimportant is this issue to you?</td>
<td>1-----2-----3-----4-----5-----6-----7</td>
</tr>
<tr>
<td>How certain or uncertain is your position on this issue?</td>
<td>1-----2-----3-----4-----5-----6-----7</td>
</tr>
<tr>
<td>How Strongly do you feel about your support or opposition to this issue?</td>
<td>1-----2-----3-----4-----5-----6-----7</td>
</tr>
<tr>
<td>Support</td>
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</tr>
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<td>Oppose</td>
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</tr>
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<tr>
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</tr>
<tr>
<td>At all</td>
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<tr>
<td>As Possible</td>
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Appendix C
Threat Manipulation for Study 1

Study 1 Pro Nuclear Energy Manipulation:

**DIRECTIONS:** Please read the following article, written by a university professor, about the expansion of nuclear power. Please read carefully, you will be asked questions about this article later.

*Nuclear Energy: A Good Solution*

As the nation’s population grows and there is increased demand for more electrical power, people will need to find more efficient ways of generating electricity. Fusion (also known as nuclear power, a method of converting nuclear energy into electricity) has been proposed as a long-term way to produce electrical energy.

According to Martin Smith, a consultant for the National Energy Commission, “Nuclear power is the best solution to the current energy problems we face in the United States. Nuclear power is an inexpensive power source because nuclear power is the most concentrated source of power. Although the initial cost of building a nuclear power plant is high, once the plant is established, the power generated by the plant will more than pay for the initial cost and maintenance of the plant.”

According to many experts, nuclear power is also considered one of the safest and most environmentally-friendly sources of energy. For example, the Environmental Protection Agency reports that nuclear power is non-polluting and the by-products of nuclear power can be easily contained and disposed of in a manner that will not cause harm to people or the environment. Accidents at nuclear power plants are exceedingly rare, especially compared to other energy producing industries. This makes nuclear power significantly safer than coal and petroleum based energy sources, which pollute the air and water with massive amounts of toxic byproducts. Because of this, the United States would have fewer environmental and health problems with nuclear energy, compared to the risks caused by coal and petroleum products.

Nuclear power is also extremely efficient. The electricity produced in nuclear power plants can be immediately connected to existing power supplies, and distributed to the population. Traditional energy sources require the construction of additional infrastructure and can be costly and dangerous to distribute.

Overall, nuclear power is a cheap, safe, and efficient source of energy. The government of the United States (as well as others) would benefit from adopting it as a source of power in the future.
Study 1 Anti-Nuclear Energy Manipulation:

**DIRECTIONS:** Please read the following article, written by a university professor, about the expansion of nuclear power. Please read carefully, you will be asked questions about this article later.

*Nuclear Energy: A Poor Solution*

As the nation’s population grows and there is increased demand for more electrical power, people will need to find more efficient ways of generating electricity. Fusion (also known as nuclear power, a method of converting nuclear energy into electricity) has been proposed as a long-term way to produce electrical energy.

According to Martin Smith, a consultant for the National Energy Commission, “Nuclear power is the worst solution to the current energy problems we face in the United States. Nuclear power is an expensive power source because nuclear power is not a concentrated source of power. The initial cost of building a power plant is high, and once the plant is established, the power generated by the plant is not enough to cover the initial cost and maintenance of the plant”.

According to many experts, nuclear power is also considered one of the most dangerous and environmentally hazardous sources of energy. For example, the Environmental Protection Agency reports that nuclear power is highly polluting and the by-products of nuclear power are difficult to contain and dispose of in a manner that will not cause harm to people or the environment. Although rare, accidents at nuclear power plants are extremely dangerous and can have devastating effects on surrounding populations compared to accidents in other energy producing industries, making the risks outweigh the benefits. This makes nuclear power significantly more dangerous than coal and petroleum based energy sources, which do not produce byproducts that can last thousands of years. Because of this, the United States would have many more problems safely dealing with the byproducts of nuclear energy, even compared to the risks caused by coal and petroleum products.

Nuclear power is also extremely inefficient. The electricity produced in nuclear power plants cannot be immediately connected to existing power supplies, and distributed to the population. Switching to nuclear energy would also require completely overhauling our energy infrastructure, which will be extremely costly.

Overall, nuclear power is an expensive, unsafe, and inefficient source of energy. The government of the United States (as well as others) would be making a mistake to adopt it as a source of power in the future.
Appendix
Manipulation Check
Directions: Please respond to the questions below on the scales provided

1-----2-----3-----4-----5-----6-----7
Not At All       Very Much

1. To what extent does the passage you just read contradict your attitudes towards the expansion of nuclear power?

2. I feel like the passage I just read goes against my attitudes towards the expansion of nuclear power.

3. I am in agreement with the passage I just read. (R)

4. I disagree with the passage I have just read.

Note: (R) = reverse coded item
Appendix E

Attitude Strength Post Manipulation

Directions: Now that you have read a passage about (INSERT ISSUE) we would like you to re-rate your feelings about (INSERT ISSUE) Please answer the following question on the scale provided.

To what extent are your feelings about (INSERT ISSUE) a core part of your core moral values and convictions?

1. Not At All
2. Very Much

Do you generally support or oppose (INSERT ATTITUDE)?

1. Support
2. Oppose

How important or unimportant is this issue to you?

1. Totally Unimportant
2. Totally Important

How certain or uncertain is your position on this issue?

1. Totally Uncertain
2. Totally Certain

How strongly do you feel about your support or opposition to this issue?

1. Not Strongly at all
2. As Strongly as possible
Appendix F
Meaning in Life Scale
Directions: Please answer the following questions on the scales provided.

<table>
<thead>
<tr>
<th>Absolutely Untrue</th>
<th>Mostly Untrue</th>
<th>Somewhat Untrue</th>
<th>Can’t Say True or False</th>
<th>Somewhat True</th>
<th>Mostly True</th>
<th>Absolutely True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

I understand my life’s meaning. 1------2-------3------4------5------6------7
My life has a clear sense of purpose. 1------2-------3------4------5------6------7
I have a good sense of what makes my life meaningful. 1------2-------3------4------5------6------7
I have discovered a satisfying life purpose. 1------2-------3------4------5------6------7
My life has no clear purpose. (R) 1------2-------3------4------5------6------7

*Note: (R) = reverse coded item*
Appendix G
Rosenberg Self Esteem Scale
Directions: Please respond to the questions below on the scales provided.

(SA= Strongly Agree, A=Agree, D=Disagree SD=Strongly Disagree)

On the whole, I am satisfied with myself.                        SA   A   D   SD
At times, I think I am no good at all. (R)                     SA   A   D   SD
I feel that I have a number of good qualities.                 SA   A   D   SD
I am able to do things as well as most other people.          SA   A   D   SD
I feel I do not have much to be proud of.                     SA   A   D   SD
(R)
I certainly feel useless at times. (R)                         SA   A   D   SD
I feel that I’m a person of worth, at least on an equal plane with others. SA   A   D   SD
I wish I could have more respect for myself. (R)               SA   A   D   SD
All in all, I am inclined to feel that I am a failure. (R)     SA   A   D   SD
I take a positive attitude toward myself.                     SA   A   D   SD

Note: (R) = reverse coded item
Appendix H

Need to Belong Scale
Directions: For each of the statements below, indicate the degree to which you agree or disagree with the statement by writing a number in the space beside the question using the scale below.

Note: (R) = reverse coded item
1 = Strongly disagree
2 = Moderately disagree
3 = Neither agree nor disagree
4 = Moderately agree
5 = Strongly agree

If other people don’t seem to accept me, I don’t let it bother me. (R)
1-------2-------3-------4-------5

I try hard not to do things that will make other people avoid or reject me.
1-------2-------3-------4-------5

I seldom worry about whether other people care about me. (R)
1-------2-------3-------4-------5

I need to feel that there are people I can turn to in times of need.
1-------2-------3-------4-------5

I want other people to accept me.
1-------2-------3-------4-------5

I do not like being alone.
1-------2-------3-------4-------5

Being apart from my friends for long periods of time does not bother me. (R)
1-------2-------3-------4-------5

I have a strong need to belong.
1-------2-------3-------4-------5

It bothers me a great deal when I am not included in other people’s plans.
1-------2-------3-------4-------5

My feelings are easily hurt when I feel that others do not accept me.
1-------2-------3-------4-------5
Appendix I

NFC Scale

Directions: Read each of the following statements and decide how much you would agree or disagree with each according to your attitudes, beliefs and experiences. Please respond according to the scale provided by circling the best answer.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neutral or Uncertain</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Even after I have made up my mind about something, I am always eager to consider a different opinion. (R)

When considering most conflict situations, I usually see how much both sides could be right. (R)

When thinking about a problem, I consider as many different opinions on the issue as possible. (R)

I always see many possible solutions to problems I face. (R)

I find that establishing a consistent routine enables me to enjoy my life.

I enjoy having a clear structured mode of life.

I like to have a place for everything and everything in its place.

I find that a well ordered life with regular hours suits my temperament.

I dislike unpredictable situations.

I don’t like to be with people who are capable of unexpected actions.

I prefer to socialize with familiar friends because I know what to expect from them.

I enjoy the uncertainty of going into a situation without knowing what might happen. (R)

I dislike it when a person’s statement could mean many different things.

I feel uncomfortable when someone’s meaning or intentions are unclear to me.

I feel uncomfortable when I don’t understand the reason why an event occurred in my life.

When I am confused about an important issue, I feel very upset.
I tend to put off important decisions until the last moment. (R) 1 2 3 4 5 6 7
I usually make important decisions quickly and confidently. 1 2 3 4 5 6 7
I would describe myself as indecisive. (R) 1 2 3 4 5 6 7

Note: (R) = reverse coded item

Appendix J

Symbolic Immortality Scale

Directions: Please respond to the questions that follow on the scales provided

1--2--3--4--5--6--7
Strongly Disagree Neutral or Uncertain Strongly Agree

I know that my life accomplishments will live on when I die 1 2 3 4 5 6 7
When I die, I will know I have made the world a better place 1 2 3 4 5 6 7
I do not think that my accomplishments will live on after my death 1 2 3 4 5 6 7
I can die knowing that I will be remembered for what I have done in my lifetime. 1 2 3 4 5 6 7

Note: (R) = reverse coded item
Appendix K

Study 2 Pro Welfare Reform Manipulation

**DIRECTIONS:** Please read the following article, written by a university professor, about welfare reform. Please read carefully, you will be asked questions about this article later.

*Welfare Reform: A Good Solution*

In 1996, the Personal Responsibility and Work Opportunity Reconciliation Act, the most comprehensive overhaul of the welfare system, was signed into law. This law reduced funding for the 60-year-old safety net, leaving millions of poor families with fewer resources. The new system has positively impacted the poor, as well as the nation, in many ways: far fewer working families receive government assistance to cover child-care costs, which has lead many to enter the workforce in order to care for their families. The net result is an increase in the percentage of poorer people earning paychecks, bringing the proportion of those working up to 83 percent. Because of the drop in the number of those working, 71 percent of these lower-income families are no longer in desperate need of assistance, and the national economy has been improved by the increase of people in the workforce.

When people talk about welfare reform, they are trying to improve the lives of people as service users, citizens and claimants, and to improve these services by removing inefficiencies and wasteful public spending. The high costs of welfare programs result in higher taxes, which can stifle economic activity and lead to fewer jobs, higher rates of unemployment, and increased need for government aid.

The welfare system was also in desperate need of reform due to rampant exploitation, fraud and abuse. According to the Pew Research Foundation, at least 30 percent of welfare claims were likely fraudulent. Welfare abuse is the intentional exploitation of welfare services and can have many manifestations. For instance, a woman may deliberately have another child in order to receive more welfare funds. In addition, people who are otherwise able-bodied may make no effort to obtain employment in order to continue to receive welfare benefits.

A proactive and conscientious approach to welfare reform is able to meet goals to decrease bureaucratic costs and waste, provide more streamlined services, and promote greater social responsibility. The latter may be an unstated intention but it does a lot for the social order. It creates systems that discourage over-reliance on government programs and forces citizens to take greater steps toward self-reliance.

Study 2 Anti Welfare Reform Manipulation

**DIRECTIONS:** Please read the following article, written by a university professor, about welfare reform. Please read carefully, you will be asked questions about this article later.

*Welfare Reform: A Poor Solution*

In 1996, the Personal Responsibility and Work Opportunity Reconciliation Act, the most comprehensive overhaul of the welfare system, was signed into law. This law reduced funding for the 60-year-old safety net, leaving millions of poor families with fewer resources. The new system has negatively impacted the poor, as well as the nation, in many ways: far fewer working families receive government assistance to cover child-care costs, which has forced many to leave the workforce in order to care for their families. The net result is a decrease in the percentage of poorer people earning paychecks, bringing the proportion of the working poor down to 38 percent. Because of the drop in the number of those working, 71 percent of these lower-income families
are in desperate need of assistance, and the national economy has been harmed by the loss of people in the workforce.

Once, when people talked about welfare reform in the past, it meant trying to improve the lives of people as service users, citizens and claimants. Now it is more likely to mean another attack on people receiving benefits or a search for an easy way of making public spending cuts. But we can expect to hear much more about welfare reform in the coming months, with politicians on the lookout for easy targets for partisan points scoring.

One politician, speaking under terms of anonymity has recently said “[he has been] coached by advisors to frame certain groups as “exploiting the system”. The groups who were targeted are some of the poorest and most powerless in our society: single parents, mental health service users, refugees and asylum seekers, the unemployed, and homeless. The source goes on to say “…it is largely recognized that [these types of cuts] hurt more Americans than they help…but [the groups affected by these cut] have few friends on Capital Hill, and garner little sympathy from the American public.”

The irony is that this extreme approach to welfare reform generally has the opposite effect to that promised, creating additional bureaucratic costs and waste through higher unemployment and increased crime rates, overburdened hospitals and low-income children who are more likely to drop out of school due to lack of resources. These effects may not be intended and do little to improve economic or social conditions.

Appendix L

Morality Manipulation

Participants will read one of the following three sets of directions and respond accordingly

Morality Condition: Please write in as much detail as possible about how your beliefs about welfare reform are a core part of your moral beliefs and convictions.

or

Control Condition: Please describe in as much detail as possible the emotions that the thought of experiencing dental pain arouses in you.

or

Dwelling Condition: Please write in as much detail as possible about all the ways the article you just read could be correct. Please do your best think of several reasons, and do not write about or pay attention to things that dispute or go against what is written in the article.
Appendix M

Moral Mandates: Social Distance

Directions: Please respond to the following statement on the scales provided:

I would be glad to have someone who does not share my views about welfare reform:

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Neutral or Uncertain</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>As president of the U.S.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As a neighbor</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As Governor of my state</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To come and work at the same place I do</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As a roommate.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To marry into my family</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As someone I would personally date</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As my personal physician</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As a close personal friend</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As the owner of a store or restaurant I frequent</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As the teacher of my children</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As my spiritual advisor</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix N
Procedural Fairness

Directions: We want you to take a moment and imagine that Congress voted today that welfare reform (the Personal Responsibility and Work Opportunity Reconciliation Act described earlier) should be upheld. In other words, what if Congress ruled today that welfare reform is a policy that should continue to be the law?

Then, please respond to the questions on the scales that follow.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Unfair</td>
<td>Neutral or Uncertain</td>
<td>Completely Fair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you support the decision made by Congress to uphold welfare reform?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Do you think the decision made by Congress to uphold welfare reform was fair or unfair?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Do you think it was fair or unfair of Congress to uphold welfare reform?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
Appendix O
Vigilantism

Directions: Please respond to the following questions on the scales provided

<table>
<thead>
<tr>
<th>Completely Disagree</th>
<th>Neutral or Uncertain</th>
<th>Completely Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Politicians who decide to uphold welfare reform need to be stopped, even if it requires illegal action.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Politicians who rule to uphold welfare reform should be stopped at any cost, even if it is against the law.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Politicians who decide that welfare reform should be upheld deserve to lose their jobs, even if it is under false pretenses.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
Appendix P
Demographics

Please answer the following questions about yourself. Choose the best answer.

1. What is your gender? Male /Female / Other__________

2. What is your ethnicity?
   <1> African-American/Black
   <2> White/European American
   <3> Middle Eastern/Middle Eastern American
   <4> Asian/Asian-American
   <5> Latino/a
   <6> Multiracial/Other (please specify)__________________

3. Were you born in the United States?    Yes  /  No

4. Approximately, what is your FAMILY’s annual income?
   <1> Under $20,000          <6> $100,000 to $119,999
   <2> $20,000 to $39,999     <7> $120,000 to $139,999
   <3> $40,000 to $59,999     <8> $140,000 to $159,999
   <4> $60,000 to $79,999     <9> $160,000 to $179,999
   <5> $80,000 to $99,999     <10> $180,000 and over

5. What is your age? ________ years old

6. When it comes to economic policy do you usually consider yourself a liberal, moderate, or conservative?

   1  strong conservative   2  strong liberal   3  leaning conservative   4  leaning liberal   5  moderate conservative   6  moderate liberal   7  strong liberal

7. When it comes to social policy do you usually consider yourself a liberal, moderate or conservative?

   1  strong conservative   2  strong liberal   3  leaning conservative   4  leaning liberal   5  moderate conservative   6  moderate liberal   7  strong liberal
8. What is your current class standing?

<1> Freshman   <4> Senior
<2> Sophomore  <5> Graduate
<3> Junior     <6> Other (please specify)__________________

9. When it comes to religion, do you consider yourself:

<1> Christian (e.g. Catholic, Orthodox, Protestant, non-denominational, etc.)
<2> Buddhist
<3> Muslim
<4> Hindu
<5> Jewish
<6> Atheist
<7> Agnostic
<8> Other (please specify)______________________________