DEFINING MORAL ATTITUDES: AN EXAMINATION OF THE STRUCTURE AND CONSEQUENCES OF MORAL ATTITUDES

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by

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DISSERTATION

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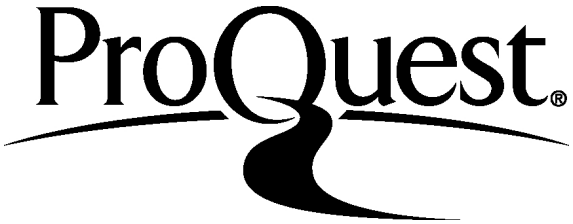

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Abstract

The goals of this dissertation were to contribute to the literature on the structure of moral attitudes and explore the consequences of moral attitudes on person perception. The goal of study 1 was to replicate and extend previous research examining the automatic nature of moral objectivity and moral universalism. In Study 1, there was no support for the relationship between morality and objectivity and morality and universality. Instead, the study demonstrated that sequential priming may be an ineffective methodology for measuring these relationships. The goal of study 2 was to examine the relationship between the similarity of participant attitude to a fictional political candidate (attitude similarity) and perceptions of warmth, competence, and voting choice. The proposed models predicted that attitude similarity influenced trustworthiness, expertise, candidate support, and voting choice. Furthermore, that relationship was predicted to be moderated by participants' moral conviction about the social issue. Several models were significant overall, however no significant predictors emerged. Attitudes similarity significantly predicted voting choice and candidate support such that increased attitude similarity was related to the likelihood of voting yes and increased candidate support, for the issue of Abortion Rights. Moral conviction did not moderate this relationship. An exploratory moderation model for perceived charm of the candidates demonstrated a significant moderating effect of moral conviction for the issue of Using Torture in Interrogations. Limitations and future directions for both studies are discussed.

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Introduction

Moral attitudes, which are positive or negative evaluations grounded in moral beliefs, are central to many conflicts with devastating consequences. Examples of these conflicts can be found in both domestic and international terrorism. In 2014, members of the Earth Liberation Front and the Informal Anarchist Federation set fires to five vehicles in South Wales in protest against the nuclear industry, industrial development, class society, and other issues (National Consortium for the Study of Terrorism and Responses to Terrorism, 2015; Contra Info, 2015). Similarly, in the US during the same year, anti-immigration beliefs are thought to have led Larry McQuilliams to open fire on the Mexican consulate in Austin, Texas (National Consortium for the Study of Terrorism and Responses to Terrorism, 2015). Moral attitudes are also central to conflicts with non-violent outcomes such as the 2013 government shutdown. In this instance, members of congress could not reach compromise on issues involving the Affordable Care Act (ObamaCare), which led to a 16 day shutdown of government agencies, costing the U.S. economy an estimated $24 billion dollars (Walshe, 2013). This dissertation will examine these moral attitudes and why they are so impactful.

In general, an attitude can be thought of as a positive or negative evaluation of an object, person, or idea. Attitudes serve as a foundation from which we evaluate our world and help us to determine how to behave toward the things we encounter (Fazio, 1999). Although all attitudes influence our behavior, the extent to which they do varies. Attitudes that are predictive of behavior share three major characteristics: 1) they are easily recalled, 2) they are stable over time, and 3) they are generated from behaviorally relevant information and personal experiences (Glasman & Albarracin, 2006). One way that researchers have determined which attitudes have these

characteristics and, in turn, are predictive of behavior, is through the classification of the strength of the attitude.

Within the attitude literature, there have been different conceptualizations of attitude strength such as attitude importance and attitude accessibility (for review, Krosnick, Boninger, Chuanyg, Berent, & Carnot, 1993). Attitude strength, according to Fazio's (2007) definition of an attitude, is a reflection of the strength of the association between the attitude object and the evaluation of that object. This allows for attitudes to be placed along a continuum. On one end is strong attitudes, which occur when the association between the attitude object and the evaluation of that object is well established. On the other end is a non-attitude, which is when there is no association between an attitude object and the evaluation of that object. Under this conceptualization of attitudes, stronger attitudes are more predictive of behavior. For instance, using attitude accessibility as a measure of attitude strength, researchers predicted participant's selection of a product as a reward, based on how quickly they responded to that product during a previous task (Fazio, Powell, Williams, 1989). Another characteristic of attitudes that predict behavior is the extent to which the attitude is grounded in moral beliefs (Skitka, 2010; Skitka, Bauman, & Sargis, 2005).

The study of morality in psychology has primarily focused on how we know whether something is moral or not, called moral judgment. Early research (e.g., Piaget, 1932; Kohlberg, 1969) looked at how moral judgment developed over the lifespan from a consequence based judgment (i.e., utilitarian) to a universal application of moral rules based on justice and harm (i.e., deontological). Moral psychological research later examined these two bases of moral judgment through the study of the Trolley Problem and other similar moral dilemmas (e.g., Greene et al. 2001, 2004). More recently, researchers have established that individuals seem to rely on different

beliefs when deciding whether something is moral or immoral. Graham and colleagues (2011), for instance, identified five foundations on which people rely to varying degrees when making moral judgments. For example, the issue of marriage equality may be supported by some people, because they see it as being related to moral concerns about fairness. Others, however, may view marriage equality negatively because they see it as being related to moral concerns about sexual purity, or religious authority.

Moral judgments have been widely studied, however, a second question in moral psychology has received much less attention: once something has been determined to be moral (or immoral) what happens? Linda Skitka and her colleagues have recently begun to examine this question from an attitude perspective (for review see Skitka, 2010; Skitka, Washburn & Carsel, 2015). Skitka and colleagues have begun to examine the consequence of morality, first focusing on determining how morals are different from other kinds of beliefs. Skitka (2010) determined that attitude content varies in three major ways. First, attitudes can reflect personal preferences (see also Skitka, 2014 which describes this as the domain theory of attitudes). These preferences are based on an individual's experience with objects and ideas, so they vary widely from person to person. For example, some people like cheese pizza, others like pepperoni. Second, attitudes can reflect social or cultural norms. Norm attitudes seem to be based on shared group membership. These attitudes will vary across groups. For example, tipping is a social norm in Americans, however in European countries, tipping is viewed negatively. Third, attitudes can reflect moral beliefs. These attitudes are based on an individual's specific moral values, and how they apply those values to a given attitude object. For example, I support marriage equality because of my moral belief in equal rights. Others may generally support equal rights, but their moral value of respecting religious authority may override that, and lead them to oppose gay marriage. The extent

to which an attitude is a moral attitude can be assessed using a measure of Moral Conviction (Skitka, 2011). Moral Conviction is a four-item scale that asks participants to identify the degree to which their position on a particular issue reflects their moral beliefs, is connected to fundamental right and wrong, is based on principle, and is a moral belief. High moral conviction for a particular issue indicates that the participant's attitude is a moral attitude, whereas low moral conviction indicates that the attitude is a non-moral attitude (i.e., preferences or norms). Using moral conviction, Skitka and colleagues have discovered several important behavioral consequences of moral attitudes that differ from non-moral attitudes in both perception (e.g., perceptions of fairness and authority) and in behavior (e.g., intolerance for others and political engagement; for review see Skitka et al., 2015).

Skitka and colleagues have examined the role that moral conviction (and moral attitudes) influences our perceptions of fairness and trust. Across these studies, results demonstrate that increased moral conviction influences how we perceive the fairness of an outcome (Skitka, Bauman, & Lytle, 2009; Bauman & Skitka, 2009) and the process (Skitka & Houston, 2001). Increased moral conviction also impacts perceptions of legitimacy and trust in authority (Skitka et al., 2009; Wisneski, Lytle, & Skitka, 2009). I discuss the findings of this research in the following paragraphs.

In decision making, perceptions about the fairness of outcomes are influenced by the extent to which the issue at hand is related to moral beliefs. Skitka, Bauman, and Lytle (2009) examined the role of moral conviction in perceptions of fairness of the Supreme Court's 2005 decision about Oregon's authority to legalize physician assisted suicide. The study showed that moral conviction about physician assisted suicide predicted participant's perceptions of fairness and their acceptance or rejection of the decision. For example, a participant who did not support physician assisted

suicide with high moral conviction about it, perceived the Court's decision to be more unfair and rejected the decision more than an attitudinally similar participant with low moral conviction about physician assisted suicide. Bauman and Skitka (2009) examined the effect of participants' role in a decision that was either consistent or inconsistent with their moral attitude toward abortion on perceived fairness. Perceived fairness of the outcome was higher for participants when the outcome matched their moral attitude. However, when moral conviction was high, perceived fairness was high, regardless of whether their attitude matched the outcome. In low moral conviction participants, the opportunity to influence the outcome affected perceived fairness, such that those who did not have the opportunity to influence the outcome perceived the decision to be unfair whereas those who had the opportunity to influence the outcome perceived the outcome as fair.

Moral convictions can also impact whether a decision making process is perceived as fair (Skitka & Houston, 2009). When a moral belief about justice (innocent are acquitted, guilty are punished) is held, participants' assessments of fairness did not account for the fairness of the procedure; as long as the guilty defendant was convicted and the innocent acquitted, the actual fairness of the proceedings was irrelevant. Similarly, when this moral belief was violated (when innocent defendants were convicted and guilty defendants acquitted) the proceedings were deemed unfair, even when the proper process was adhered to.

In addition to influences on perceptions of fairness, moral attitudes also influence perceptions of trust and legitimacy. Skitka and colleagues (2009) demonstrated that moral conviction about physician assisted suicide predicted changes in the perception of the legitimacy of the Supreme Court after their decision. A participant who did not support physician assisted suicide with high moral conviction about physician assisted suicide, perceived the Supreme Court

as less legitimate than their pre-decision ratings. A participant with low moral conviction did not show changes in perceptions of legitimacy. Similarly, Wisneski and colleagues (2009) examined how moral attitudes changed perceptions of trust in the Supreme Court over their decision on physician assisted suicide. They found that regardless of attitude, there was greater distrust in the Supreme Court to decide on the issue with higher moral conviction.

In addition to examining the effects of moral attitudes on perception, Skitka and colleagues have also examined how moral conviction (and moral attitudes) influences our behaviors. Across these studies, results demonstrate that increased moral conviction influences both positive (Skitka & Bauman, 2008) and negative behaviors (Skitka, Bauman, & Sargis, 2005: Mullen & Nadler, 2008). Moral attitudes impact positive behaviors such as political engagement (Skitka & Bauman, 2008) and collective action (van Zomeren, Postmes, Spears & Bettache, 2010). Increased political engagement is another way that moral attitudes have a positive impact (Skitka & Bauman, 2008; Morgan, Skitka, & Wisneski, 2010). Surveys completed during the 2000, 2004, and 2008 presidential elections examined how moral convictions about the candidates and moral convictions about particular issues influenced voting behavior and voting intentions. After the 2000 election, moral convictions about the candidate predicted voting behavior. During the 2004 and 2008 elections, moral convictions about specific issues central to the election predicted participants' intentions to vote. For each election, the results held after controlling for other variables such as attitude strength and strength of party affiliation. Moral attitudes also seem to motivate collective action (van Zomeren et al., 2010). After reading about discrimination towards a person who is socially disadvantaged in their country (e.g., Muslim Dutch or Mainland Chinese), participants who were part of the country's majority, advantaged group (e.g., Non-Muslim Dutch/Non-Immigrant or Hong Kong Chinese) reported their moral convictions about discrimination and

whether or not they would participate in collective actions (e.g., demonstrations, petitions) against discrimination. Moral conviction was a significant predictor for collection action such that increased moral conviction was related to greater support for collective actions.

Although moral attitudes have some benefits, there are also drawbacks for having moral attitudes. Moral attitudes affect social and physical distance (Skitka et al., 2005; Studies 1-3), stealing and cheating (Mullen & Nadler, 2008), and group cooperation (Skitka et al., 2005; Study 4). Skitka and colleagues (2005) examined how moral attitudes affected distance from others. In studies 1 and 2, participants reported that did not want attitude dissimilar people to fill a variety of social roles, such as roommate (intimate) or President (distant). For participants with high moral conviction there was an equal likelihood to reject dissimilar roles in intimate and distant roles whereas participants with low moral conviction were more likely to reject dissimilar others in intimate roles than those in distant roles. In study 3 Skitka and colleagues examined physical distance by measuring the actual distance that participants sat from a backpack with a pro-choice themed pin that purportedly belonged to another participant with whom they would be interacting. They found that an interaction between attitude similarity and moral conviction accounted for difference in distance. For attitude similar participants (pro-choice), increased moral conviction was related to decreased physical distance. Conversely, for attitude dissimilar participants (pro-life), increased moral conviction was related to increased physical distance.

Moral attitudes can also increase behaviors such as stealing and cheating (Mullen and Nadler, 2008). In study 1, morally convicted pro-choice participants and participants with no moral attitude about abortion read an article about a trial related to abortion, completed a questionnaire, and were asked to return the pens provided by the experimenter. When the trial outcome violated the pro-choice moral attitude, participants were more likely to leave with the pen than when the

outcome confirmed their moral attitude. There was no difference in pen taking for participants with no moral attitude about abortion. In study 2, participants recalled a particular event and then flipped a coin for assignment to an experimental task that would earn them more money or would not earn them additional money. When participant recalled a moral violation prior to the coin flip, they reported a favorable flip (a chance to earn more money) significantly more often than chance would predict (greater than 75% of the time).

Moral attitudes can be a barrier to group cooperation and decision making (Skitka et al., 2005). Participants were placed into attitude homogeneous or attitude heterogeneous groups to discuss an issue and make a decision. In heterogeneous groups that discussed a moral attitude, participants reported less positive interactions between group members than participants in groups that discussed non-moral attitudes. These strains in interpersonal interactions were also observable by outside persons who identified greater tension and defensiveness in the heterogeneous groups who discussed a moral attitude than in groups that discussed non-moral attitudes. Compared to groups that discussed non-moral attitudes, groups that discussed moral attitudes were less likely to come to a consensus

Differences between moral and non-moral attitude have been documented across several areas of importance—from perceptions of trust to intolerance of others—and this research is still in its infancy, with many consequences still to be uncovered.

Dissertation Studies

This dissertation will examine two components of moral attitudes. Study 1 will conceptually replicate and extend recent research that has shown support for implicit associations between objectivity and moral attitudes, and universality and moral attitudes (Kidder & Crites, 2015). Study 2 will then explore underlying concerns that are related to the behavioral consequence

of morality, by examining how moral conviction impacts the relationship between attitude similarity and trustworthiness, expertise, and voting.

Study 1

Moral attitudes are proposed to be distinguishable from similar, non-moral attitudes in three ways (see Skitka, 2010 for review; also, Skitka, Washburn, & Casel, 2015). First, moral attitudes are perceived by individuals to be more objective than non-moral attitudes. What this means, is that when an attitude is morally grounded, people believe its "rightness" or "wrongnesss" is factual as opposed to being a personal belief or opinion. For instance, if a person believes that the death penalty is morally wrong, it's "wrongness" is a fact. The second way that moral and non-moral attitudes differ is with how the belief applies to others. Moral attitudes are thought to be more universally applicable than non-moral attitudes. For instance, if a person believes the death penalty is morally wrong, they are likely to believe that it should be outlawed everywhere, regardless of circumstances, cultural differences, et cetera. Researchers have primarily assessed objectivity and universality as separate dimensions, however they are inextricably linked; if something is thought to be factual, it in turn should be universally applicable. Third, moral attitudes are thought to be more emotionally based than non-moral attitudes. For instance, feelings of anger about the death penalty are reported to be more intense in those for whom their attitude about the death penalty is morally grounded (Wright, Cullum, & Schwab, 2008). Although emotion is part of our understanding of the differences between moral and non-moral attitudes, it will not be examined in the current study. The focus of this study is the relationship between morality and objectivity and the relationship between morality and universality.

Moral Objectiveness and Moral Universalism

Moral objectivity is the idea that moral attitudes are seen as factually based (Skitka, 2010). Support for moral objectivity comes from several studies examining the relationship between moral attitudes and objectivity. This research shows changes in beliefs about facts

(Mirels & Dean, 2006), rejection of facts (Liu & Ditto, 2012), objectivity self-enhancement (Nasselroade et al., 2006), and objectivity differences for moral and non-moral attitudes (Goodwin & Darley, 2008). Each of these ideas are explored further below.

Research has demonstrated that having a moral attitude about an issue changes our perceptions about the facts related to that issue. Liu & Ditto (2012) found strong connections between moral judgments and factual belief when moral conviction was high. For example, facts about the costs and benefits of specific actions were less believed when those actions were perceived by participants to be immoral. Research has also demonstrated that perceptions of objectivity are influenced by the moral content of an attitude. Nasselroade et al. (2006) compared participants' perceptions of the objectivity of their own opinions, and the opposing opinion of another. They found a self-enhancement effect such that one's own opinion was rated as more objective than the opinion of someone else, particularly when the other attitude was dissimilar. This effect increased as the self-reported morality of the issue increased. A key research finding central to the moral objectivity hypothesis is that that ethical statements are judged as more objective than norms and preferences, and similar to scientific facts (Goodwin & Darley, 2006). The current study will further explore this relationship between moral attitudes and objectivity.

Moral Universalism is the idea that we believe our moral attitudes should be universally applicable (Skitka, 2010). Research examining moral universalism is limited. Recent research by Skitka and colleagues (unpublished; from Skitka & Morgan, 2014) shows that when a moral attitude is made salient, participants endorsed greater universality for morality generally (e.g., disagreement with "Questions of what is ethical to everyone can never be resolved since what is moral or immoral is up to the individual,") than before the attitude is made salient. This research also showed that if people imbued their attitude with greater moral conviction, they were more

likely to believe that their attitude was appropriate for other countries and cultures, than participants with lower moral conviction.

As briefly mentioned above, objectiveness and universalism are highly related concepts. However, factual information does not necessarily apply universally. For example, while "the summer solstice occurs in June" is a fact in the northern hemisphere, it does not apply to the southern hemisphere, where the summer solstice occurs in December. There are other kinds of facts however that do imply universal application, such as "2 + 2 = 4", which remains true regardless of where you live, your culture, or ethnicity. It remains to be seen whether there is a similar disconnect between universality and objectivity in the opposite direction; that is, universally applied principles that are not also factual. When placing objectivity and universality in the moral context, previous research (Kidder, unpublished data) show a complex relationship between them. Some moral attitudes show no relationship between measures of universality and objectiveness (for attitudes toward using torture in interrogations and using animals in research). Other moral attitudes show a positive moderate relationship (attitudes toward making gay marriage legal) whereas still others show a moderate negative relationship (attitudes toward making abortion illegal).

The previous research described above examined the relationships between morality and objectivity and between morality and universality, offering support for the moral objectiveness and moral universalism hypotheses. These studies, however, are limited in what they can offer because they rely almost exclusively on self-report measures. Recent work has offered some complementary evidence supporting these hypotheses using measures that probe links between memory and behavior which will be conceptually replicated in the current study (Kidder & Crites,

2015). This research examined the associations between morality and objectivity and morality and universality using the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998).

By using implicit measures, this research (and the current study) can offer insight about the nature of moral objectiveness and moral universalism, particularly whether this relationship is deliberative, determined by rational thought, or automatic, determined by "gut" instinct. The current literature on morality seems divided about the nature of morality. Some researchers, such as Jonathan Haidt see morality as being an irrational, automatic reaction that we then rationally explain after the fact (Haidt, 2003). Others see morality as a more deliberative process, such as Linda Skitka (e.g., Skitka, 2010). The use of implicit techniques to measure these constructs will allow us to determine which cognitive processes are involved in moral attitudes.

Implicit Association Test

The IAT is a member of a group of implicit measures that examines the reactions times and/or errors of people when they make fast judgments about stimuli (Kidder, White, Hinojos, Sandoval, & Crites, 2015). The context the stimuli are presented in can be varied, so researchers can determine how it influences participants' responses. These kinds of measures are used to explore the mental associations between concepts that may be automatically activated and influence later thought and action. The IAT assess the associations between two kinds of stimuli, for example affective words and pictures (Greenwald et al., 1998).

During the task, participants encounter five block of trials during which they complete different tasks, Figure 1 depicts a typical IAT sequence. In the first block, participants see the first set of stimuli (e.g., words) and categorize the stimulus (e.g., healthy or unhealthy). In the second block, participants see the second set of stimuli (e.g., pictures) and also categorize those stimuli (e.g., fruit or desserts). These first blocks are essentially practice blocks that orient the participants

to the task. The third block is the first of two blocks that are critical to the measurement of associations. In this block, the two stimuli are mixed together and randomly presented. Participants make categorizations that are appropriate to each kind of stimulus, as they practiced in the previous blocks. In this block however, the categories share response keys. For example, participants categorize healthy words and fruit pictures using the same response key and unhealthy words and dessert pictures using another response key. In the fourth block of trials participants, again encounter only one set of stimuli (e.g., fruit/dessert pictures) and practice categorizing them. The difference between this block and the second block is the response key that corresponds with each category. For example, in the second block, fruit may have been responded to using a left key and dessert with a right key. In the fourth block, the response keys are switched so that fruit are responded to using the right key and dessert with the left key. The fifth block is the second of the critical blocks. In this block the stimuli are again mixed together and randomly presented. Participants are now using the switched response keys for one set of the stimuli. For example, in block three, participants responded to healthy words and fruit pictures using the same key. In block five, the switched response key for fruit pictures now pairs those responses with unhealthy words.

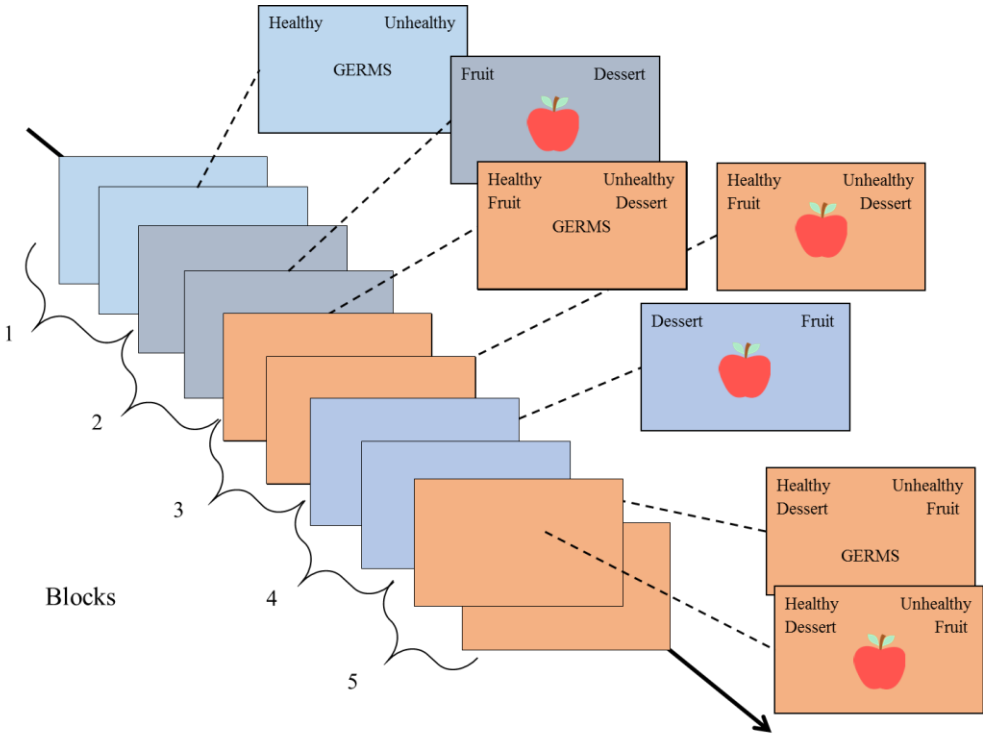

Figure 1. Typical sequence for an implicit association task

Kidder and Crites (2015) adapted the IAT to assess the association between morality and objectivity using a fact-opinion IAT and the association between morality and universality using a self-other IAT. The moral and non-moral attitudes presented in the tasks were idiosyncratic and were selected based on participants' ratings in a pre-screen session. In the fact-opinion IAT, participants categorized brief statements as either facts (e.g., MARS IS RED) or opinions (e.g., RAP IS BAD). Attitudes were categorized as moral or non-moral (based on previous ratings from each participant). In the self-other IAT, participants categorized words as either related to self (e.g., ME) or others (e.g., THEM). Again, attitudes were categorized as moral or non-moral. The Kidder and Crites study found significant IAT effects for the objectivity task, such that moral attitudes were more associated with facts than opinions and that non-moral attitudes were more associated with opinions than facts. This finding was replicated in a follow-up study. Kidder and Crites (2015) did not find full support for the universality task, with small IAT effects that were moderately

significant (p = .064). However, these effects in the predicted direction, with moral attitudes more associated to others than self and non-moral attitudes more associated with self than to others.

The IAT was chosen for the previous research because it generally demonstrates robust findings and larger effect sizes than other implicit tasks (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). Without knowing how large of an effect the associations between morality, objectivity, and universality might generate, a task involving explicit categorizations of both kinds of stimuli was ideal. Furthermore, the use of the IAT allows for order effects based on the order of congruent and incongruent blocks. In the previous research, order effects were found such that a significant relationship between objectivity and morality was only found when the incongruent block was presented prior to the congruent block. This order effect was replicated in a second study. What is particularly concerning about the order effect, is that it is not the usual order effect for an IAT. Generally, IAT order effects are present when the congruent block is presented first, followed by the incongruent block. Because of these strange order effects, it is important to find other methods to measure these relationships. Additionally, there is some concern whether the associations being measured are actually representative the concept of interest. IAT scores are influenced by the automatic associations of interest as well as various other processes (Gawronski, Deutsch, & Banse, 2011). For instance, because participants switch keys for one set of judgments during the second critical block, responses are partially a result of the automatic associations as well as explicit executive control process where participants have to overcome the previous response to select the correct response. There are methodological and analytical strategies that can be adopted to combat some of these confounds (for review see Gawronski et al., 2011), however, the methods are not guaranteed. Additionally, studies have shown that IAT effects can be controlled on some level (De Houwer, Teige-Mocigemba, Spruyt, & Moors, 2009). Now that there

is initial evidence of implicit associations between objectivity and morality and universality and morality, Study 1 will attempt to replicate these associations using a sequential priming measure for which the underlying processes are better understood.

The first aim of the study is to conceptually replicate the objectivity findings of Kidder and Crites (2015) in order to show that the association between objectivity and morality is also found with priming, and to overcome some unusual order effects found with the IAT. The previous research described above found only moderately significant effects for universality, so the second aim of the study is to use priming to examine the association between universality and morality, with the idea that priming is more suitable for universality. One explanation for the non-significant universality finding may be in how universality was conceptualized in the original study. An IAT calls for categorization of stimuli into two, often mutually exclusive, categories; in the previous study, self and other. Because universality means that moral attitudes should apply to everyone, this would mean that moral attitudes should be equally related to self and to others. In the IAT, this means that some of the incongruent trials (moral/self) should have been responded to similarly to the congruent trials (moral/others; non-moral/self). Because the congruent block is compared to the incongruent block, the difference between the two would be minimized which would diminish the size of the overall effect. Another way to think about universality is with more abstract concepts that aren't necessarily mutually exclusive but instead are more representative of a continuum (e.g., autonomy and embeddedness). The current study will use this conceptualization in a priming paradigm where explicit categorizations of universality are not required.

Sequential Priming

Similar to the IAT, sequential priming paradigms demonstrate associations in memory between two sets of stimuli: the prime and the target (Wittenbrink, 2007). In a sequential priming

paradigm, participants see a series of trials where there is a stimulus, called the prime, followed by a second stimulus, called the target, to which they respond (Spruyt, Gast, & Moors, 2008). Across trials, the relationship between the prime and the target is manipulated, so that some trials consist of theoretically congruent (e.g., positive-positive) stimuli and other trials consist of theoretically incongruent (e.g., positive-negative) stimuli. Since its inception, the sequential priming paradigm has be widely used to assess a variety of associations.

There are two major theories from the social psychology literature that describe sequential priming effects. The first is a process referred to as the encoding perspective (e.g., Fazio, 2007). This process suggests that targets are responded to more quickly on congruent trials because the target is partially activated in memory, due to its shared semantic features with the prime. This theory of sequential priming effects comes from theories of spreading activation (Collins & Loftus, 1975) as well as theories describing parallel-distributed processes of memory (Rodgers & McClelland, 2014). The second process that explains sequential priming effects is referred to the response compatibility perspective (e.g., Gawronski & Bodenhousen, 2005; Klauer, Musch, & Eder, 2005). This process suggests that response to the target is either facilitated by or hindered by a response activation of the prime. Facilitation occurs when the same response can be made by the prime and the target. This explanation for sequential priming effects only makes sense for tasks where judgments could apply to both prime and target, which makes it in unlikely explanation for the priming effects in this particular study.

One form of sequential priming relevant to the current study is semantic priming (e.g., Neely, 1977**)**. In semantic priming, the relationship between the prime and the target is one based in meaning. That is, the prime shares a conceptual relationship with the target or does not. Figure 2 depicts a typical semantic priming paradigm.

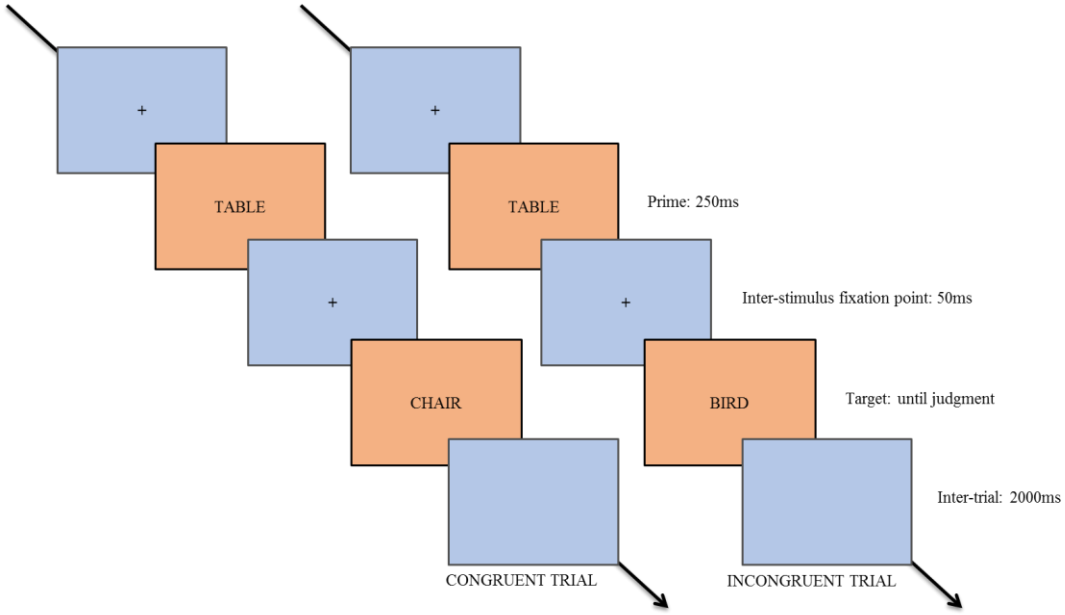

Figure 2. Trial sequencing for a semantic priming paradigm.

During a semantic priming task, participants see several trials. A trial begins with a fixation point, which signals the start of a new trial. Next, the prime stimulus is shown very quickly, often less than 500ms, and is replaced by another fixation screen. After a short time (usually 50ms) the target is presented, to which the participants must respond. Typically the target remains until the participants has made a response. Once the response is captured, a blank screen is shown before the beginning of the next trial. In the semantic priming example depicted in Figure 2, there is an example of a congruent and an incongruent trial. For semantic priming, trial congruency is defined by the semantic relationship between the prime and the target. In the congruent trial example, the prime TABLE, followed by the target CHAIR are semantically related; they are both pieces of furniture. In the incongruent trial example, the prime TABLE, followed by the target BIRD, are not semantically related. In sequential priming paradigms, response times to the target are faster for congruent trials than incongruent trials. This congruity effect tells researchers about the relationship between the primes and targets.

Semantic priming can also be used to show relative associations between different types of primes. For instance, in sequential stereotype priming, participants see primes belonging to two groups (e.g., men and women) followed by targets that are stereotypically associated with each of the groups (e.g., firefighter and nurse, respectively). In these instances, congruent and incongruent trials are further delineated by the two kinds of primes (e.g., Congruent: men-firefighter or women-nurse; Incongruent: men-nurse or women-firefighter). This methodology produces a congruity effect for each kind of prime (e.g., congruity effect for men and congruity effect for women). This approach will be used in the current study to compare the relative associations between moral and non-moral attitudes for objectivity-subjectivity and universality-autonomy.

Sequential priming may be a better measure of the morality-objectivity association and the morality-universality association than the IAT for a few reasons. First, as previously mentioned, the procedure does not require responding to the prime, in the present study the objectivity-subjectivity and universality-autonomy stimuli. This means that more abstract conceptualizations of objectivity and universality may be used. Second, sequential priming lends itself to examining specific relative associations. In particular, for the universality trials, the relationship between moral attitudes and universality and the association between moral attitudes and autonomy can be examined using a 2 (prime) x 2 (target) interaction, in addition to a basic congruity effect. Third, in sequential priming, the objectivity and universality primes can be presented within the same task, allowing for simultaneous assessment not possible with an IAT.

Current Study

The current study used a sequential priming paradigm to measure associations between moral attitudes and two dimensions, universality and objectivity. Participants completed a

sequential priming task consisting of both objectivity/morality trials and universality/morality trials. For these trials, primes were either be objectivity-subjectivity related words (e.g., RULE; PREFERENCE, respectively) or universality-autonomy related words (e.g., SHARED; PRIVATE, respectively). Targets were idiosyncratic attitude objects that participants responded to with a moral or non-moral judgment. Targets were selected after participants indicated their moral stance toward a variety of issues through simple moral/non-moral categorization (moral conviction served as a manipulation check).

The hypothesis was that there is an association between objectivity and morality and that there is an association between universality and morality. This hypothesis was represented with a prediction that there is a significant main effect of congruity for each task, where participants respond faster to the congruent trials than to the incongruent trials. In the objectivity task, congruent trials consisted of objectivity primes followed by moral attitudes and subjectivity primes followed by non-moral attitudes. Incongruent trials consisted of objectivity primes followed by non-moral attitudes and subjectivity primes followed by moral attitudes. In the universality task, congruent trials consisted of universality primes followed by moral attitudes and autonomy primes followed by non-moral attitudes. Incongruent trials consisted of universality primes followed by non-moral attitudes and autonomy primes followed by moral attitudes. Figure 3 illustrates the predicted congruity effects for each task.

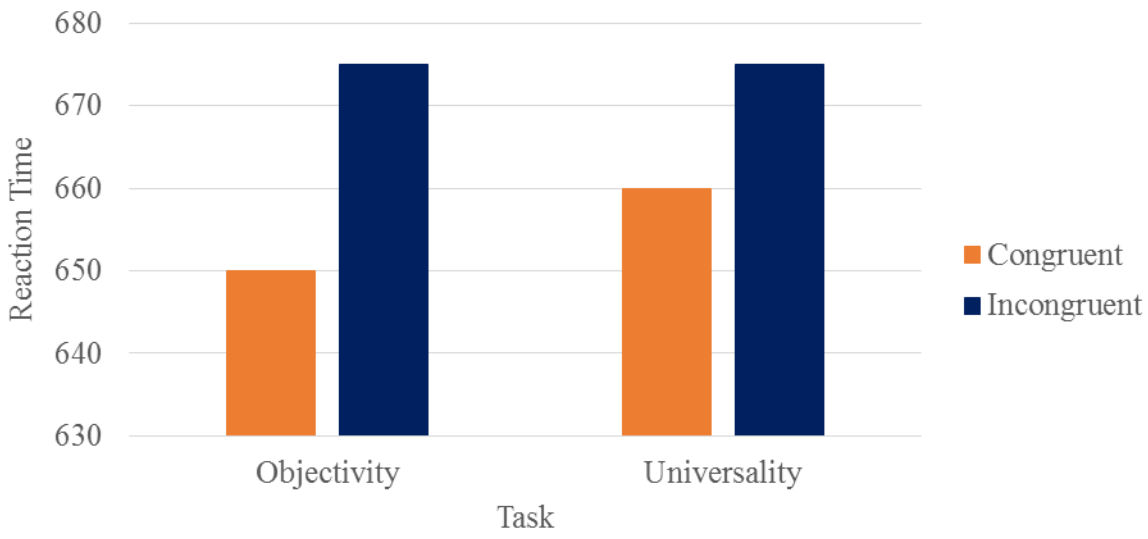

Figure 3. Predicted congruity effects for objectivity and universality.

I also examined the interaction between task and trial congruity because previous research showed significant objectivity effects but only trending universality effects (Kidder & Crites, 2015). This interaction may be difficult to detect because both tasks are predicted to have significant results in the same direction.

Method

Participants

Two hundred ninety-five participants were recruited from the psychology participant pool, general UTEP students, and the public. A priori power analyses determined the appropriate number of participants (Faul, Erdfelder, Lang, & Buchner, 2007), based on previous research (Kidder & Crites, 2015) the parameters for the analysis were: d = 0.12 or $f = 0.06$; that analysis indicated a suggested sample size of 190 participants ($p = .05$, $r_{\text{between measures}} = 0.85$, $1\text{-}\beta = 0.85$). Additional participants were collected to offset problems with data collection and participant ineligibility (eligibility requirements are described below).

Design

The current study is a 2 (association: objectivity or universality) x 2 (trial congruity: congruent or incongruent) within-subjects design. The dependent variable is reaction time.

Measures

Moral Attitude Identification. Participants identified moral and non-moral attitudes from a list of 17 social issues (e.g., abortion rights, gay marriage, immigration reform, military drones; complete list in Appendix A). Participants saw the prompt "Regardless of your stance, indicate whether the following social issues are related to your morals or unrelated to your morals." Then, for each issue, participants categorized whether the issue is a moral issue, not a moral issue, or that they are undecided.

Priming Task. Participants completed a sequential priming task that measured both moral objectiveness and moral universalism. During the task participants saw both objectiveness trials (objectivity task) and universalism trials (universality task). All trial types were randomly presented. Table 1 illustrates the prime-target pairing for the congruent and incongruent trials for the objectivity task and the universality task.

Table 1. *Coding of Trial Congruency*

Objectivity Priming Task		Universality Priming Task	
Congruent Trials	Incongruent Trials	Congruent Trials	Incongruent Trials
Objectivity Primes + Moral Targets	Objectivity Primes + Non-moral Targets	Universality Primes + Moral Targets	Universality Primes + Non-Moral Targets
Subjectivity Primes + Non-moral Targets	Subjectivity Primes + Moral Targets	Autonomy Primes + Non-Moral Targets	Autonomy Primes + Moral Targets

For each task, there were two kinds of primes. For the objectiveness task participants saw primes related to objectivity (Fact, Reality, Rule, Law) and primes related to subjectivity (Opinion,

Preference, View, Belief)[1]. For the universalism task, participants saw primes related to universality (e.g., Collective, Social, Group, Shared) and primes related to autonomy (e.g., Independent, Personal, Private, Individual)[2]. Across the sub-tasks targets were the moral and non-moral attitudes selected from the moral attitude identification survey. On each trial participants categorized the targets as moral or non-moral. Each target was presented and categorized 20 times across the task. Previous research has demonstrated significant effects with similar repetitions in sequential priming (e.g., Bean et al. 2013; Dickter, 2006; Judd et al. 2004).

The trial sequence in the priming task was as follows: primes were presented for 250ms followed by an inter-stimulus interval of 50ms, then targets were presented until a judgment was made. The inter-trial interval was 2000ms (see Figure 4 for illustration). Participants completed a total of 112 trials, including 16 practice trials. The 48 Objectivity (12 moral/fact, 12 non-moral/fact, 12 moral/opinion, and 12 non-moral/opinion) and 48 Universality trials (12 moral/universal, 12 non-moral/universal, 12 moral/autonomy, and 12 non-moral/autonomy) were intermixed and randomized. The 16 practice trials were made up of two of each of the above trial types. The critical trials were broken into three blocks of 32 trials each, with each block including four trials of each type.

[1] These primes were selected as synonyms for objective (fact) and subjective (opinion) based on the success of previous research which found significant results with the fact/opinion IAT (Kidder & Crites, 2015).

[2] These primes were based on previous research that found that endorsement of concepts of autonomy, or concern for self, and embeddedness, concern for others, predicted moral judgments (Vauclair & Fisher, 2011). From this research, adjectives that embodied the concepts of universalism and autonomy, and similar synonyms, were selected as primes.

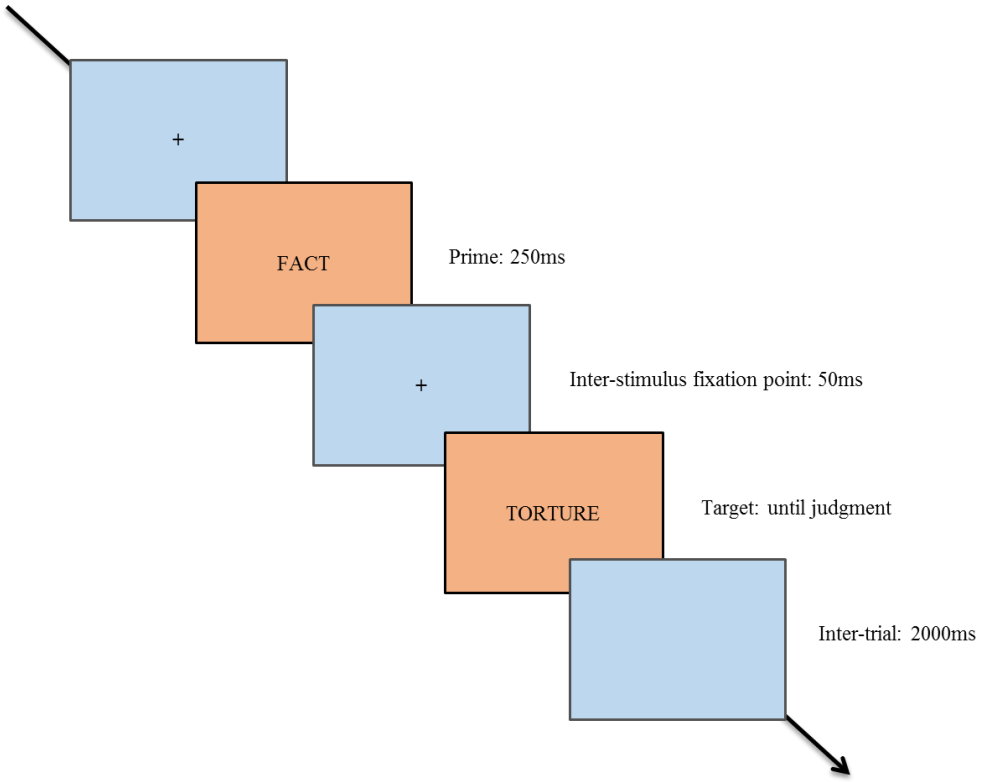

Figure 4. Sequential priming trial sequencing

During the task participants were instructed to try and remember the first word (the prime) of each word pair (prime-target) and were given a prime check at the end of each block of 32 in order to increase attention to the primes. During the prime check, participants were instructed to write down "the first word of the last word-pair you saw". Fifty-two participants misunderstood the directions during the prime check and continued writing down primes during the following blocks. Because their writing likely impacted subsequent reaction times, these participants were excluded from data analysis. Successfully completed prime checks were not checked for accuracy because the intent was merely to get participants to pay attention to the primes.

Attitude. Attitude was measured using an abbreviated scale with three items adapted from Crites, Fabrigar, and Petty (1994). Participants reported the extent to which the adjective pairs Negative-Positive, Bad-Good, and Dislike-Like describe their opinions about each issue on 7-point

bipolar scales ranging from -3 (*e.g., Negative)* to +3 (*e.g., Positive),* with midpoint 0 (*neutral*). Overall positive scores indicate a positive attitude and vice versa.

Moral Conviction. Moral conviction was measured using a four-item scale developed by Skitka (2011). Scale items are: "To what extent is your position on [issue] 1. ...a reflection of your core moral beliefs and convictions? 2. ...connected to your beliefs about fundamental right and wrong? 3. ...based on moral principle? 4. ...a moral stance?" Participants responded using a scale from 1 (*not at all*) to 7 (*extremely*). Higher scores indicate greater moral conviction.

Procedure

Upon arrival, participants completed the informed consent process. Participants then completed the moral attitude identification measure. An experimenter determined if the participant identified three moral and three non-moral attitudes. If not, the participant were debriefed, thanked, and given credit for their participation (56 participants, 19%, were dismissed at this point). If the participant met the requirements, the experiment proceeded. If participants identified more than three moral and/or non-moral attitudes, the experimenter prompted the participant to identify the three issues in each category that they felt most strongly about. The experimenter adapted the priming tasks to include the participant's moral and non-moral attitudes, by editing stimuli files linked to the programming. During that time, participants completed a demographics questionnaire (Appendix B). Next, participants were taken into the experimental room and seated in front of a computer equipped with E-prime experimental software and a QWERTY keyboard for responding (using keys "Q" and "P"). Participants were given instructions and then completed the sequential priming task and prime checks. Finally, participants were escorted out of the experimental room and reported their attitudes and moral conviction toward each issue from the task. Upon completion, participants were debriefed, thanked, and granted credit.

Results

Participant Characteristics

A total of 269 participants completed the task and surveys, of which 189 identified as Female, and 1 did not report gender. The average age was 21.62 years (*SD* = 6.99, *Min.* = 17, *Max.* = 98). Participants' political affiliation was nearly neutral (*M* = 3.67, *SD* = 1.44, Range = 6 on a 1-7 scale) leaning slightly liberal ("liberal" N = 108, "conservative = 52, "neutral" = 104). On average participants selected 6.34 issues as moral attitudes (37%). Participant's moral attitudes were primarily negative (48.4%; *M* = -3.28, *SD* = 15.35). Participants' non-moral attitudes were primarily positive (31.9%; *M* = 4.60, *SD* = 10.56).

Data from 180 participants were included in the analysis. Of the 269 participants who completed the study, fifty-six participants failed the prime check. Data from these participants were excluded. Additionally, data from thirty-three participants were excluded because the participants experienced technical problems during the computer task, failed to complete the computer task in entirety, or due to experimenter errors (e.g., repeated participant numbers).

Data Cleaning

Data cleaning procedures followed typical procedures for sequential priming paradigms (see Wittenbrink, 2007). Error trials, trials that were too fast (either 250ms or < 2 SDs below the individual mean, whichever is larger), and trials that were too slow (> 2 SDs above the individual mean) were excluded (3.8%). Following data cleaning, the remaining trails were coded as congruent or incongruent, based on the prime-target pairings. Table 1 illustrates the congruent and incongruent trial coding for each task.

Manipulation Check

Participants' moral conviction scores were measured after the priming task and were examined as a manipulation check for moral attitude identification. During the study, participants used a simple moral or non-moral categorization of social issues, in order to identify stimuli for the priming task. In order to ensure that the moral attitudes and non-moral attitudes are distinguishable, participants later reported their moral conviction towards each selected issue. The mean moral conviction score of a participant's identified moral attitudes should be larger than the mean moral conviction score of a participant's identified non-moral attitudes (Skitka &Morgan, 2014; Kidder, unpublished data). Participants who did not meet this criterion were excluded from the analysis (N = 24).

Primary Analysis

A 2 (task) x 2 (trial congruity) repeated measures ANOVA was run, with reaction time as the dependent variable. There was a marginally significant effect of task, such that participants responded slower to objectivity/subjectivity trials (M = 1150.85, SD = 588.02) than the universality/autonomy trials (M = 1115.49, SD = 504.94), $F(1,179) = 3.76$, $p = .054$. Figure 5 depicts the main effect of task.

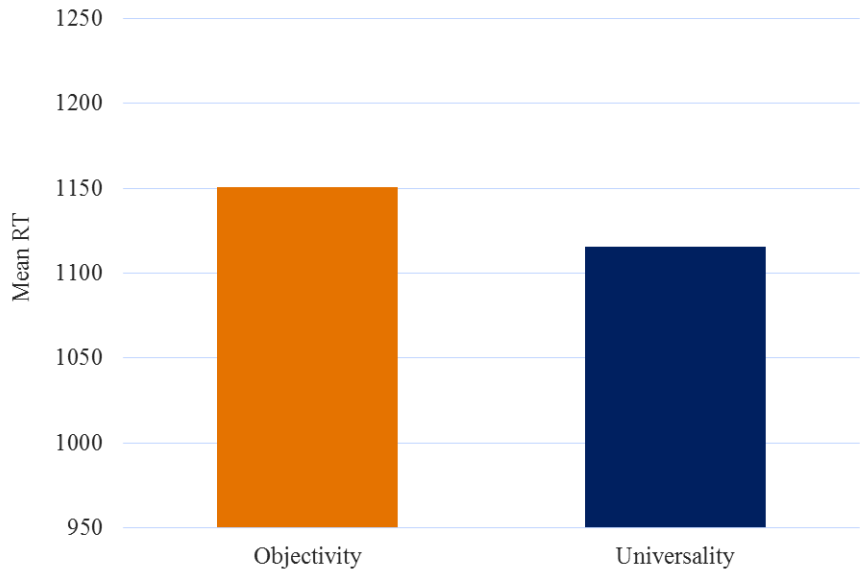

Figure 5. Main effect of task.

There was no significant congruity effect (p = .398) or interaction of congruity and task (p = 0.125; reaction times depicted in Figure 6).

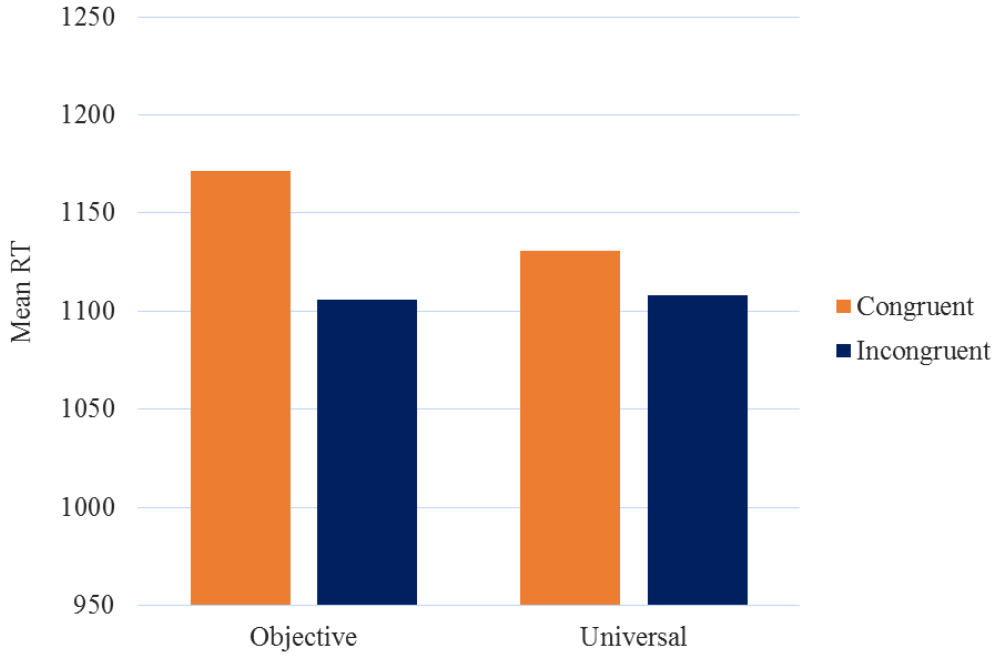

Figure 6. Congruity effects for the objectivity task and the universality task.

Exploratory Analyses

The congruity effects measured in the previous analysis (congruity main effect) can also be measured using a prime x target interaction, depending on prime-target pairings outlined in table 1. A 4 (prime) x 2 (morality) repeated measures ANOVA was run for exploratory purposes. There were no significant main effects for prime (p = .164) or target morality (p = .53). The interaction of prime and morality was also not significant (p = .985).

Because of the high repetition of targets and primes, the congruity effect was examined for block 1 only. Due to a programming error, reaction times in this block were not recorded for half of the participants, so power is limited. A paired samples t-test demonstrated no significant congruity effects, $M_{difference}$ = -14.40, SD = 324.29, $t(91)$ = -.421, p = .673. A 3 (block) x 2 (congruity) repeated measures ANOVA was also run to examine the effect of increasing repetition on congruity effects. A significant main effect of block was found, that shows a decrease in reaction times as the task proceeded, $F(2,178) = 20.09$, $p < .001$. Figure 8 depicts these results. Block three (M = 1042.33, SD = 502.93) was significantly faster than block two (M = 1163.17, SD = 580.09; $t(178) = -5.57$, $p < .001$), which was significantly faster than block three (M = 1238.80, SD = 540.75; $t(90) = -3.14$, $p = .002$).

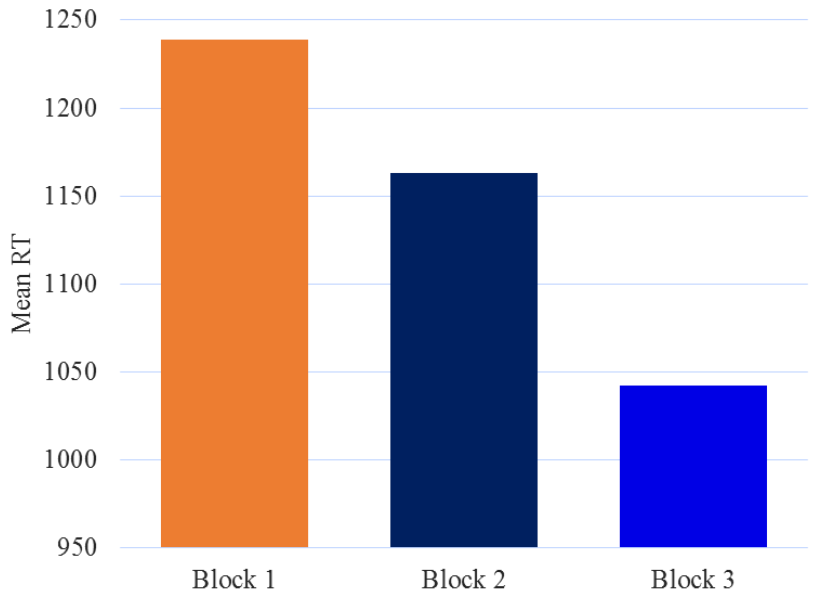

Figure 8. The main effect of block.

Discussion

The aim of the current study was to provide support for previous research that demonstrated an automatic, implicit association between moral attitudes and objectivity. Additionally, this study sought to further that previous research by finding a similar relationship between moral attitudes and universality. The hypothesis was that there is an association between objectivity and morality and an association between universality and morality. Based on this hypothesis, it was predicted that there would be a significant main effect of congruity for each task, where participants respond faster to the congruent trials (e.g., moral/fact or moral/universal) than to the incongruent trials (e.g., moral/opinion or moral/autonomy). The data did not support this hypothesis, there was no difference in reaction times for congruent and incongruent trials in either task.

Limitations

There are several limitations that may account, in part, for the lack of support of the central hypotheses. First, the primes and targets were repeated several times (seven times for each prime

and eighteen to nineteen times for targets) over the course of the task. This could be problematic because over the course of the task, participants become faster at categorizing the targets, leaving little time for the primes to facilitate responses. An analysis of the first set of 32 trials did not reveal a congruity effect suggesting that repetition of primes and targets was not a factor.

Another limitation is low power. A priori power analyses were conducted in order to determine an appropriate sample size. Because of the novelty of this research, the parameters of the analysis were loosely based on previous research that used an IAT (Kidder & Crites, 2016). In order to translate the effects of that previous research to a sequential priming task, I drew from other research that had employed both IAT and sequential priming to create an estimate. For this comparison, I used findings from stereotype research that shows sequential priming effects are approximately half the size of effects found with IATs. It is possible that this comparison was not appropriate for the current study, resulting in not enough power to detect the priming effect, if it exists.

A third factor is that the connections between morality and objectivity are too diffuse to detect in a sequential priming paradigm that relies on processes as spreading activation in memory (Collins & Loftus, 1975). With this conceptualization, shared semantic features between the prime and target creates faster reaction times because the memory of the target is partially activated by the activated memory of the prime (the encoding perspective; e.g., Fazio, 2007). It may be that, while moral attitudes may be thought of as factual and universal, they are not strongly enough tied in memory for a sequential priming paradigm to detect over the course of the 25 to 50ms that typically differentiates congruent and incongruent trials. Future research could examine this by testing whether other information that is viewed as objective, such as scientific facts, are implicitly related to concepts of fact or objectivity. Alternatively, the relationship between morality and the

constructs of universality and objectivity may not be automatically processed, and thus not appropriate for measurement using a task where automatic associations are purportedly measured. This may explain why congruity effects were observed with an IAT in previous research (Kidder & Crites, 2016), which includes more deliberative responding to both sets of stimuli and not with the sequential priming task.

Another potential limiting factor is the nature of the prime words. For the objectivity task, primes were selected based on a previous IAT, where participants made a fact-opinion categorization of various facts and opinions (Kidder & Crites, 2016). Using the fact-opinion distinction, synonyms of each word were selected as primes. Primes representing objectivity were: fact, rule, law, and reality. Primes representing subjectivity were: opinion, view, belief, and preference. Post-hoc analysis of the semantic relatedness (SR) of the primes to Fact and Opinion was informally conducted using the *Omiotis* program (Tsatsaronis, Varlamis, & Vazirgiannis, 2010). The primes "Rule", "Law", and "Reality" has high semantic relatedness to "Fact" (*SR*s = 0.031, 0.031, and 0.143, respectively). The primes "View" and "Belief" were high in semantic relatedness with "Opinion" (*SR*s = 0.33 and 0.28, respectively) whereas the prime "Preference" shows low semantic relatedness with "Opinion" (*SR* = 7.66).

The primes for the universality task were selected based on previous research which showed that endorsement of concepts of autonomy, or concern for self, and embeddedness, concern for others, predicted moral judgments (Vauclair & Fisher, 2011). Words related to autonomy and embeddedness were selected. The primes representing embeddedness or universality were: collective, social, group, and shared. The primes representing autonomy were: personal, private, independent, and individual. As with the objectivity task primes, an informal examination of the semantic relatedness of the primes to the concepts was conducted. The primes

"Social", "Group", and "Shared" had low semantic relatedness (*SR*s = 2.57, 5.65, and 5.19, respectively) with the prime "Collective" (most related to the concept of embeddedness). The prime "Private" had high semantic relatedness with the prime "Personal" (most related to the concept of autonomy; *SR* = 0.001) whereas the primes "Independent" and "Individual" had low semantic relatedness (*SR*s = 1.35 and 3.70, respectively). This informal analysis of the semantic relatedness of the primes to the constructs of interest reveal that the primes in the objectivity task were mostly related to the constructs (excluding the prime "Preference). The primes for the universality task showed mostly weak semantic relatedness to the constructs of interest, thus suggesting that the primes may not have activated the constructs of interest, which may explain the null results for that task. Future research should attempt to develop the prime stimuli to ensure that they are capturing the objectivity and universality as they relate to morality more effectively and appropriately. Researchers may also need to explore and clarify these constructs before further research in this area.

Because previous research has found a relationship between morality and objectivity, the results of the current study suggest that sequential priming may not be an effective method of measuring that association. Although sequential priming allows for less direct processing of the prime stimuli than an IAT and the ability to use more complex stimuli to capture the objectivity-subjectivity and universality-autonomy associations, it also yields smaller effects sizes, making it more difficult to detect an effect. Although increasing sample size is one way to determine whether the null results were a result of power issues, the number of participants one would have to collect makes this undesirable, particularly since the IAT that measured the association between objectivity and morality works and requires far fewer participants. Because of the earlier observed effectiveness of the IAT in revealing effects not observed in the present experiment, future research

should continue to develop the IAT as an implicit measure of moral objectiveness and moral universalism. Future research should also turn to other implicit measures, as other tasks may allow for better or different conceptualization of objectivity and universality. Future research should also examine the implicit and explicit measures of the relationship between these concepts simultaneously to determine their predictive validity. Specifically, whether the implicit measures reveal anything above and beyond the explicit measures.

The focus of study one was to provide further evidence that objectiveness and universality are part of the structure of moral attitudes through implicit measures. Study two examined another aspect of moral attitudes; the consequences of moral attitudes on perceptions of others.

Study 2

The consequences of moral attitudes are seen in changes in perceptions and behaviors, as discussed above. Studies examining the impact of moral attitudes on behavior have demonstrated that moral conviction influences physical and social distance (Skitka, Bauman, & Sargis, 2005), political engagement (Skitka & Bauman, 2008), and deviant behaviors (Mullen & Nadler, 2008). Further research has also shown that moral attitudes influence our perceptions of fairness of outcomes and processes (Skitka, Bauman, & Lytle, 2009; Bauman & Skitka, 2009; Skitka & Houston, 2001) and of legitimacy and trust in authority (Skitka et al., 2009; Wisneski, Lytle, & Skitka, 2009).

While there are several studies examining these consequences, there are no studies examining the mechanisms that lead to these consequences. For instance, increased moral conviction leads to increased social and physical distance from attitudinally dissimilar others (Skitka et al., 2005). Why do individuals strive to create this distance? Does knowing someone's moral attitude alter one's perception of that person? The current study is an exploratory look at how moral attitudes influence person perception, specifically examining the perceived trustworthiness and expertise of political candidates with similar or dissimilar attitudes.

This research question is essentially one of person perception. Fiske et al. (2007) hypothesized that there are two components that are particularly important to person perception: warmth and competence. Perceptions of warmth (e.g., sincerity, trust) tell us that the person has good intentions toward us whereas perceptions of competence (e.g., intelligence, efficacy) tell us that the person can carry out those intentions. Fiske and colleagues demonstrated that if a person is perceived as both warm and competent, they evoke primarily positive feelings and behaviors. Similarly, if a person is perceived as neither warm nor competent, they evoke primarily negative

feelings and behaviors. If a person is perceived as only warm or only competent, they generally invoke feelings of ambivalence. The current study will explore perceptions of warmth (i.e., trust) and competence (i.e., expertise).

The proposed model of the relationships explored in the current study is illustrated in Figure 9. The major components of the model are attitude similarity, the extent to which participants agree with the attitude of the politician; and moral conviction, the extent to which the participants ground their attitude in their moral beliefs. The dependent variables are: trust (measurement of warmth), expertise (measurement of competence), and voting. During the study, participants read vignettes about political candidates that include information about the candidates' moral stance on abortion rights or the use of torture in interrogation. After learning about the candidate, participants rated candidates on perceived trustworthiness and expertise. Participants also indicated whether or not they would vote for the candidate. After learning about and rating the candidates, participants indicated their own attitude and moral conviction toward each issue (abortion rights and torture). The attitude measure was be transformed depending on the candidates' stance (support or oppose) into a measure of attitude similarity between the participant and the candidate. Previous research offers some insight into the relationships between attitudes similarity, moral conviction, and perceptions of warmth and competence. Below, the predictions of the current study are described and the relevant research is discussed.

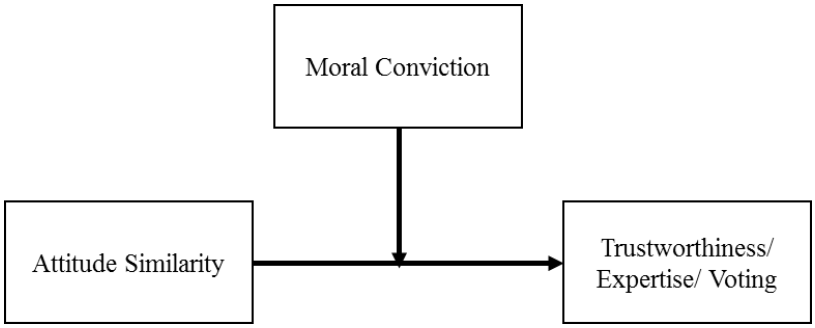

Figure 9. Proposed moderated relationship for attitude similarity and trustworthiness.

The first prediction for the current study was that attitude similarity would be directly related to perceptions of trustworthiness, and was moderated by moral conviction such that an increase in moral conviction would strengthen the relationship between attitude similarity and trustworthiness. Participants who have high agreement with the candidate would rate them higher in trustworthiness, especially if the issue at hand is one for which they have high moral convictions about. Research on the role of warmth and competence in interpersonal relationships provides some support for this prediction. Singh and colleagues (2015) examined the role that attitude similarity has on attraction, focusing on the mediating role of trust because of its relationship with perceptions of intent in the Warmth-Competency hypothesis of person perception (Fiske & Durante, 2014). They found that when participants believed their partner had similar attitudes, they were rated as more attractive and more trustworthy (Singh et al., 2015). This finding supports the relationship between attitude similarity and trust in the proposed model. There is little research to support the proposed moderating role of moral conviction in this model, however Wisneski and colleagues (2009) linked increases in moral conviction to differences in perceived trust in authority (as discussed previously) which may transfer to the current context. This study sought to combine these research findings and directly measure how these three concepts relate.

The second prediction for the study was that attitude similarity would be directly related to perceptions of expertise, and was moderated by moral conviction, such that an increase in moral

conviction would strengthen the relationship between attitude similarity and expertise. Participants who have high agreement with the candidate would rate them higher in expertise, especially if the issue at hand is one for which they have high moral convictions about. Some research that may support the moderating role of moral conviction on attitude similarity and expertise (i.e., competence) is the research of Skitka and colleagues (2009) that showed that increased moral conviction led to differences in perceptions of the legitimacy of the Supreme Court, depending on whether the outcome was similar or dissimilar to the participant's own attitude. While legitimacy is not necessarily a measure of expertise, the two concepts may be related. This study examined expertise specifically, and explore the relationship between expertise, moral conviction, and attitude similarity directly.

The final prediction for the current study was that attitude similarity would be directly related to voting behavior, and was moderated by moral conviction, such that an increase in moral conviction would strengthen the relationship between attitude similarity and voting behavior. Participants who have high agreement with the candidate will be more likely to vote "yes" for them, and would support them if they ran in an election—especially if the issue at hand is one for which they have high moral convictions about. Research from Skitka and Bauman (2009) supports this prediction. The researchers polled voters during the 2000 and 2004 elections and show that moral conviction scores uniquely contributed to variance in voting behavior even when controlling for other factors. Research also shows that some people focus on a single issue when voting (Congleton, 1991). While this research makes no direct links to moral conviction, Congleton suggests that single-issue voters are either 1) zealots, 2) economically motivated, or 3) a part of a special interest group; it is not a stretch to think that perhaps persons who fit into the first or third categories, might be morally motivated, potentially offering more support for this proposed model.

This study attempted to extend the previous research by combining their findings and exploring how attitude similarity, moral conviction, and voting behavior relate.

While research from various areas in psychology seem to support the proposed models of the current study, this dissertation will examine these questions directly by exploring how attitude similarity is related to perceptions of a fictional politician's trustworthiness and expertise, and participants willingness to vote for and support the candidate. It will also explore the moderating role of moral conviction in these relationships.

Method

Participants

Data from 331 participants were collected. One hundred sixty-four participants were recruited from the psychology participant pool and were given partial course credit for their participation. An additional 175 participants were recruited from Amazon's MTurk. MTurk participants were paid $0.50 for their participation. Sample size was estimated from previous research using moderation to assess similar concepts (e.g., source credibility; Pornpitakpan & Francis, 2000), which found significant interactions with a sample of 261 participants. Because the power of moderation where the moderator and criterion variables are continuous is low (McClelland & Judd, 1993), data from additional participants were collected to increase the likelihood of detecting the effect.

Design

The current study was a within-subjects design. Attitude similarity was the predictor variable and moral conviction was a moderator variable. The criterion variables were trustworthiness, expertise, voting choice, and candidate support.

Measures

Political Vignettes. Participants read two political vignettes that describe fictitious politicians. For each vignette, either Torture or Abortion Rights was identified as a central issue for the candidate's campaign. Participants were randomly assigned to view vignettes where the politicians support or oppose the issues. Because Torture and Abortion Rights are generally supported by different parties, this should allow participants to make personality ratings for a candidate with a similar attitude and a candidate with a dissimilar attitude. The vignettes included other neutral information that were equated across the candidates (e.g., hobbies, behaviors, beliefs) and were accompanied by a photo of real politician (during debriefing, participants were informed that the pictures were of real people but that the information presented in the vignettes were not representative of the persons depicted). The full vignettes are located in Appendix C. Pilot testing revealed no significant differences on any of the variables of interest, or the distractor variables between the candidate vignettes (analyses are located in Appendix D). Table 2 shows the possible vignette pairings shown to participants.

Table 2. *Vignette Pairings for Study 1*

Presentation Order	William	George
1	Oppose Abortion: "William is focusing on restricting abortion rights."	Oppose Torture: "George is focusing on eliminating the use of torture in interrogations"
2	Support Abortion: "William is focusing on supporting abortion rights."	Support Torture: "George is focusing on supporting the use of torture in interrogations"
3	Oppose Torture: "William is focusing on eliminating the use of torture in interrogations"	Oppose Abortion: "George is focusing on restricting abortion rights."
4	Support Torture: "William is focusing on supporting the use of torture in interrogations"	Support Abortion: "George is focusing on supporting abortion rights."

Trustworthiness and Expertise. Trustworthiness and expertise were measured using an abbreviated scale of source-credibility developed by Ohanian (1990). Five semantic differentials measured candidate trustworthiness: Dependable-Undependable, Honest-Dishonest, Reliable-

Unreliable, Sincere-Insincere, and Trustworthy-Untrustworthy. Five additional semantic differentials measured candidate expertise: Experienced-Inexperienced, Expert-Not an Expert, Knowledgeable-Unknowledgeable, Qualified-Unqualified, and Skilled-Unskilled. Participants responded using a 7-point scale ranging from 1 (*e.g., Undependable)* to 7 (*e.g., Dependable)*, with midpoint 4 (*neutral*). Higher scores indicate greater trustworthiness and expertise. These scale items were part of a longer survey assessing a variety of other personality dimensions such as attractiveness in order to blind the participants to the variables of interest. Sincerity and Experience items were presented to participants in the reverse order (i.e., Insincere-Sincere). The full scale is located in Appendix B. All items were presented in random order.

Voting. Participants were asked "if [candidate name] were running in an upcoming election, would you vote for them?" casting a "yes" or "no" vote for each politician. Participants also indicated the extent to which they would support the candidate on a 7-point Likert-type scale, 1 (strongly oppose), 4 (neither support nor oppose them), 7 (strongly support).

Attitude. Attitude was measured using an abbreviated scale with three items adapted from Crites, Fabrigar, and Petty (1994). Participants reported the extent to which the adjective pairs Negative-Positive, Bad-Good, and Dislike-Like describe their opinions about each issue on 7-point bipolar scales ranging from 1 (*e.g., Negative)* to 7 (*e.g., Positive)*, with midpoint 4 (*neutral*). Higher scores indicate a more positive attitude.

Attitude Similarity. Attitude similarity was calculated from the attitude scale. When participants responded to vignettes that support the issues, high attitude scores (positive/support) represent high attitude similarity and vice versa. When participants responded to vignettes that oppose the issues, attitude was reverse coded so that high attitude scores (negative/oppose) represent high attitude similarity.

Attitude Strength. Attitude strength was measured using a measure of attitude importance. Attitude importance measured how important the expressed attitude is to the participant (Krosnick, et al., 1993). There are 3-items: 1) "how important is [issue] to you personally?" 2) "how much does [issue] mean to you?" and 3) "how important is [issue] compared to other issues?". Participants responded to each item on a scale from 1 *(not at all)* to 7 *(extremely)*. Higher scores indicate greater importance.

Moral Conviction. Moral conviction was measured using a four-item scale developed by Skitka (2011). Scale items are: "To what extent is your position on [issue] 1. ...a reflection of your core moral beliefs and convictions? 2. ...connected to your beliefs about fundamental right and wrong? 3. ...based on moral principle? 4. ...a moral stance?" Participants responded using a scale from 1 (*not at all*) to 7 (*extremely*). Higher scores indicate greater moral conviction.

Procedure

This study was conducted online (Qualtrics, 2015). Participants were provided a link through which they completed the informed consent process and then were redirected to a separate webpage to complete the experiment. First, participants learned about two politicians and rated them on trustworthiness, expertise, and other distractor traits (as described above), indicated their "vote" and their support for the candidate. Next, participants reported their attitude and moral conviction toward Abortion Rights and Torture in Interrogation, and then filled out a demographics form (Appendix B). Upon completion participant were debriefed, thanked, and granted credit or paid.

Results

Participant Characteristics

A total of 331 participants were collected, of which 201 identified as Female, and 3 did not report gender. The average age was 28.2 years (*SD* = 11.77, *Min.* = 17, *Max.* = 78 Participants' political affiliation was nearly neutral (*M* = 3.55, *SD* = 1.43, Range = 6 on a 1-7 scale) leaning slightly liberal ("liberal" N = 148, "conservative = 75, "neutral" = 106).

Data Cleaning

Surveys were examined for quality in three ways. At the beginning of the survey, participants will be prompted to enter a unique eight-digit identifier (last four digits of phone number + month/day of birth). If an identifier is linked to multiple surveys, the first completed survey was retained and the additional surveys were not included in analysis (N = 3). Second, data from participants who failed the response check question embedded in the personality trait survey (e.g., "skip this question") were excluded from analyses (N = 56). Finally, survey response times were examined in order to identify participants who likely did not read the vignettes or questions. Participants who responded more than two standard deviations faster than the overall average response time, were to be excluded from analyses, however no participants met this criterion.

Moderation Models

The primary analysis examined the relationship between attitude similarity and each personality trait. Figure 9, above, shows an example model of the proposed moderation relationships. Separate models for each dependent variable and each issue were run, for a total of six models.

The moderation models were assessed using multiple regression with a two-way interaction. Equation 1 illustrates the regression equation that was used to analyze and interpret these interactions.

$$Y = b_0 + b_1(AS) + b_2(MC) + b_3(AS * MC) + e \quad \text{(Equation 1)}$$

In this equation, AS is attitude similarity, MC is moral conviction, and AS*MC is the interaction between attitude similarity and moral conviction. Y is the criterion variable, either trustworthiness, expertise, or vote. The models of Trustworthiness, Expertise, and Voting Support were run using an Ordinary Least Squares (OLS) Regression Model. The model of Voting Behavior was run using a Logistic Regression.

Trustworthiness models. Trustworthiness was measured by five items: Dependable, Honest, Sincere, Trustworthy, and Reliable. A mean trustworthiness score was entered as the criterion variable, with attitude similarity, moral conviction, and the interaction between moral conviction and attitude similarity entered as predictor variables.

Abortion. The overall model did not predict the variance in perceived trustworthiness of the candidates (R^2 = 0.007, *SE* = 4.12, $F(3,269) = 0.644$, $p = .587$). Attitude similarity ($M = 4.05$, $SD = 1.82$), moral conviction ($M = 4.91$, $SD = 1.65$), and the interaction of moral conviction and attitude similarity ($M = 19.87$, $SD = 11.53$) did not significantly predict trustworthiness ($M = 5.06$, $SD = 4.11$; all p's > .55).

Torture. The overall model significantly predicted the variance in perceived trustworthiness of the candidates (R^2 = 0.049, *SE* = 1.23, $F(3,265) = 4.507$, $p = .004$; model is depicted below, in Figure 10). Although the overall model was significant, none of the individual predictors were significant (all ps > .12)

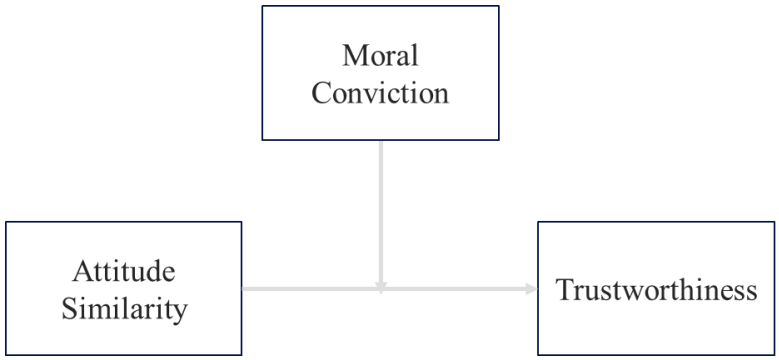

Figure 10. The overall moderation model for trustworthiness for the issue of torture.

Group differences. Because participants were recruited from different sources, post-hoc analyses were conducted to determine if the two samples differed on the variables of interest. For the issue of torture, an independent samples t-test showed that MTurk participants (M = 5.02, SD = 1.29) rated the candidates significantly lower on trustworthiness than the UTEP sample (M = 5.42, SD = 1.20), $M_{difference}$ = -0.40, $SE_{diference}$ = 0.14, $t(328) = -2.870$, p = .004. The significant group differences means that group membership was a significant predictor of trustworthiness (β = 0.388, t = 2.832, p = .005). This group difference did not hold for the issue of abortion $t(328)$ = .660, p = .510.

Expertise models. Expertise was measured by five items: Experienced, Expert, Knowledgeable, Qualified, and Skilled. A mean expertise score was entered as the criterion variable, with attitude similarity, moral conviction, and the interaction between moral conviction and attitude similarity were entered as predictor variables.

Abortion. The overall model did not predict the variance in perceived expertise of the candidates (R^2 = 0.007, SE = 5.30, $F(3,269) = 0.65$, p = .582). Attitude similarity, moral conviction, and the interaction of moral conviction and attitude similarity did not significantly predict expertise (all p's > .68).

Torture. The overall model did not predict the variance in perceived expertise of the candidates (R^2 = 0.022, *SE* = 1.17, $F(3,265) = 1.962$, $p = .120$). Attitude similarity, moral conviction, and the interaction of moral conviction and attitude similarity did not significantly predict expertise (all *p's* > .18).

Group differences. Because participants were recruited from different sources, post-hoc analyses were conducted to determine if the two samples differed on the variables of interest. For the issue of torture, an independent samples t-test showed that MTurk participants ($M = 5.21$, $SD = 1.20$) rated the candidates significantly lower on expertise than the UTEP sample ($M = 5.77$, $SD = 1.09$), $M_{difference} = -0.56$, $SE_{diference} = 0.13$, $t(328) = -4.42$, $p < .001$. The significant group differences means that group membership was a significant predictor of expertise ($\beta = 0.549$, $t = 4.30$, $p < .001$). This group difference did not hold for the issue of abortion, $t(328) = .919$, $p = .359$.

Candidate Support. Due to technical errors, candidate support was not collected for the undergraduate participants. The moderation models were run with the remaining 175 participants from MTurk.[3]

Candidate support was measured with one item ("To what extent would you support this candidate?"). This item was entered as the criterion variable, with attitude similarity, moral conviction, and the interaction between moral conviction and attitude similarity were entered as predictor variables.

Abortion. The overall model significantly predicted the variance in support for the candidates ($R^2 = 0.289$, $SE = 1.57$, $F(3,150) = 20.30$, $p < .001$). Attitude similarity ($M = 4.20$, $SD = 2.09$) was the only significant predictor of candidate support ($M = 4.38$, $SD = 1.84$; $\beta = 0.65$, $t =$

[3] Although participants were limited, post-hoc power analyses revealed high power ($1 - \beta > .987$).

2.843, $p = .005$) as depicted in Figure 11. Moral conviction and the interaction of moral conviction and attitude similarity did not significantly predict support for the candidates.

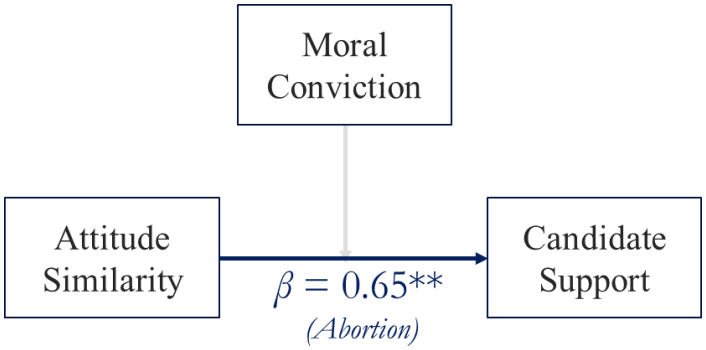

Figure 11. The moderation model for candidate support for the issue of abortion.

Torture. The overall model significantly predicted the variance in candidate support (R^2 = 0.134, SE = 1.57, $F(3,151) = 7.820$, $p < .001$). Although the overall model was significant, none of the individual predictors were significant (all ps > .16).

Voting Choice. As with candidate support, voting choice was not collected for the undergraduate participants. The moderation models were run with the remaining 175 participants from MTurk.

Voting choice was measured with one "Yes" or "No" choice item. This item was entered as the criterion variable, with attitude similarity, moral conviction, and the interaction between moral conviction and attitude similarity were entered as predictor variables.

Abortion. The overall model significantly predicted voting choice (pseudo $R^2 = 0.247$; χ^2 (1, N = 154) = 31.35, $p < .001$). Attitude similarity was the only significant predictor of vote (β = -1.06, SE = 0.40, $p = .008$), such that as attitude similarity increased, participants were more likely to vote "yes" for the candidate, as depicted in Figure 12. Moral conviction and the interaction of moral conviction and attitude similarity did not significantly predict vote.

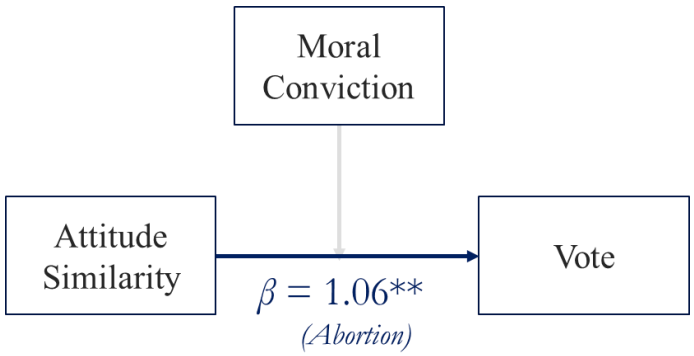

Figure 12. The moderation model for vote for the issue of abortion.

Torture. The overall model significantly predicted the variance in voting choice (pseudo $R^2 = 0.129$; χ^2 (1, N = 154) = 15.66, $p = .001$). Although the overall model was significant, none of the individual predictors were significant (all ps > .06).

Hierarchical Models

The second analytic approach examined the significant models in comparison to attitude strength (measured by attitude importance) to determine if the model components predicted trustworthiness and competence above and beyond attitude strength. This model was assessed using hierarchical regression. In Block 1, Attitude Importance and Gender were entered. Block 2 include Moral Conviction, Block 3 included Attitude Similarity, and Block 4 included the interaction between Moral Conviction and Attitude Similarity.

The overall model significantly predicted the variance in perceived trustworthiness of the candidates, starting in Block 3 ($R^2 = 0.045$ $SE = 1.24$, $F(1,264) = 8.665$, $p = .004$). Attitude similarity was the only significant predictor of trustworthiness ($\beta = -0.14$, $t = -2.94$, $p = .004$). Adding the interaction of attitude similarity and moral conviction did not significantly change the model ($R^2\Delta = 0.008$, $SE = 1.24$, $F\Delta(1,264) = 2.29$, $p = .131$).

Factor Analysis

Although the measures used in the present study were used previously to measure perceptions of trustworthiness and expertise, they were not used specifically for politicians. Factor analyses were conducted for the trustworthiness scale and the expertise scale (collapsed across issues) using a Principle Component Analysis approach.

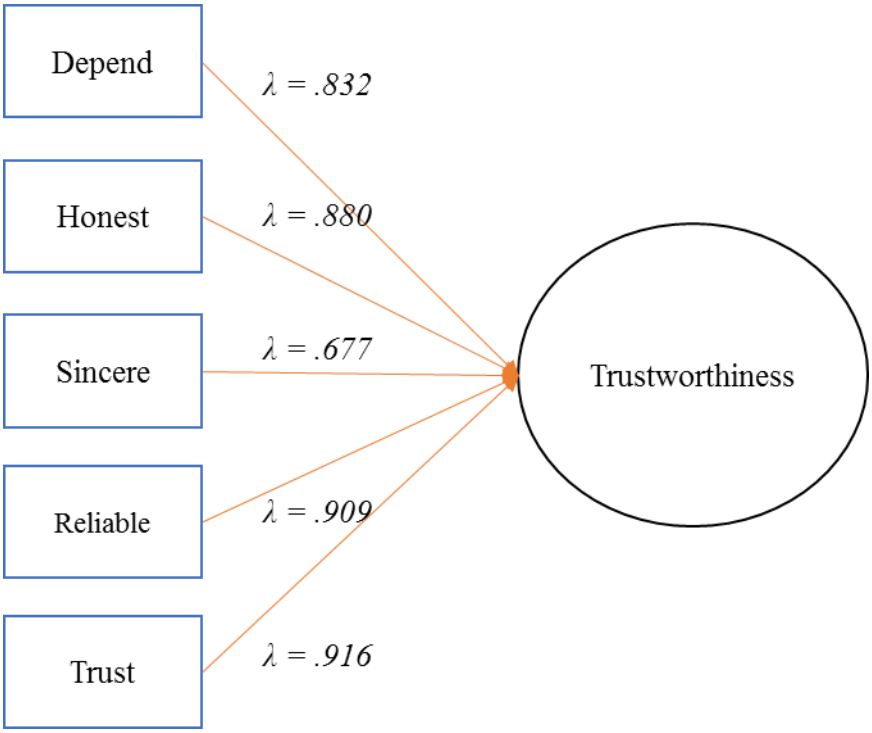

Figure 13. The factor loading of items on the trustworthiness scale.

Trustworthiness. The confirmatory factor analysis is depicted in Figure 13. All items from the trustworthiness scale loaded onto one factor accounting for 71.78% of the variance of ratings. All items loaded highly on this factor, suggesting that this factor measures "Trustworthiness". The scale also demonstrated high reliability in the sample (*Cronbach's* α = .889).

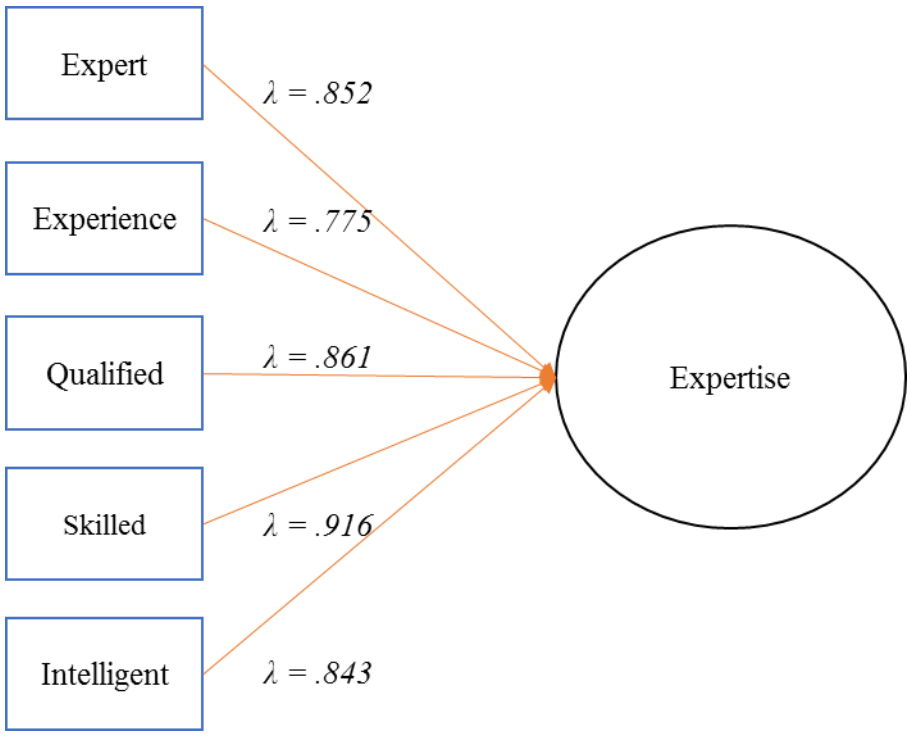

Figure 14. The confirmatory factor analysis of expertise.

Expertise. The confirmatory factor analysis is depicted in Figure 14. All items from the expertise scale loaded onto one factor accounting for 72.37% of the variance of ratings. All items loaded highly on this factor, suggesting that this factor measures "Expertise". The second factor accounted for 19.03% of the variance of ratings. The scale also demonstrated high reliability in the sample (*Cronbach's* α = .898).

Distractor items. An additional factor analysis was conducted on the distractor items included in the questionnaire, in order to identify a possible third measure that could be used to complete exploratory analyses. Five total factors were identified. The first factor accounted for 35.05% of the variance in ratings. The items that loaded highly on this factor included Confident, Sociable, Secure, and Conscientious; the exploratory factor analysis model is depicted below in Figure 15. These items suggest that this factor measures "Charm". The second factor accounted for 12.58% of the variance of ratings. The factor loadings split across the two issues, suggesting

that this factor represents issue differences. The additional factors account for approximately 18% of the remaining variance, however these factors account for single items, such as Aggression and Attraction.

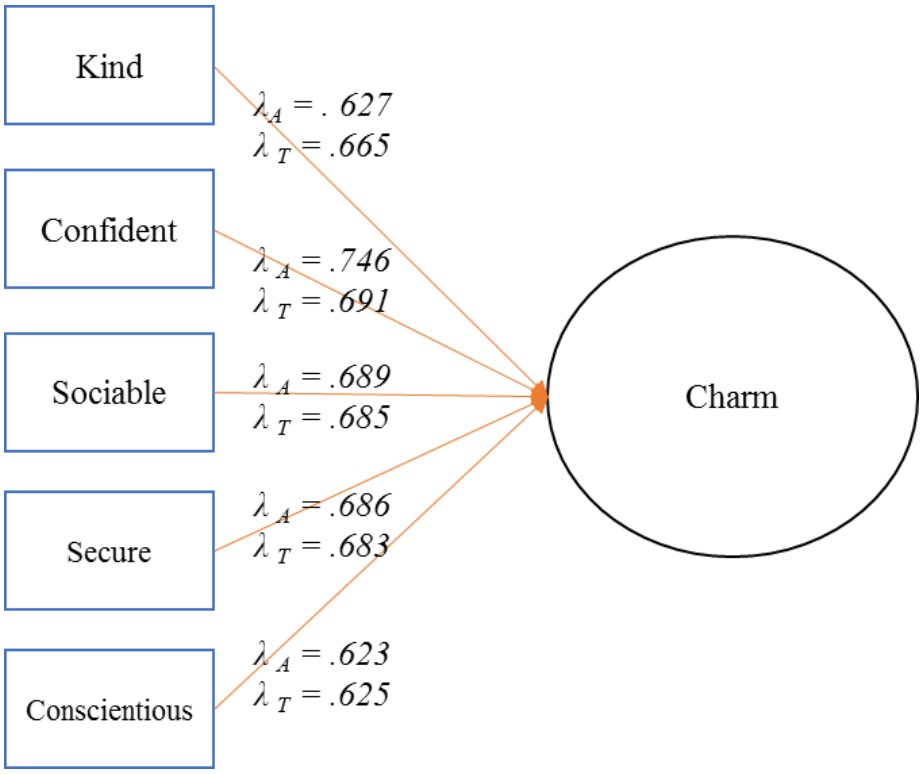

Figure 15. The exploratory factor analysis for charm. λ_A indicates the factor loadings for abortion, λ_T indicates the factor loadings for torture.

Exploratory Analyses

Charm Models[4]. An exploratory model was run to determine if moral conviction moderates the relationships between attitude similarity and trustworthiness, expertise, and voting, for the distractor traits identified as "Charm" in the factor analysis. There is no theoretical evidence that Charm may be affected by the predictor variables. The proposed model is the same as the

[4] An exploratory hierarchical regression was run for the charm model that included Gender as a predictor. No models were significant.

previous models, with charm as the criterion variable and attitude similarity, moral conviction, and the interaction between attitude similarity and moral conviction were the predictor variables.

Abortion. The overall model did not predict the variance in perceived charm of the candidates ($R^2 = 0.006$, $SE = 5.44$, $F(3,269) = 0.52$, $p = .674$). Attitude similarity, moral conviction, and the interaction of moral conviction and attitude similarity did not significantly predict charm (all p's $> .77$).

Torture. The overall model significantly predicted the variance in perceived charm of the candidates ($R^2 = 0.060$, $SE = 1.13$, $F(3,264) = 5.59$, $p = .001$). The interaction between moral conviction and attitude similarity was the only significant predictor of perceived charm ($\beta = -0.55$, $t = -2.02$, $p = .045$) such that participants with low attitude similarity-low moral conviction toward torture, rated the candidate in higher charm.

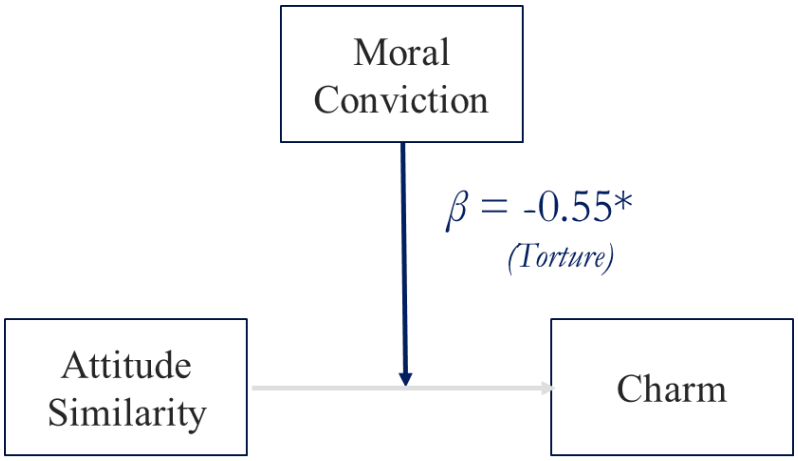

Figure 16. The exploratory moderation model for Charm for the issue of Torture.

Political Affiliation Models. The two issues at stake in the current study, abortion rights and the use of torture in interrogation, were selected because liberals and conservatives generally have opposing views on them. Because of this, exploratory hierarchical models were run to determine whether political affiliation predicted trustworthiness, expertise, vote, and candidate

support. And whether the extent of attitude similarity predicted vote and candidate support above and beyond political affiliation. Political affiliation was entered in Block 1, Moral Conviction in Block 2, Attitude Similarity in Block 3, and the interaction between Moral Conviction and Attitudes Similarity in Block 4.

Trustworthiness. For the issue of torture, political affiliation was a significant predictor of trustworthiness across the blocks, such that increased conservativeness predicted increased perceptions of trustworthiness, $\beta = 0.148$, $t = 3.05$, $p = .002$. For the issue of abortion, political affiliation did not predict trustworthiness ($p = .802$).

Expertise. For the issue of torture, political affiliation was a significant predictor of expertise across the blocks, such that increased conservativeness predicted increased perceptions of expertise, $\beta = 0.126$, $t = 2.76$, $p = .006$. For the issue of abortion, political affiliation did not predict expertise ($p = .647$).

Candidate Support. For the issue of torture, political affiliation was a significant predictor of candidate support across the blocks, such that increased conservativeness predicted increased support for the candidate, $\beta = 0.152$, $t = 2.00$, $p = .048$. For the issue of abortion, political affiliation did not predict candidate support ($p = .573$). When moral conviction is added to the model, moral conviction was a significant predictor of candidate support ($\beta = 0.228$, $t = 2.72$, $p = .007$) such that increased moral conviction led to greater candidate support. When attitude similarity is added to the model coral conviction remains a significant predictor ($\beta = 0.162$, $t = 2.18$, $p = .031$). Attitude similarity is also a significant predictor ($\beta = 0.419$, $t = 7.07$, $p < .001$), such that increased attitude similarity predicts increased candidate support. In the final block, when the interaction between moral conviction and attitude similarity is added, moral conviction is no longer a significant

predictor (p = .239), however attitude similarity, on its own, remains significant (β = 0.462, t = 2.37, p = .019).

Vote. Vote was run as described above, using a binary logistic regression. For torture, political affiliation predicted vote at a moderately significant level (β = -.185, SE = 0.96, p = .053) such that more conservative participants were more likely to vote "yes" for the candidate. When moral conviction was added to the regression, political affiliation as a predictor became significant (β = -.246, SE = 0.10, p = .016), and moral conviction was a significant predictor such that participants higher in moral conviction were more likely to vote "yes" for the candidate (β = -.207, SE = 0.10, p = .043). When attitude similarity was added in the third block, political affiliation (β = -.298, SE = 0.11, p = .006) and moral conviction (β = -.254, SE = 0.11, p = .020) remained significant predictors of vote. Attitude similarity was also a significant predictor of vote (β = .437, SE = 0.11, p < .001) such that increased attitude similarity predicted the likelihood of voting "no". When the interaction between moral conviction and attitude similarity was added in Block 4 of the regression, only political affiliation (β = -.318, SE = 0.11, p = .004) and moral conviction (β = -.697, SE = 0.32, p = .029) remained significant, with attitude similarity becoming non-significant (p = .815). For the issue of abortion, political affiliation did not predict votes (p = .658). In block 2, moral conviction also did not predicts votes (p = .118). In Block 3, the addition of attitude similarity was significant, such that increased attitude similarity (β = -0.408, SE = 0.09, p < .001) predicted the increased likelihood of "yes" votes. With the addition of the interaction between moral conviction and attitude similarity, attitude similarity, on its own, remained a significant predictor of vote (β = -0.839, SE = 0.34, p = .014).

Correlations

With few significant results, overall correlations between the measures were examined in order to determine possible explanations. Table 3 shows the correlations for the issue of Abortion. There was no significant relationship between Attitude Similarity and Moral Conviction. There were also no significant relationships between attitude similarity and the dependent variables. This finding holds for moral conviction. The dependent variables of trustworthiness, expertise, and charm, were all highly, directly related.

Table 3. *Measure Correlations for the Issue of Abortion*

	Attitude Similarity r (p)	Moral Conviction r (p)	Trustworthiness r (p)	Expertise r (p)
Moral Conviction	.028 (.619)	-	-	-
Trustworthiness	.015 (.790)	.089 (.107)	-	-
Expertise	.003 (.957)	.086 (.120)	.920 (< .001)*	-
Charm	-.005 (.932)	.076 (.167)	.878 (< .001)*	.805 (<.001)*

Table 4 shows the correlations for the issue of Torture. There was no significant relationship between Attitude Similarity and Moral Conviction. Attitude Similarity was moderately, indirectly related to Warmth and Charm. Moral conviction was not significantly related to any dependent variable. The dependent variables of trustworthiness, expertise, and charm, were all highly, directly related.

Table 4. *Measure Correlations for the Issue of Torture*

	Attitude Similarity *r* (*p*)	Moral Conviction *r* (*p*)	Trustworthiness *r* (*p*)	Expertise *r* (*p*)
Moral Conviction	.087 (.119)	-	-	-
Trustworthiness	-.164 (.003)*	-.050 (.366)	-	-
Expertise	-.082 (.138)	-.004 (.940)	.771 (< .001)*	-
Charm	-.160 (.004)*	-.066 (.234)	.875 (< .001)*	.769 (<.001)*

Discussion

The aim of study two was to examine how moral attitudes influence perceptions of the warmth and competence of political candidates. The similarity between the participants' and candidate's attitudes and participant's moral conviction about their attitudes were considered in four moderation models predicting perceived trustworthiness, expertise, "vote", and candidate support across two social issues: abortion rights and the use of torture in interrogation.

The first prediction for the current study was that attitude similarity is directly related to perceptions of trustworthiness, and that relationship is moderated by moral conviction such that an increase in moral conviction will strengthen the relationship between attitude similarity and trustworthiness. This prediction was partially supported for the issue of torture although there were no significant individual predictors. The prediction was not supported for the issue of abortion. The second prediction for the study was attitude similarity is directly related to perceptions of expertise, and that relationship is moderated by moral conviction, such that an increase in moral conviction will strengthen the relationship between attitude similarity and expertise. Across the issues, there was no support for this prediction.

The final prediction for the current study was that attitude similarity is related to voting behavior, and that relationship is moderated by moral conviction, such that an increase in moral conviction would strengthen the relationship between attitude similarity and voting behavior. Voting behavior was measured using a categorical measure (Yes-No vote) and a continuous measure of support for the candidate. Across issues, the overall models were significant, however only the models for Abortion produced a significant predictor, where increased attitude similarity predicted increased support for the candidate and an increased likeliness of a "yes" vote. Although these findings were significantly underpowered, they seem to confirm the importance of attitude similarity in predicting behavior. In particular, the influence of just a single attitude on voting preference, supporting findings of single-issue voters (Congleton, 1991). Because the analyses were underpowered, the potential of a moderating role of moral conviction cannot be ruled out.

In addition to the six primary models, hierarchical regressions were also run in order to determine whether the models predicted trustworthiness, expertise, and voting behavior above and beyond attitude importance. Only one of the initial models was significant so it was the only one to be examined under the hierarchical model. Attitude importance was not shown to be predictive of trustworthiness, but attitude similarity was predictive. Because only one model, for one issue, was significant, these results don't lend substantive support or detraction to theories of moral attitudes that suggest that moralization is something above and beyond attitude strength (e.g., Skitka, 2010).

Additional hierarchical models examined the impact of political affiliation. Political affiliation predicted perceptions trustworthiness, expertise, candidate support, and votes with more conservative participants rating the candidates as more trustworthy and having greater expertise, lending more support for the candidate's campaign, and voting "yes". This finding held only for

the issue of torture. The models were not impacted by attitude similarity, suggesting that this finding was true whether or not the participants agreed with the candidate. Future research should consider political affiliation in models of candidate perceptions, and should look at additional social issues, since the results did not hold for the issue of abortion rights.

A particularly interesting finding of the current study was that there were significant, indirect relationships between attitude similarity and trustworthiness and charm (for torture only), such that participants with similar attitudes to the candidate perceived them as less trustworthy and charming. Previous research on attitude similarity and perceptions of trustworthiness shows the opposite effect, however this effect was for romantic partners (Singh et al., 2015). Perhaps the indirect relationships found in the current study are reflective of the social distance between individuals and political figures. Because a political figure is not necessarily a part of one's daily life, attitude dissimilarity has less impact on perceptions of others, because negative consequences of disagreement are virtually absent. Another explanation for these findings is that participants may have been relying on other similarities between themselves and the candidate, outside of the manipulated attitude. For example, the candidates were described as being born and raised in Texas, perhaps the participants' shared location had more of an impact on their perceptions than an attitude towards a social issue.

Limitations

In addition to the lack of power for the voting behavior models, another important limitation to the current study is the distribution of scores across attitude similarity, moral conviction, and the interaction between them. Distributions for attitude similarity are relatively normal for each of the issues and similar across issues, as shown in Figure 17. However, there is a notable dip in responses between attitude similarity scores ranging from 2-3 and from 4-5.

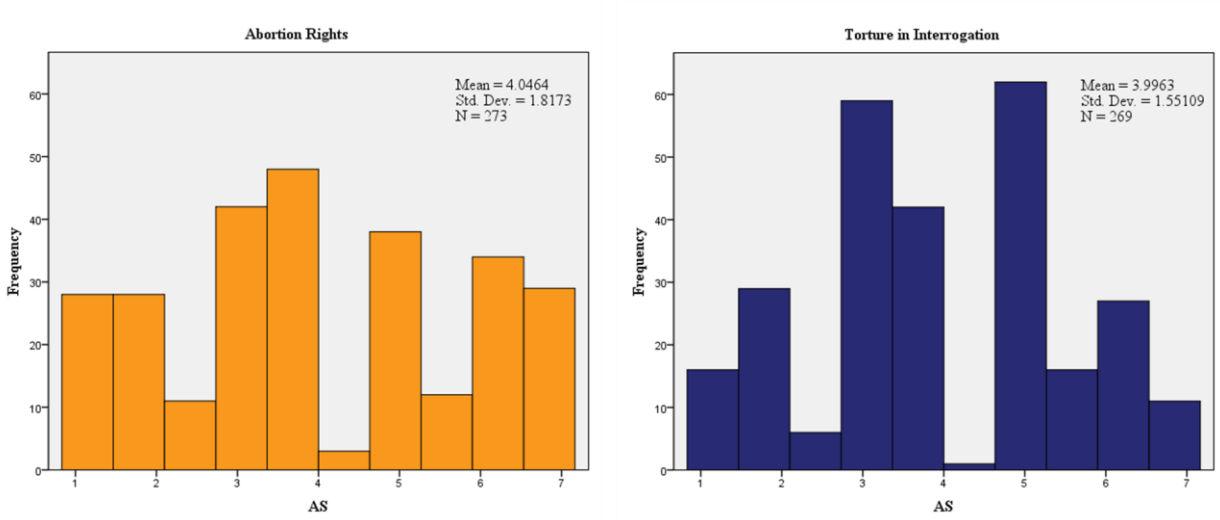

Figure 17. Distribution of participants' attitude similarity with the candidates for abortion rights and using torture in interrogation.

Distributions of moral conviction are more skewed, with most participants reporting high moral conviction for abortion rights and torture in interrogation, as shown in Figure 18.

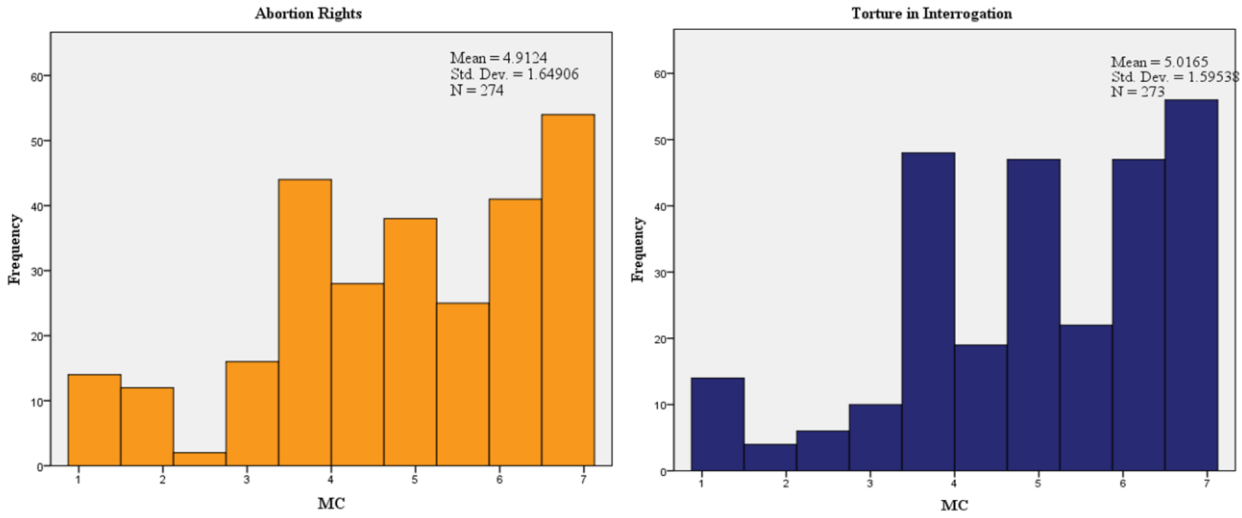

Figure 18. Distribution of participants' moral conviction scores for abortion rights and using torture in interrogation.

Because of the skew in moral conviction, the interactions are also somewhat skewed, however in the opposite direction, as shown in Figure 19.

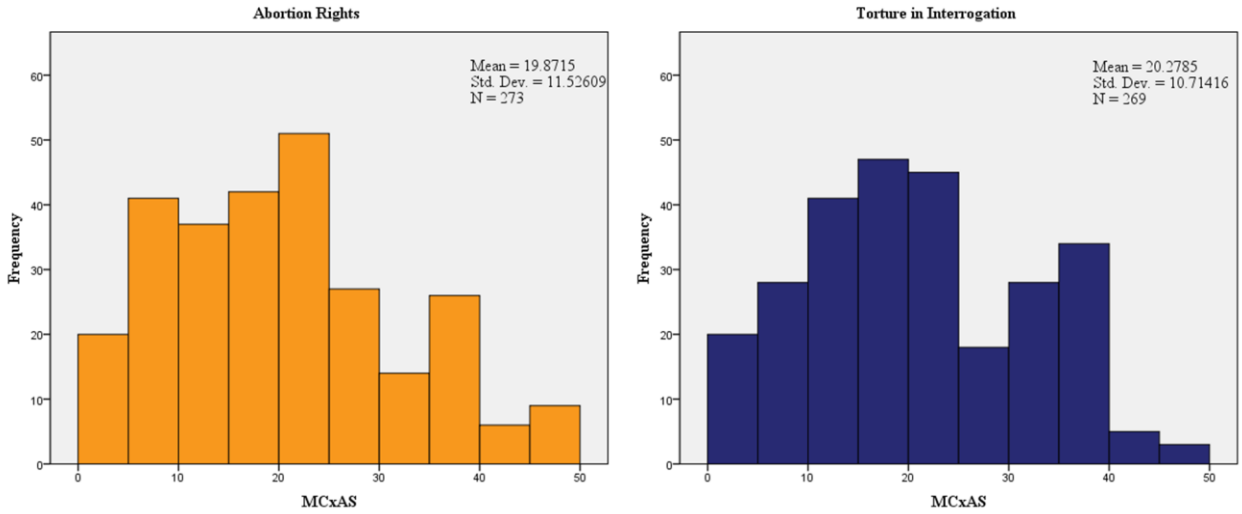

Figure 19. Distribution of the interactions between attitude similarity and moral conviction for abortion rights and using torture in interrogation.

Moderation models require relatively normal distributions in order to accurately predict the criterion variable of interest (McClelland & Judd, 1993). The distributions for the interaction of attitude similarity and moral conviction are somewhat skewed; there is a gap in scores at the high end—participants with high attitude similarity and high moral conviction. This gap may be influencing the results of the moderation model, making interpretations tentative. In order to close this gap, more participants would need to be collected. Post-hoc power analysis revealed appropriate power ($1-\beta > .89$) for all models with significant results.

As noted, these distributions show little difference across the issues and thus cannot explain why the trustworthiness findings were only found with torture. The candidate support model and the voting choice model, however, found relatively consistent findings across issues, which is supported by the similarities in distributions. Future research could collect more data in order to approximate more normal distributions. Using a more diverse sample would also allow for better distributions of scores. While the current sample was fairly balanced in their political identification, a wider audience would help fill in the gaps. Other future research should consider

different social attitudes to determine if the attitude object influences the findings. Future research could also examine perceived warmth-competence of real candidates.

General Discussion

The goals of this dissertation were to contribute to the literature on the structure of moral attitudes and explore the consequences of moral attitudes on person perception. In Study 1, participants completed a sequential priming task measuring the relationships between morality and objectivity, and morality and universality. In Study 2, participants read vignettes about political candidates and then rated their perceptions about the candidate's trustworthiness and expertise, indicated whether they would vote for the candidate, and indicated the extent to which they would support the candidates' campaign.

Study 1 hypothesized a relationship between morality and objectivity and morality and universality. Based on this hypothesis, it was predicted that there would be a significant main effect of congruity for each task, where participants respond faster to the congruent trials (e.g., prime "fact" followed by moral attitude "abortion") than to the incongruent trials (e.g., prime "opinion" followed by moral attitude "abortion"). The data did not support this hypothesis, there was no difference in reaction times for congruent and incongruent trials in either task. Potential limitations in terms of stimulus repetition and how representative the prime stimuli were of the intended constructs were discussed above. Another explanation, however, may have been due in part to limitation in using sequential priming as a methodology for measuring these relationships.

The research in Study 1 was an attempt to replicate and extend previous research (Kidder & Crites 2016) that supported the relationship between morality and objectiveness using an IAT. The failure to replicate these findings using a sequential priming paradigm is interesting and warrants discussion about the theoretical differences between the two tasks. In other areas of research, such as stereotype research, the IAT and sequential priming regularly replicate congruity effects. One such consideration is that the IAT is a task driven by response compatibility (also

called response interference; e.g., Gawronski et al, 2011) processes whereas the sequential priming task used in Study 1 is likely driven by spreading activation processes (Collins & Loftus, 1975). The response compatibility explanation of IAT effects is that responses to the stimuli are faster when the categories of related stimuli share the same response key whereas responses to the stimuli are hindered when the categories of unrelated stimuli are paired on the same key (Gawronski et al., 2011). The response compatibility process is often discussed in the literature as reflecting automatic associations of the two categories of stimuli, meaning that when one category is activated, the other is associated with it automatically, or implicitly. Gawronski and colleagues purport that the process reflects the extent to which the association between the categories (or stimuli) is accessible in memory, regardless of the nature of the association—implicit or deliberate. The encoding explanation of a sequential priming task such as the one used in Study 1 suggests that targets are responded to more quickly when preceded by an associated prime because the prime and target share semantic features, leading to partial activation of the target in memory (Fazio, 2007). Target preceded by an unrelated prime are not activated in memory, so participants respond more slowly. The positive results in the IAT and null results using sequential priming support the different underlying processes in these two tasks.

If the IAT reflects the outcome of a more deliberative/thoughtful process relative to the processes involved in semantic priming, the disparate results between previous research (Kidder & Crites, 2016) and Study 1 may also be able to explain something about the nature of moral attitudes. Moral attitudes may be a product of our fast cognitive system or our slower cognitive system. In the fast, automatic system of thinking, thought occurs outside of conscious awareness (e.g., Evans, 2003). Morality theorists such as Jonathan Haidt believe that moral attitudes are a result of this fast system, and that any justifications we have for these attitudes occur after the fact

(Haidt, 2001). In the slower, deliberate system of thinking, thought is based on rational processing of information. Linda Skitka's theories of morality and moral attitudes are more supportive of the idea of moral attitudes arising from this slower system of thinking. It may be that response compatibility processes in the IAT reflect the deliberate association of objectivity to morality whereas the encoding processes in Study 1's sequential priming task reflect the automatic association of objectivity to morality. Thus, the null findings for Study 1 does not support the fast, automatic nature of moral objectiveness. The null results are more consistent with the slow, deliberate processing of this relationship.

While Study 1 focused on the structure of moral attitudes, Study 2 focused on the consequences. Study 2 predicted that there would be a direct relationship between participants' attitude similarity with the candidate and their perceived trustworthiness and expertise of the candidate, the extent to which they would support the candidates' campaign, and whether or not they would vote for the candidate. It was also predicted that the participant's moral conviction about the social issue would moderate the relationship between attitude similarity and the dependent variables, such that participants who reported higher moral conviction, would show a stronger relationship between attitudes similarity and the dependent variables than participants who reported lower moral conviction scores. For example when the candidate supported abortion rights, participants who also support abortion rights would rate the candidate higher in perceived trustworthiness. If the participant held their attitude with high moral conviction, their perception of the candidate's trustworthiness would be greater than an attitudinally similar participant who held their attitude toward abortion rights with lower moral conviction. The models for candidate support and voting choice were the most successful, revealing significant effects across issues, but the voting choice model for the issue of Abortion Rights was the only one for which individual

predictors (attitude similarity) emerged. Moral conviction was a factor in one exploratory model (described below) but did not influence the variables of interest.

The results of Study 2 show that attitude similarity was indirectly correlated with perceptions of trustworthiness, but not strongly enough to be predictive, and unrelated to expertise. The examination of trustworthiness and expertise in Study 2 converges with two dimensions that have been shown to influence many social judgments, warmth (i.e., trustworthiness) and competence (i.e., expertise), as outlined by Fisk, Cuddy, and Glick (2007). Both traits influence liking, and elicit positive affect and behavior. In the political sphere, the warmth-competence theory has been examined under a variety of circumstances. For instance, negative campaign ads directly influenced warmth perceptions of the ad's target and the competence perception of the ad's source (Carraro & Castelli, 2010). Of particular interest to the current study, Presidents were portrayed as less warm and competent by media outlets whose political views differed from the Presidents', compared to media outlets whose political views matched the Presidents' (Hehman, Graber, Hoffman & Gaertner, 2011). The correlations described above show the opposite result, increased attitude similarity related to decreased perceptions of trustworthiness.

With results that did not support previous research on the relationships between attitude similarity and trustworthiness and expertise, exploratory analyses were conducted to determine if other factors were impacted. A factor analysis of the distractor traits embedded in the participant's survey revealed a factor labeled "Charm" that included traits such as Kind, and Sociable. For this factor, an exploratory model was constructed in the same manner as the predicted model with "Charm" as the dependent variable. This model found a mediation effect for moral conviction where the interaction of moral conviction and attitude similarity predicted perceived charm, whereas attitude similarity alone did not predict perceived charm. This finding, in the context of

the previous null results, supports some previous research identifying sub-dimensions for the Warmth dimension of the Warmth-Competence model of social judgment. Previous research two sub-types: sociability traits (e.g., likability, friendliness) and morality traits (e.g., trustworthiness and honesty; Brambilla, Rusconi, Sacchi, & Cherubini, 2010). Interestingly, this research suggested that morality traits were more important to people when forming overall impressions of others. In the Study 2's exploratory analyses, perceived charm was significantly predicted by the interaction between morality and attitude similarity whereas the model for trustworthiness was significant, but with no individual predictors. This differs from the previous research, where morality traits were more important. Perhaps the difference between these studies lies in the different targets, and in particular, the current study's use of political candidates as targets. Because political candidates must win votes of the public in order to be elected, it may be that charm/sociability is more important to impression formation than for standard interpersonal interactions.

Another consideration that may explain the null results of trustworthiness and expertise is that the two are highly related concepts. In Study 2, trustworthiness was highly related to expertise (*r*s = .92 &.77)[5] and the exploratory factor "charm" (*r*s = .88 & .88). Expertise was similarly highly related to "charm" (*r*s = .81 & .77). A post-hoc analysis (see Appendix E for the results) shows that all of the traits from these constructs, load onto a single factor that accounts for 65.57% of the variance in scores (all λs > .66). This suggests an underlying factor, which may be overall attitude or impression of the candidate. Perhaps given such limited information about the candidate, participants can only form an overall positive-negative impression of the candidate which is not

[5] Separate *r*s for Abortion, and Torture issues respectively.

enough to distinguish the various traits. As one learns more information, a more complete impression can be formed.

The goals of this dissertation were to contribute to the literature on the structure of moral attitudes and explore the consequences of moral attitudes on person perception. The goal of Study 1 was to replicate and extend previous research examining the automatic nature of moral objectivity and moral universalism. In Study 1, there was no support for the relationship between morality and objectivity and morality and universality. Instead, the study demonstrated that sequential priming may be an ineffective methodology for measuring these relationships. Future research examining these constructs should focus on the development of the IAT as a measure and explore other implicit measures. The goal of Study 2 was to examine the relationship between the similarity of participant attitude to a fictional political candidate (attitude similarity) and perceptions of warmth, competence, and voting choice. The proposed models predicted that attitude similarity influenced trustworthiness, expertise, candidate support, and voting choice. Furthermore, that relationship was predicted to be moderated by participants' moral conviction about the social issue. Several models were significant overall, however no significant predictors emerged. Attitudes similarity significantly predicted voting choice and candidate support such that increased attitude similarity was related to the likelihood of voting yes and increased candidate support, for the issue of Abortion Rights. Moral conviction did not moderate this relationship. An exploratory moderation model for perceived charm of the candidates demonstrated a significant moderating effect of moral conviction for the issue of Using Torture in Interrogations. There were high correlations among trustworthiness, expertise, and charm implying an underlying construct. It may be that participants need more information to form nuanced perceptions of others. Future

research should examine these constructs in familiar political figures, where more information is known.

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Appendix A

Measures

Attitude Identification Survey

"Regardless of your stance, indicate whether the following social issues are related to your moral beliefs (a MORAL issue) or unrelated to your moral beliefs (a NON-MORAL issue). If you aren't sure, indicate 'UNDECIDED'."

Issue	Moral Issue	Not a Moral Issue	Undecided
Abortion Rights			
Torture in Interrogation			
Marriage Equality			
Animal Research			
Death Penalty			
Euthanasia			
Legalizing Marijuana			
Climate Change			
Fracking			
Military Drones			
Pre-Marital Sex			
Wiki-Leaks			
Recycling			
Gun Control			
Immigration Reform			
Vaccinations			
Stem Cell Research			

Attitude:

"To what extent do the following judgments best describe your opinions about [attitude object]?"

Negative			Neutral			Positive
-3	-2	-1	0	1	2	3

Dislike			Neutral			Like
-3	-2	-1	0	1	2	3

Bad			Neutral			Good
-3	-2	-1	0	1	2	3

Moral Conviction:

"To what extent is your position of [Issue]…

	Not at all						Extremely
…a reflection of your core moral beliefs and convictions?"	1	2	3	4	5	6	7
…connected to your beliefs about fundamental right and wrong?"	1	2	3	4	5	6	7
…based on moral principle?"	1	2	3	4	5	6	7
….a moral stance?"	1	2	3	4	5	6	7

Trustworthiness and Expertise Scale (adapted from Ohanian, 1990).

Undependable							Dependable
	1	2	3	4	5	6	7
Dishonest							Honest
	1	2	3	4	5	6	7
Unreliable							Reliable
	1	2	3	4	5	6	7
Insincere							Sincere*
	1	2	3	4	5	6	7
Untrustworthy							Trustworthy
	1	2	3	4	5	6	7
Not an Expert							Expert
	1	2	3	4	5	6	7
Inexperienced							Experienced*
	1	2	3	4	5	6	7
Unqualified							Qualified
	1	2	3	4	5	6	7
Unskilled							Skilled
	1	2	3	4	5	6	7
Unintelligent							Intelligent
	1	2	3	4	5	6	7

Unkind							Kind
	1	2	3	4	5	6	7
Unattractive							Attractive
	1	2	3	4	5	6	7
Disloyal							Loyal*
	1	2	3	4	5	6	7
Dispassionate							Passionate*
	1	2	3	4	5	6	7
Unconfident							Confidence
	1	2	3	4	5	6	7
Shy							Outgoing
	1	2	3	4	5	6	7
Unsociable							Sociable
	1	2	3	4	5	6	7
Insecure							Secure
	1	2	3	4	5	6	7
Passive							Aggressive
	1	2	3	4	5	6	7
Unthoughtful							Thoughtful
	1	2	3	4	5	6	7
Careless							Conscientious
	1	2	3	4	5	6	7

*The first ten items are the items of interest. Scale items will be randomized prior to administration.

Appendix B

Demographics Form

Gender: Male Female **Age:** _____

Ethnicity:

African American
Asian
Caucasian
Hispanic
Native American
Other: _____

Citizenship: USA Mexico Other: _____

Political Affiliation

1	2	3	4	5	6	7
Extremely Liberal	Liberal	Somewhat Liberal	Neither	Somewhat Conservative	Conservative	Extremely Conservative

Religious Affiliation

Atheist
Buddhist/Hindu
Catholic
Christian
Jewish
Muslim
Other: _____ or None

Appendix C

Example Political Vignettes

William Gonzalez (54 years old) was born in San Angelo, Texas. He attended Texas A&M as an undergraduate business major, where he met his wife Mary. They have been married for 29 years and have three children. After earning his MBA at the University of Texas, McCombs School of Business, William worked for a top Investment Management firm in Houston for 15 years. William moved back to San Angelo and opened his own investment firm and got involved in local politics. He spent 7 years in city council before running for city manager, a position he has held for the last 8 years. William is a member of a local Protestant church, where he serves as Deacon. In his spare time, William likes to go hiking with his family. **As part of his campaign, William is focusing on restricting/supporting abortion rights/the use of torture in interrogations.**

George Ramirez (50 years old) was born in College Station, Texas. He attended Rice University as an undergraduate communications major. After earning his doctorate in Organizational Communication and Technology at the UT Austin, Moody College of Communications, George worked as an Employee Training Consultant in the Austin area. During that time, he met his wife Sandra. They have been married for 20 years and have two children. George recently moved to Amarillo, to live near his wife's family. He was hired as a consultant for the City of Amarillo, where he built relationships with numerous city officials. Six years ago, he was elected as the Mayor of Amarillo. George is a member of a local Catholic church, where he regularly volunteers working with children in the community. In his spare time, George likes to golf and ski. **As part of his campaign, George is focusing on eliminating/supporting the use of torture in interrogations/abortion rights.**

Appendix D

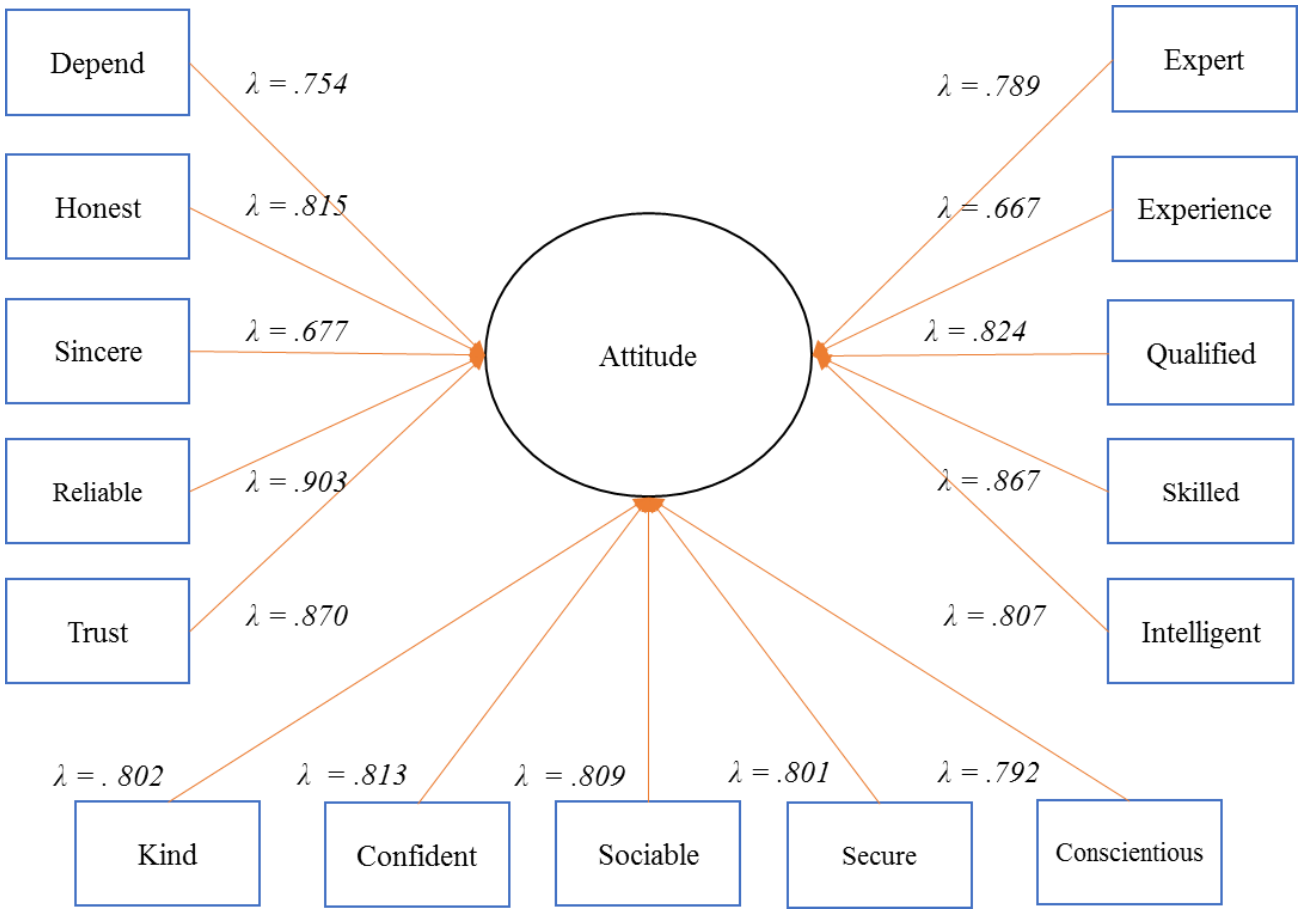
Pilot Test Analyses

Trait	George (*M*) *N* = 9	William (*M*) *N* = 13	Sig. (*p*)
Dependable	5.44	5.92	.506
Honest	4.89	5.54	.236
Reliable	5.44	5.00	.555
Sincere	5.00	5.54	.438
Trustworthy	5.56	5.46	.860
Expertise	5.33	5.23	.839
Experience	6.22	5.77	.418
Qualified	5.67	6.00	.583
Skilled	5.67	6.00	.400
Intelligent	6.33	6.38	.893
Kind	5.78	5.46	.639
Attractive	3.00	3.85	.256
Loyal	6.11	5.54	.362
Passionate	5.89	5.77	.849
Confident	5.44	5.92	.273
Outgoing	5.89	5.54	.503
Social	6.22	5.69	.375
Secure	5.44	5.62	.743
Aggressive	2.89	3.08	.798
Thoughtful	5.89	5.38	.396
Conscientious	5.78	5.69	.870

*Independent samples t-test were run on the pilot data to determine if the vignettes were equivalent on the dependent variables of interest.

Appendix E

Factor Loadings on "Overall Impression"



Vita

Ciara K. Kidder (née Connally) was born on June 20, 1989. The youngest child of Kelly and Brita Connally, she graduated from A.C. Davis High School in Yakima, Washington, in 2007. She married her husband, Matthew Kidder in 2011, and has one son, Owen (2015). Ciara received her Bachelor of Science in Psychology from Lock Haven University of Pennsylvania in 2010, graduating Magna Cum Laude from the University, and with Distinction from the Global Honors Program. In 2011, she was accepted into the Social Cognitive Neuroscience Doctoral program at the University of Texas at El Paso (UTEP) under the supervision of Dr. Stephen L. Crites, where she has worked as a Teaching Assistant and an Assistant Instructor. During the course of her studies, she has presented her work at professional conferences on multiple occasions. In 2014, Ciara completed her Masters of Arts in Experimental Psychology. She has also earned a Graduate Certificate for Quantitative Methods in Psychology (2016). Ciara has accepted a position as an Assistant Professor of Psychology at Marian University in Fond du Lac, Wisconsin, which will begin in Fall 2016. Her primary research interests are in moral attitudes, stereotypes, and the scholarship of teaching and learning.

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This thesis/dissertation was typed by Ciara Kidder