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MORAL FOUNDATION VIOLATION EFFECTS ON FELT EMOTIONS, PERCEPTIONS OF MORAL INTENSITY, AND ETHICAL DECISION-MAKING

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ALEXANDER BRUNOT
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MORAL FOUNDATION VIOLATION EFFECTS ON FELT EMOTIONS, PERCEPTIONS OF MORAL INTENSITY, AND ETHICAL DECISION-MAKING

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BY THE COMMITTEE CONSISTING OF

Dr. Shane Connelly, Chair

Dr. Michael Mumford

Dr. Hairong Song

Dr. Ryan Bisel

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Abstract

Moral Foundation Theory (Graham et al., 2013) posits how individuals may decide what behaviors are morally transgressive and how to then make ethical decisions regarding situations containing ethical elements. Despite the inclusion of specific discrete emotions into MFT, relatively little research has empirically examined what discrete emotions are associated with various moral foundations or the differential effects of these emotions on related processes such as perceived moral intensity or ethical decision-making (Kligyte et al., 2013; Johnson & Connelly, 2016; Higgs et al., 2020). To test this, two studies were employed. The first study conceptually replicates previous research (Landmann & Hess, 2018) and establishes the emotional profiles that are elicited by experiencing violations to different moral foundations. This is done by experimentally manipulating moral violations present in an ethical dilemma between subjects, measuring an array of emotions felt by participants, and examining the patterns of felt emotions to establish the emotional profiles. Results showed partial support for the theoretical pattern of emotions elicited from moral foundation violations. However, there was little overlap in this pattern across studies. Violations to the care and fairness foundation resulted in greater perceptions of the moral intensity of a situation. Unique patterns of results between moral foundation violations and ethical decision-making emerged but receiving a violation to a moral foundation generally increased the usages of ethical sensemaking processes and resulted in more ethical decisions. Theoretical and practical implications, limitations, and future directions are discussed.

Keywords: moral foundation theory (MFT), emotions, ethical decision-making, ethical sensemaking, moral intensity

Introduction

The typical perception of stealing from the office, cheating to get ahead of a coworker, or defacing organization property would likely be seen morally wrong by most people. But how exactly does the typical person reach this conclusion has been a subject of ongoing debate for decades (Greene, 2015; Haidt, 2007; Jones, 1991; Prinz, 2006, Mumford et al., 2008; Rest 1986; Sonenshein, 2007). Recently, Graham et al. (2013) proposed the Moral Foundations Theory (MFT) to explain how individuals may decide what behaviors are morally transgressive and how to then make ethical decisions regarding situations containing ethical elements. This theory has moved beyond considering the process as a consciously deliberative one (Haidt, 2001) by actively integrating discrete emotions into the process, extending the work on moral emotions (Gaudine & Thorne, 2001; Haidt, 2001). Despite the inclusion of specific discrete emotions into MFT, relatively little research has empirically examined what discrete emotions are associated with various moral foundations or the differential effects of these emotions on related processes such as perceived moral intensity or ethical decision-making (Kligyte et al., 2013; Johnson & Connelly, 2016; Higgs et al., 2020). In response to this research, this dissertation aims to evaluate the emotions related to MFT, and to test moral foundation violation effects on perceived moral intensity and ethical decision-making.

The goals of the studies presented here are threefold. First, research concerning the emotions elicited by violations for different moral foundations is conceptually replicated (Landmann & Hess, 2018) and expanded upon in order to test the claims made by MFT about emotions in response to organizational ethical scenarios to garner a more holistic understanding of the role that emotions play within MFT. Once this relationship has been conceptually replicated, expanded, and established, the joint effects of moral foundation violations and

emotions elicited on how individuals perceive the moral intensity of a situation are examined within an organizational context. Finally, the joint effects of moral foundation violations and emotions elicited on ethical sensemaking strategies and ethical decision-making are examined to identify whether and the extent to which some strategies are more susceptible than others to these joint effects.

Moral Foundations Theory

The primary purpose of MFT (Graham et al., 2013, Graham et al., 2009) is to explain how individuals make judgements about behavior that could be considered morally "right or wrong." MFT is conceptually based on four key claims. The first claim, nativism, suggests that humans are born with a level of innate moral knowledge that prepares humans to learn values, norms, and behaviors crucial to a diverse set of recurrent and adaptive social problems that humans face (Graham et al., 2013). Following this claim, Graham et al., (2013) propose that the human mind is organized in advance of experience so that it is prepared to learn moral values, norms, and behaviors related to a widely diverse set of reoccurring and adaptive social norms. The third claim suggests that individuals form judgements about morality largely intuitively rather than deliberately or with conscious thought (Graham et al., 2011; Haidt, 2001), similar to using a dual-process system (Kahneman, 2003) like many other processes. The final claim is that there are many moral foundations used to address a litany of reoccurring social challenges.

Moral Foundations Theory proposes five moral foundations which are used to evaluate moral behavior. Each foundation is based around an adaptive challenge that humans face, which triggers the moral foundation. Additionally, each foundation is associated with various emotions and are tied to specific virtues. The first foundation, the care foundation involves intuitions that prevent harm and promote caring for others. It is theorized that this foundation developed to

address the challenge of protecting and caring for children. Triggers include suffering, distress, or other neediness expressed by other individuals. This foundation is typically associated with feelings of compassion for victims as well as anger at the perpetrator. Relevant virtues or values for the care/harm foundation include caring and kindness.

The next foundation, fairness, focuses on intuitions of reciprocity, fair practices, and equality, which directly contrast cheating. This foundation addresses challenges related to benefits from two-way partnerships and includes triggers of cheating, cooperating, and deception. The emotions most closely related to this foundation are those of anger towards cheating individuals, gratitude towards cooperating individuals, and guilt when the individual cheating is the self. This foundation centers around virtues of fairness, justice, and trustworthiness.

The third foundation, loyalty, produces intuitions associated with sacrificing for one's in-group. The adaptive social challenge related to this foundation is forming cohesive coalitions. Triggers for this foundation are threats or challenges to one's group. Feelings of group pride are thought to be linked to this foundation while violations are linked to feelings of rage at traitors. This foundation is tied to the virtues of loyalty, patriotism, and self-sacrifice.

The next foundation, authority, is tied to intuitions involving figures, social traditions, and hierarchies (which contrasts subversion). This foundation is thought to have developed to address the challenge of forging beneficial relationships within hierarchies and is structured around feelings of respect and fear for authority. This foundation is primarily triggered by signs of high and low rank, indicating a hierarchical social structure. Relevant virtues for this foundation include obedience and deference.

Finally, the foundation of sanctity emphasizes bodily and moral purity in contrast to degradation. Disgust is the emotion most strongly related to violations of this foundation. This foundation developed to avoid communicable diseases and therefore triggers include waste/cleaning products and diseased people. Temperance, chastity, piety, and cleanliness are the virtues most closely associated with this foundation.

Graham et al., (2013) were explicit in their explication of MFT that foundations other than the initial five may exist, even outlining how other foundations may be identified and validated. A sixth foundation has been suggested (Graham et al., 2009), liberty, which focuses on intuitions surrounding domination and coercion. However, there is controversy concerning the legitimacy of liberty as a moral foundation (Iyer et al., 2012).

Moral Foundations and Emotions

Moral Foundation Theory posits that a characteristic emotion(s) is induced when a respective foundation is violated (Haidt & Joseph, 2004, 2008). This conception originates from the CAD triad hypothesis (Rozin et al., 1999) which linked anger, contempt and disgust to the Shweder-ethics of autonomy, community, and divinity (Shweder et al., 1997). Early research supported this notion of emotion-ethic connection (Rozin, 1997), however, when participants were allowed to indicate feelings of mixed emotions, it becomes clear that these relationships are not as direct as one particular violation causing feelings of one emotion, or one emotion being tied to only a single foundation violation (Cameron et al., 2015). MFT allows for more flexibility, suggesting that multiple specific emotions can be linked to foundation violations, with certain emotions being more characteristic of or associated with certain foundation violations (Haidt & Joseph, 2004, 2008). Characteristic emotions should be felt the most intensely for their

respective foundation violations compared to other emotions, but other feeling states may still arise.

The proposed characteristic moral emotions (Haidt, 2003) resulting from experiencing moral foundation violations differ from each other in terms of their triggers, appraisals, and action tendencies. Anger is typically characterized by appraisals of unjust acts committed by others, concerns about being betrayed, insulted, or treated unfairly. (Haidt, 2003; Scherer, 1999; Scherer et al., 2001; Moors et al., 2013). Anger can also arise from goal blockages although this is perhaps more akin to frustration than anger as frustration is typically triggered when something or someone prevents goal achievement. Feelings of anger are generally accompanied by motivation to attack, humiliate, or otherwise get back at the party who has been perceived to have acted unfairly or immorally (Izard, 1977; Nisbett & Cohen, 1987; Haidt & Sabini, 2000).

The morally related emotion of disgust is a response to physical objects as well as social violations. The emotion is proposed to have originated as a protector of the mouth by rejecting food for its sensory properties. In addition to this purpose, it has developed into being a sociomoral emotion. Disgust is triggered by individuals who violate local cultural rules and norms regarding their bodies, notably in the realms of sex, drugs, and body modification (Haidt & Hersh, 2001). The triggers of disgust have also expanded to include social transgressions that do not necessarily involve the body such as hypocrisy, betrayal, cruelty, and fawning (Haidt et al., 1997; Miller, 1997). The action tendencies most associated with disgust include a motivation to avoid, expel, or otherwise break off contact with the offending entity, but also to wash, purify, or otherwise remove residues of any physical contact that was made with the offending entity (Rozin & Fallon, 1987; Rozen, 1993). Indeed, disgust also translates to physical objects associated with entities that have triggered disgust such as a sweater worn by Adolph Hitler

(Rozin et al., 1994). The action tendencies of disgust can also function in a prosocial manner by ostracizing or criticizing those perceived as morally disgusting, establishing a reward-punishment structure which performs as a strong deterrent for culturally inappropriate behaviors.

Typically considered a "positive" emotion compared to anger or disgust, compassion is characterized by being aroused by others suffering and misery. Compassion is elicited by perceptions of suffering or misery or sorrow in another person (Lazarus, 1991) and can be felt for complete strangers but is more likely to be felt and felt more intensely for one's kin (Batson & Shaw, 1991). Feelings of compassion are accompanied by tendences to want to help, comfort, or otherwise alleviate the suffering of the other (Batson & Shaw, 1991) making it one of the most directly prosocial of moral emotions.

As a test of these characteristic moral violations-emotions linkages, Landmann and Hess (2018) conducted an experiment in which German community members' moral foundations were experimentally violated and then their felt emotions were assessed. A within-subjects design was used where participants read moral violation stories (Clifford et al., 2015) and then reported their felt emotions on a Likert scale containing only the theoretically relevant emotions and fear which was used as a control for general negative affect based on a procedure suggested by Cameron et al. (2015). As expected, Landmann and Hess (2018) found that individual emotions were not solely associated with violations of a specific moral foundation, but rather that there were profiles of emotions elicited by violations to moral foundations. They found that compassion and disgust were relatively specific as they were only triggered by one or two foundations. For compassion, this was violations to the care and sanctity foundations, disgust on the other hand appeared to only be triggered by violations to the sanctity foundation. Anger and rage were unspecific in that most moral foundation violations elicited them to a large extent, except for

loyalty and to a lesser degree, sanctity violations. Contempt and resentment were the least specific in that they were noticeable across all foundation violations. It should be noted that while Landmann and Hess (2018) did find that most moral foundation violations had at least one emotion associated with them, there was typically one emotion most strongly associated with a foundation violation. Their results provide initial evidence for the emotional profiles that can be elicited by violations to moral foundations although they limited their measurement of emotions to single item measures of exactly the emotions specified by MFT, leaving future research to expand on these emotional profiles.

While the above study provided an initial understanding of the emotional profiles associated with violations to moral foundations, it is not without its limitations, and it is important to replicate these findings in different samples and with different methodologies. Additionally, given the profile of emotions that emerged from the work of Landmann and Hess (2018), a wider array of emotions should be surveyed such that a more comprehensive understanding of the emotional profiles can be achieved. Based on the above, the following hypotheses and research question are proposed:

H1: Violations of the Care moral foundation will primarily elicit compassion and anger compared to violations of other moral foundations.

H2: Violations of the Sanctity foundation will primarily elicit disgust compared to violations of other moral foundations.

RQ1: What other emotions beyond compassion, anger, and disgust will be differentially associated with violations of moral foundations?

Moral Intensity

As a precursor to the ethical decision-making processes, ethical decision-making models have been tailored to address the role(s) of the individual, situational, and organizational characteristics which influence ethical conduct (Kish-Gephart, Harrison, & Treviño, 2010). Research in this area has predominantly drawn from two theories, Rest's (1986) four-stage model of ethical decision making and Jones' (1991) Issue-Contingent Model. The model developed by Rest (1986) describes four components of ethical decision-making, (a) awareness, (b) judgment, (c) intent, and (d) behavior, arguing that ethical behavior arises from an individual's ability to recognize moral issues and make moral judgments. Utilizing Rest's (1986) four-stage model, Jones (1991) expanded the theoretical framework of ethical decision-making beyond individual traits and the environment by focusing on the moral issue. The Issue-Contingent Model describes perceptible characteristics of ethical dilemmas which impact the intensity of moral issues through what Jones (1991) calls moral intensity.

The central premise of moral intensity is that ethical issues vary across events. Issues characterized by certain moral elements will, in turn, impact decision processes. Moral intensity is comprised by a set of morally relevant dimensions that underlie ethical issues. The six dimensions are: (a) magnitude of consequences, (b) social consensus, (c) probability of effect, (d) temporal immediacy, (e) proximity, and (f) concentration of effect (Jones, 1991). *Magnitude of consequences* is "the sum of the harms (or benefits) done to victims (or beneficiaries) of the moral act in question" (Jones, 1991, p. 374). *Social consensus* is "the degree of social agreement that a proposed act is evil (or good)" (Jones, 1991, p. 375). *Probability of effect* is "a joint function of the probability that the act in question will actually take place and the act in question will actually cause the harm (benefit) predicted" (Jones, 1991, p. 375). *Temporal immediacy* is

"the length of time between the present and the onset of consequences of the moral act in question" (Jones, 1991, p. 376). P*roximity* is "the feeling of nearness (social, cultural, psychological, or physical) that the moral agent has for victims (or beneficiaries) of the evil (beneficial) act in question" (Jones, 1991, p. 376). Finally, *concentration of effect* is "an inverse function of the number of people affected by an act of a given magnitude" (Jones, 1991, p. 377).

Since Moral Intensity's conception, studies have examined how its dimensions relate to ethical outcomes. Singhapakdi, Vitell, and Franke (1999) demonstrated that higher perceptions of moral intensity led to greater perceptions of an ethical problem, reducing unethical intentions. Similarly, Valentine and Bateman (2011) found that perceptions of moral intensity positively related to issue recognition and ethical intentions. Studies have likewise demonstrated that specific moral intensity dimensions influence the awareness ethical issues, including magnitude of consequences (Butterfield, Treviño, & Weaver, 2000) and proximity (Carlson, Kacmar, & Wadworth, 2009). These findings, and others (e.g., Leitsch, 2004; Frey, 2000; Morris & McDonald, 1996), point to the importance of moral intensity in ethical judgments and decisions. Consequently, how individuals perceive the moral intensity of a situation remains a concept of interest within the ethical decision-making literature (see reviews by Craft, 2013; O'Fallon & Butterfield, 2005).

The relationship between emotions and perceptions of moral intensity has been theorized and tested differently depending on whether moral intensity is viewed as an absolute property of the situation or as a perception of the individual. For example, Krishnakumar et al. (2011) theorized that the six components of moral intensity serve as the antecedent of discrete emotions felt as a result of an ethical situation and subsequent emotion appraisals. They explain that moral intensity factors serve to increase the salience of an ethical issue and that ethical issues tend to

elicit emotions (Graham et al., 2013; Weiss & Cropanzano, 1996; De Cremer & Van Hiel, 2010). Accordingly, as the moral intensity of an ethical situation increases so will the likelihood of emotions being elicited by the ethical situation. Others have proposed a different structure to the relationship between emotions and moral intensity. Singh et al. (2016) tested moral intensity as a moderator on the relationship between discrete negative incidental emotions and ethical judgements. Indeed, they found that the effects of discrete negative incidental emotions on ethical judgements varied by the manipulated level of moral intensity. Even still, others have studied perceptions of moral intensity as an outcome of emotions. Higgs et al., (2020) examined the effects of three negative moral emotions (e.g., guilt, shame, and embarrassment) on perceptions of moral intensity and found an interesting array of relationships. They observed participants who were experimentally induced to feel these emotions considered temporal immediacy, proximity, and concentration of effect significantly more than individuals in a control group but did not observe effects for the other components of moral intensity. It should be noted that Higgs et al. (2020) did not measure participant perceptions of moral intensity directly, but rather rated the degree to which participants considered the various components of moral intensity in their responses to questions about an ethical dilemma. Bearing this work in mind, the pattern of results indicates a complex and poorly understood relationship between moral intensity and emotions. Furthermore, effects of emotions generated by violations to moral foundations on moral intensity perceptions remains untested. The present research seeks to extend understanding of how violations to moral foundations may influence perceptions of moral intensity through emotions. Based on the above information and in an effort to help clarify this relationship, the following research questions are proposed:

RQ2: How will moral foundation violations change how individuals perceive the moral intensity of a situation?

RQ3: What emotions associated with moral foundation violations will positively relate to perceived moral intensity?

RQ4: How do emotions mediate the relationship between violations of moral foundations and perceptions of moral intensity?

Ethical Decision-Making

Modern organizational environments are dynamic, ambiguous, and contain multitudes of competing interests which can create difficulty in predicting how various decisions will influence key outcomes. The ambiguity inherent in organizations makes these settings particularly vulnerable to ethical uncertainties thereby resulting in an ongoing need for ethical decision-making (Mumford et al., 2008). A variety of approaches can be used to explain the process of ethical decision-making. Of these, sensemaking uses a widely accepted set of processes to do so. Sensemaking describes complex cognitive processes with which an individual engages in when dealing with uncertain and high-risk, circumstances (Weick 1995; Weick et al. 2005). In the sensemaking process, individuals must first recognize that there is a problem, and that the problem is worth attending to. Next, a wide array of information is gathered and integrated into a newly formed mental model that can be used to help understand the situation. The resulting mental model is utilized as a framework for further information gathering and interpretation, allowing the individual to plan for action and prepare for contingencies (Mumford et al. 2008; Weick 1995). Other important processes such as causal analysis, forecasting, and constraint analysis also inform sensemaking.

Seven metacognitive strategies have been identified and associated with ethical sensemaking according to research conducted by Mumford et al., (2006). The strategies are recognizing circumstances, anticipating consequences, considering others' perspectives, seeking help, questioning one's own judgment, dealing with emotions, and thinking about personal values and how they are linked positively to making ethical decisions. A key difference between the sensemaking approach to ethical decision-making and other more rational approaches (e.g., Kohlberg 1969; Rest 1986), is the inclusion of emotion. Early views on the ethical decision-making process construed it as a rational, sequential set of steps an individual may go through to reach a decision (Rest 1986). However, recent work on the sensemaking process highlights the role and purpose of more intuitive and automatic processes (e.g., Sonenshein 2007). Rather than regard these processes as irrelevant or inconsequential, this perspective emphasizes the need to recognize and integrate one's emotions into the ethical decision-making process. The addition of emotion which has been long called for by ethical decision-making researchers (Gaudine and Thorne 2001; Haidt 2001), has paved the way for a variety of research which indicates that emotion plays a significant role in several areas of complex cognition (Amabile et al. 2005; Small and Lerner 2008). Despite these findings, it should be noted that the majority of research in this area has focused on general affect rather than specific emotions.

Discrete Emotions and Ethical Decision-making

Research that has focused on specific emotions has found that specific emotions can have distinct effects on how individuals make decisions (Lerner & Keltner, 2000, 2001; Maitlis & Ozcelik, 2004; Leone et al., 2005; Angie et al., 2011; Johnson & Connelly 2016). Of note, Kligyte et al. (2013) were able to demonstrate the differential effects of anger and fear on the ethical decision-making process. They found that anger hindered the use of specific

metacognitive processes and overall ethical decision-making compared to fear which aided metacognitive reasoning and ethical decision-making through information seeking as a method to lessen uncertainty and risk. These findings in particular are important as they demonstrate how specific emotions can differentially influence an individual's evaluations of an event and subsequent decision ethicality. These findings also imply that other emotions may influence the sensemaking process and successive ethical decision-making in important ways. Indeed, Higgs et al. (2020) conducted a study in which they induced one of three self-focused moral emotions: guilt, shame, and embarrassment in participants before having them respond to questions about an ethical scenario. They added to the small body of literature (Kligyte et al., 2013; Johnson & Connelly, 2016) by demonstrating how different emotions result in significant differences in quality of ethical decision making. Specifically, Higgs et al. (2020) found that individuals induced to feel guilt also felt the most pressure to quickly make decisions and were more aware of their closeness to the potential victims affected by their decision. They also found that individuals who felt shame also felt the highest amount of personal responsibility regarding their decision. Bearing these studies in mind, future research would benefit from exploring the effects of other discrete emotions on the ethical decision-making process. However, this line of research should also seek to expand beyond strict experimental examinations of single emotions to perhaps include more realistic profiles of emotions that can be experienced when dealing with realistic ethical dilemmas.

Prior research concerning emotional complexity as well as mixed emotions questioned the extent to which these emotional states occur. Some theorists have argued that contrasting emotional experiences are mutually exclusive (Russell, 1980). Indeed, circumplex models of emotion, which place emotions along two bipolar dimensions of arousal (i.e., deactivation to

activation) and valence (i.e., unpleasant to pleasant), contend that emotions are experienced along one side of the continuum which subsequently precludes the experience of emotion on the opposite side (Barrett & Russell, 1999). People encounter situations, in their daily lives (e.g., bittersweet events) and in the workplace (e.g., organizational change), that can elicit emotional responses that are more complex than simply "positive" and "negative" emotional states. Empirical research on emotional complexity has focused on the dysfunctional nature of these emotional states. Rothman et al. (2017) observed that mixed emotions are associated with cognitive inflexibility (e.g., indecisiveness, confirmation bias), avoidance of change, and reduced psychological well-being. Additionally, other research has shown that these emotional experiences are considered maladaptive as they can lead to rumination (van Harreveld, van der Pligt, & de Liver, 2009), incite a resistance to change (Piderit, 2000), and are related to higher levels of depression and lower self-esteem (Kuppens, Van Mechelen, Nezlek, Dossche, & Timmermans, 2007). On the other hand, literature also points to the potential benefits of emotional complexity. For example, Fong (2006) found that mixed emotions improve the consideration of alternative perspectives and relationships during a creative task. Rees, Rothman, Lehavy, and Burks (2013) found that individuals experiencing mixed emotions displayed more accurate judgements due to increased openness to alternative perspectives.

Given the theoretical pervasiveness of moral foundations and their violations (Graham et al., 2013; Graham et al., 2009), it is practically important to understand these relationships holistically. However, because these relationships have not been empirically examined, the following research question and hypotheses are proposed based on the small body of evidence regarding singular discrete emotions presented above as well as evidence by Landmann and Hess

(2018) suggesting that there are generally one or two emotions primarily elicited by violations to moral foundations:

RQ5: How will the emotions primarily elicited by violations of different moral foundations (i.e., anger, compassion, disgust) relate to ethical sensemaking?

H3: Violations to the Care foundation and subsequent emotions (i.e., anger, compassion) will positively relate to ethical decision-making.

H4: The emotions primarily elicited by violations of the Sanctity foundation (i.e., disgust) will negatively relate to ethical decision-making.

Overview of Studies

To test the above hypotheses and research questions, two studies were employed. The first study conceptually replicates previous research (Landmann & Hess, 2018) and establishes the emotional profiles that are elicited by experiencing violations to different moral foundations. This is done by experimentally manipulating moral violations present in an ethical dilemma between subjects, measuring an array of emotions felt by participants, and examining the patterns of felt emotions to establish the emotional profiles. Once the emotional profiles have been established, the effects of moral foundation violations on perceived moral intensity, ethical sensemaking, and ethical decision-making is examined.

Study 1 Method

Sample

Our initial sample consisted of 205 college undergraduates from a large Southwestern University. Before any analyses were conducted, 35 participants were removed for failing attention checks and generally clicking through the study. This resulted in a final sample of 170 participants, 127 (74%) of which were female ranging in age from 18 to 27 (M=18.72, SD=1.21).

The average number of years worked for this sample was 2.53 (*SD*=1.9) years. Most of the sample identified as White (71.17%), 4.7% identifying as Black or African American, 7.64% as Asian, 5.29% as Native American, and 11.17% as Other. Participants were recruited from the Psychology department's human subject research pool which awards partial course credit for research participation.

Procedure

As a part of recruitment, participants were able to view basic information about the study such as a general title and length of time for completion. After electing to participate, participants are directed to a Qualtrics link. Upon opening the link, participants were provided with an informed consent document. After reviewing and accepting the informed consent document, participants were randomly assigned via Qualtrics to 1 of 4 conditions (care violations, fairness violations, authority violations, sanctity violations) or the control group. Participants were then given a modified covariate measure of general trait affect (PANAS; Watson et al., 1988) before being presented with an ethical dilemma vignette. Embedded within the ethical dilemma vignette are several violations of a single moral foundation depending on the condition. Participants in the control group received the ethical dilemma vignette, but no moral foundation violations were present. After reading through the vignette, participants were prompted to complete a modified version of the Discrete Emotions Questionnaire (DEQ; Jones et al., 2016). Next, participants completed measures of their moral foundations to be used as a covariate as well as several other demographic variables. Upon completion of these instruments, participants were debriefed and thanked for their time.

Manipulations

Moral foundation violations were manipulated within the context of an organizational ethical dilemma vignette. Two foundational vignettes were created with inspiration from Lyon & Mirivel (2011). The foundational vignettes presented participants with a generic organizational growth and sales problem. For the manipulated conditions, additional information was added to the foundational vignettes which contained the various moral foundation violations. Drafting the moral foundation violations began by taking inspiration from the moral foundation violation vignettes presented in Clifford et al. (2015). The violations were then iterated upon to be realistic, have serious consequences, be engaging, be moderately complex, and to fit within the context of the foundational vignettes. This process resulted in two foundational vignettes, each with an accompanying set of additional vignettes containing moral foundation violations that could be added to the foundational vignette while still presenting a cohesive story. Participants in both studies were told that they would be asked several questions about the vignette after they finished reading it. In study 2, the vignette remained visible while they answered questions. Participants were unaware of the ethics-related nature of the study.

Vignettes were pretested by trained graduate and undergraduate students (n = 11) familiar with MFT. After reading each vignette, pre-testers rated the vignette for the extent to which it contained a specific moral foundation violation and how intense that violation was on a 7-point Likert scale (1 = not at all, 7 = very much so). Vignettes were also rated on their (1) ease of understanding, (2) technical complexity, (3) realism, (4) seriousness of consequences, (5) familiarity, (6) engagement/interest, and (7) overall quality. Afterwards, the two vignette set ratings were compared. While both sets were generally rated highly, one vignette set did emerge

as the superior set of vignettes and was subsequently chosen to be used for the manipulations. See Appendix I for these manipulations.

Dependent Measures

Discrete Emotions. Participant emotions were measured after the manipulations. Emotions were measured using a modified version of the *Discrete Emotions Questionnaire* (DEQ; Jones et al., 2015). The instrument was modified to include items for gratitude, compassion, respect, and guilt using the same method that was used to develop the initial items – by taking the closest matching synonyms. This version of the DEQ consists of 12 emotions that are measured by 3-4 items each. Each item contains a word used to describe a discrete emotion that is rated on a scale of 1 (not at all) to 7 (An extreme amount) for the extent the participant has experienced those emotions within the context of the ethical dilemma. The subscales of anger (α = .93, ω_h = .94), anxiety (α = .87, ω_h = .90), compassion (α = .73, ω_h = .74), desire (α = .85, ω_h = .89), disgust (α = .84, ω_h = .90), fear (α = .88, ω_h = .90), gratitude (α = .71, ω_h = .74), guilt (α = .86, ω_h = .86), happiness (α = .86, ω_h = .89), relaxation (α = .78, ω_h = .82), respect (α = .79, ω_h = .80), and sadness (α = .81, ω_h = .84) all demonstrated acceptable reliability. See Appendix J for this measure.

Covariates

Moral Foundations. As this study is primarily concerned with the relations and effects of violations to moral foundations and individuals tend to differentially endorse the various moral foundations, it is important to covary out participant endorsement of moral foundations. Moral foundation endorsement was measured with the Moral Foundations Questionnaire, which is a 30-item measure of the importance of five domains of moral judgment (MFQ; Graham et al., 2011). Participants rate their agreement with statements regarding moral judgments on a 6-point

Likert scale (1 = *not at all relevant or strongly disagree*; 6 = *extremely relevant or strongly agree*). High scores on each of the five subscales indicate a high priority for that moral foundation. The reliability of the Care (α = .56, ω_h = .65), Fairness (α = .62, ω_h = .72), Authority (α = .62, ω_h = .72), Loyalty (α = .62, ω_h = .71), and Sanctity (α = .70, ω_h = .76) subscales were consistent with previous research (Graham et al., 2011). See Appendix K for this measure.

Trait Emotional Affect. Participant trait affect was measured before the manipulations. Emotions were measured using an adapted version of the *Positive and Negative Affect Scale* (PANAS; Watson et al., 1988) with modified instructions to measure trait affect. The PANAS consists of 20 emotions that are rated on a scale of 1 (very slightly or not at all) to 5 (extremely) for the extent the participant has felt those emotions within the last month. The reliability of the overall positive affectivity (α = .85, ω_h = .87) and overall negative affectivity (α = .87, ω_h = .89) subscales were acceptable. See Appendix L for this measure.

Demographics. Participants were asked to provide basic demographic information including their age, gender, ethnicity, and political affiliation. See Appendix M for these questions.

Study 1 Results

The primary purpose of study 1 was to examine the emotions elicited by violations of moral foundations. To test this, ANCOVAs were used to test the mean differences in the twelve measured emotions between conditions while controlling for theoretically important variables. For all ANCOVA analyses, gender, endorsement of each moral foundation, and positive and negative affectivity were initially entered as covariates. The results presented below retained only the covariates which accounted for a significant portion of variance. Post-hoc comparisons were then used to determine between which of the conditions mean differences existed. See Table 1 in Appendix A for the means, standard deviations, and correlations among the variables

included in this study. See Table 2 in Appendix B for means and standard errors by condition and for a summary of findings see Table 3 in Appendix C.

Across both studies, all analyses were conducted in R Statistical Software (v4.2.1; R Core Team, 2022). It is important to note that several dependent variables had non-normal distributions. A Box Cox (Box & Cox, 1964; Osborne, 2010) transformation was used to address issues of non-normality. Box Cox lambdas were chosen iteratively via the forecast package (Hyndman et al., 2023) to reduce issues of non-normality. See Table 2 in Appendix B for information on which variables were transformed.

Moral foundation violation conditions demonstrated a main effect on anger (F (4, 164) = 5.7, p <.000, η^2p = .12) after controlling for negative affectivity (F (1, 164) = 6.43, p <.012, η^2p = .03). Tukey's post-hoc comparisons revealed that individuals in the control condition experienced significantly less anger than individuals who received violations to the care foundation (t(164) = 4.23, p < .000, d = 1.00), violations to the fairness foundation (t(164) = 3.79, p = .001, d = .87), and violations to the authority foundation (t(164) = 2.85, p = .03, d = .68).

Moral foundation violation conditions demonstrated a main effect on disgust (F (4, 165) = 7.99, p <.000, η^2p = .16). Tukey's post-hoc comparisons revealed that individuals in the control group experienced significantly less disgust than individuals who received violations to the care foundation (t(165) = 3.56, p = .004, d = .84), violations to the fairness foundation (t(165) = 2.91, p = .03, d = .67), and violations to the sanctity foundation (t(165) = 3.79, p = .001, d = .91). Individuals who received violations to the authority foundation also experienced significantly less disgust than those who received violations to the care foundation (t(165) =

3.89, $p = .001$, $d = .97$), violations to the fairness foundation ($t(165) = 3.29$, $p = .01$, $d = .80$), and violations to the sanctity foundation ($t(165) = 4.12$, $p < .000$, $d = 1.04$).

Moral foundation violation conditions demonstrated a main effect on compassion (F (4, 164) = 3.28, $p = .01$, $\eta^2p = .07$) after controlling for negative affectivity (F (1, 164) = 3.86, $p = .05$, $\eta^2p = .02$). Tukey's post-hoc comparisons revealed that individuals who received violations to the care foundation experienced significantly more compassion than individuals who received violations to the authority foundation ($t(164) = 3.06$, $p = .02$, $d = .77$), violations to the fairness foundation ($t(164) = 2.83$, $p = .04$, $d = .69$), and violations to the sanctity foundation ($t(164) = 2.93$, $p = .03$, $d = .74$).

Moral foundation violation conditions also demonstrated a main effect on guilt (F (4, 164) = 4.70, $p = .001$, $\eta^2p = .10$) after controlling for negative affectivity (F (1, 164) = 7.11, $p = .008$, $\eta^2p = .04$). Tukey's, post-hoc comparisons revealed that individuals who received violations to the care foundation experienced significantly more guilt than those in the control condition ($t(164) = 3.19$, $p = .01$, $d = .76$). Individuals who received violations to the fairness condition also experienced significantly more guilt compared to the control condition ($t(164) = 3.29$, $p = .01$, $d = .76$).

Finally, moral foundation violations demonstrated a main effect on respect (F (4, 165) = 4.29, $p = .002$, $\eta^2p = .09$). Tukey's post-hoc comparisons revealed that individuals who received violations to the sanctity foundation experienced significantly less respect than those who received violations to the care foundation ($t(165) = 2.96$, $p = .03$, $d = .74$) and the control condition ($t(165) = 3.35$, $p = .01$, $d = .80$).

Study 1 Discussion

The primary purpose of study 1 was to establish a pattern of discrete emotions that were elicited from violations to different moral foundations. See Figure 1 in Appendix G for these patterns. The results demonstrated partial support for *H1* in that individuals who received violations to the care foundation did experience significantly more compassion than those who received violations to the authority, fairness, and sanctity foundation. Additionally, individuals who received violations to the care foundation also experienced significantly more anger than those in the control group. However, violations to the care foundation also elicited significantly more respect than violations to the sanctity foundation, significantly more guilt than those in the control condition, significantly more disgust compared to the control condition and violations to the authority foundation. This evidence supports MFT (Graham et al., 2013) in that violations to the care foundation appeared to primarily elicit compassion and anger compared to violations to the other foundations and the control condition however, it is also evident that a certain degree of respect, guilt, and disgust were elicited as well. It is not apparent by the levels of the emotions elicited by this violation that compassion and anger were the primary emotions elicited. However, MFT does account for this by indicating that violations to specific foundations will elicit certain emotions primarily, but not exclusively. After examining the pattern of emotions elicited in Figure 1, it is important to note the difference in the overall levels of emotions elicited by moral foundation violations compared to Landman & Hess (2018) where the emotions measured were generally elicited to a greater extent than what was observed in study 1. This departure from previous research may be a result of methodological differences as Landman & Hess (2018) utilized a within-subjects design, single item measures of emotion, and both shorter and more intense moral foundation violation vignettes (Clifford et al., 2015) compared to the

present studies – preventing participants from being able to return to their baseline emotional state before experiencing another moral foundation violation. Another interesting possibility for the cause of this difference may be that moral foundation violations which are considered more realistic and therefore perhaps less intense, elicit various emotions to a lesser degree.

There is also partial support for *H2* given that violations to the sanctity foundation elicited significantly more disgust than the control condition and violations to the authority foundation. However, violations to the sanctity foundation were not the only violations to elicit significantly more disgust than other violations or the control group, nor did this violation elicit the most disgust amongst all of the violations to different foundations which is surprising given the theoretical distinctions the sanctity foundation has from other foundations. This finding highlights an evolutionary distinction in disgust made by Graham et al., (2013) which is that over time the feeling of disgust has moved from being solely physical (e.g., bad tasting food, foul smells) to also including social aspects such as immigration and sexual deviants (Faulkner et al., 2004; Rozin et al., 2008). Although it was still unexpected for violations to the sanctity foundation to not elicit the greatest levels of disgust.

Beyond these three emotions, the results demonstrated that feelings of guilt were significantly higher in those who received violations to the care and fairness foundations compared to the control condition. This result supports the propositions of MFT in that guilt is theorized to be an emotion primarily elicited by violations to the fairness foundation by engaging in cheating behaviors (Graham et al., 2013). This likely occurred because participants were asked to put themselves into a role with a fictional organization which engaged in product misrepresentation and deception, thereby they engaged in the fictional cheating behaviors via their affiliation with the organization. While guilt is not thought to be an emotion primarily

associated with the care foundation, it seems reasonable to experience guilt when individuals are put in a situation where they are loosely related to the cause of the care foundation violation (e.g., an employee in an organization that continues to sell a medication that harms people).

Study 2 Method

Sample

Our initial sample consisted of 310 college undergraduates from a large Southwestern University. Before any analyses were conducted, 16 participants were removed for failing attention checks and generally clicking through the study. This resulted in a final sample of 294 participants, 233 (79%) of which were female ranging in age from 18 to 47 (M = 18.72, SD = 1.94). The average number of years worked for this sample was 2.94 (SD=2.26) years. Most of the sample identified as White (70.71%), with 7.12% identifying as Black or African American, 9.52% as Asian, 5.44% as Native American, and 7.14% as Other. Participants were recruited from the Psychology department's human subject research pool which awards partial course credit for participation.

Procedure

The procedure for study 2 builds upon study 1. The same procedure and materials are used until participants finished reading the ethical decision-making vignette. Participants then answered several open-ended questions concerning the content of the vignette and ethical decision-making. Then their emotions were assessed, and they completed a measure of perceived moral intensity regarding the vignette. Finally, participants completed measures of their moral foundations and basic demographics to be used as covariates. Upon completion of these instruments, participants were debriefed and thanked for their time.

Dependent Measures

Discrete Emotions. Participant emotions were measured after the manipulations. Emotions were measured using a modified version of the *Discrete Emotions Questionnaire* (DEQ; Jones et al., 2015). The instrument was modified to include items for gratitude, compassion, respect, and guilt using the same method that was used to develop the initial items – by taking the closest matching synonyms. This version of the DEQ consists of 12 emotions that are measured by 4 items each. Each item contains a word used to describe a discrete emotion that is rated on a scale of 1 (not at all) to 7 (An extreme amount) for the extent the participant has experienced those emotions within the context of the ethical dilemma. The subscales of anger (α = .90, ω_h = .91), anxiety (α = .81, ω_h = .84), compassion (α = .76, ω_h = .77), desire (α = .86, ω_h = .89), disgust (α = .82, ω_h = .84), fear (α = .88, ω_h = .88), gratitude (α = .73, ω_h = .76), guilt (α = .81, ω_h = .84), happiness (α = .88, ω_h = .89), relaxation (α = .76, ω_h = .78), respect (α = .80, ω_h = .81), and sadness (α = .78, ω_h = .81) all demonstrated acceptable reliability. See Appendix J for this measure.

Perceived Moral Intensity. Perceived moral intensity was measured using a 12-item Perceived Moral Intensity Scale (PMIS; McMahon and Harvey, 2006) in order to measure the extent to which participants perceived the existence of moral intensity characteristics in each scenario. Perceptions of each of the six moral intensity characteristics were measured with two items for each characteristic using a 7-point Likert-type scale (1 = Strongly Agree, 7 = Strongly Disagree). Six items were reverse scored. Ratings are combined to form an overall perceptions of moral intensity score with higher numbers reflecting higher degrees of perceived moral intensity. The Cronbach's alpha (α) and omega (ω_h) coefficient were .76 and .80 respectively, demonstrating acceptable reliability. See Appendix N for this measure.

After reading through the scenario, participants were instructed to respond to a series of open-ended questions about the situation which assessed various components of the ethical sensemaking process as well as ethical decision making. Participant responses were rated on nine sensemaking processes (Higgs et al., 2020; Mumford et al., 2008; Ness & Connelly, 2017) and three decision ethicality outcomes using a 1 (participant did not consider or identify the variable at all) to 5 (participant considered or identified the variable to a great extent) scale unless noted otherwise.

Ethical Sensemaking

The first set of variables under ethical sensemaking are causal analysis variables which describe the identification of the key causes of a problem when individuals are creating solutions to that problem (Marcy & Mumford, 2007). Causal analysis is comprised of three components, problem recognition, number of causes identified, and criticality of causes.

Problem Recognition. Problem recognition is characterized by the extent to which participants identify critical aspects of a dilemma. The interrater agreement coefficient (r^*_{wg}) for problem recognition was .75.

Number of Causes Identified. The number of causes identified refers to the continuous numerical count of the distinct causes identified by the participant and is therefore rated on a continuous scale. The r^*_{wg} for the number of causes identified was .88.

Criticality of Causes Identified. Criticality of causes identified (r^*_{wg} = .75) refers to the importance or relevance of the causes identified to the dilemma.

The next set of variables are tied to constraint analysis which refers to the identification and examination of key constraints of a given dilemma that can be used when generating solutions to the dilemma (Hershey et al., 1990). Both constraint analysis variables were rated on

a 1 (participant did not consider or identify the variable at all) to 5 (participant considered or identified the variable to a great extent) scale.

Breadth of Constraints. Breadth of constraints refers to the extent to which the constraints identified cover many of both personal and situational factors as well as elements of different people, tasks, and groups. The r^*_{wg} for breadth of constraints was .74.

Criticality of Constraints. Criticality of constraints refers to the importance of the constraints identified and tied to the dilemma. The r^*_{wg} for criticality of constraints was .74.

The final set of ethical sensemaking variables consists of forecast analysis variables. These refer to the mental simulation of future actions or outcomes of actions (Mumford et al., 2001, 2002). All five of the forecasting variables were rated on the same 1 (participant did not consider or identify the variable at all) to 5 (participant considered or identified the variable to a great extent) scale. **Timeframe.** Timeframe considered refers to the extent to which participants considered and mentioned the short or long-term consequences where longer timeframe considerations were given higher ratings. The r^*_{wg} for timeframe was .80.

Positivity. Positivity in forecasting refers to the degree to which participants considered and mentioned positive outcomes. The r^*_{wg} for positivity was .87.

Negativity. Negativity in forecasting refers to the degree to which participants considered and mentioned negative outcomes. The r^*_{wg} for negativity was .79.

Quality of Forecasting. Quality of forecasting refers to the extent to which forecasted outcomes display detail, relevance to the ethical situation, consider critical aspects of the scenario, and are realistic. The r^*_{wg} for quality of forecasting was .82.

Metacognitive Reasoning Strategies

Metacognitive reasoning strategies are used during the sensemaking process. Research by Mumford et al., (2008) has demonstrated how metacognitive reasoning strategies contribute to effective ethical decision making. Sensemaking is a form of complex cognition that takes place when individuals attempt to make sense of complex, ill-defined, and ambiguous events (Mumford et al., 2008). All seven metacognitive reasoning strategies were rated on a five-point scale ranging from 1 (participant did not consider the variable when making their decision at all) to 5 (participant considered the variable when making their decision to a great extent).

Recognizing Circumstances. This sensemaking strategy refers to demonstrating knowledge of the current social, organizational, and political climates, knowledge of threats and opportunities a situation poses, and anticipation of both personal and institutional outcomes. The r^*_{wg} for recognizing circumstances was .75.

Seeking Help. Seeking help is evident when individuals talk with peers, advisors, trusted colleagues, or other trusted individuals about advice on how to navigate a situation. Individuals investigate and learn from what others have done in similar past situations and seek outside information. The r^*_{wg} for seeking help was .81.

Questioning Judgement. Questioning one's judgement is marked by examining a given situation from multiple perspectives, considering if the decision is consistent with one's beliefs and values, and considering multiple potential solutions and processes that may contribute to achieving the desired outcome. The r^*_{wg} for questioning one's judgement was .80.

Managing Emotions. Managing one's emotions refers to using one's instinct as a guide for when something is wrong, remaining objective when navigating a situation, and calming down prior to acting. The r^*_{wg} for managing emotions was .94.

Anticipating Consequences. This strategy is characterized by thinking about consequences for both oneself and others, considering both long and short-term outcomes that may result from behaviors, and considering the benefits and consequences of potential outcomes. The r^*_{wg} for anticipating consequences was .77.

Looking Within. Looking within is marked by considering one's own biases, questioning one's ability to make an ethical decision in a particular situation, and considering the impact that one's values and goals will have on decision making. The r^*_{wg} for looking within was .90.

Considering others' Perspectives. Considering others' perspectives is characterized by being aware and mindful of how others will perceive your actions, viewing a problem from other's perspectives, and thinking about how your actions will impact other people involved. The r^*_{wg} for considering others' perspectives was .74.

Decision Ethicality

In addition to the variables above, the components of overall decision ethicality which refers to the extent to which participant's decisions and actions represent ethical principles and norms was also rated by three trained raters on the same 1 (participant did not consider or identify the variable at all) to 5 (participant considered or identified the variable to a great extent) scale.

Regard for the Welfare of Others. The first of which is regard for welfare of others ($r^*_{wg} = .76$) which refers to how well participants consider the health and well-being of other individuals in their responses.

Attending to Personal Responsibilities. Next, attending to personal responsibilities ($r^*_{wg} = .74$) refers to the extent to which participants recognize and attend to the personal responsibilities assigned to them via the ethical-dilemma vignette.

Awareness of Social Obligations. Awareness of social obligations (r^*_{wg} = .73) represents how well participants adhered to various social obligations of different social entities such as the organization and society at large.

Overall Ethicality. Overall ethicality was established by averaging participant ratings for regard for the welfare of others, attending to personal responsibilities, and awareness of social obligations. See Appendix O for the questions that participants responded to that were rated for ethical sensemaking and ethical decision-making.

Covariate Measures

Moral Foundations. As this study is primarily concerned with the relations and effects of violations to moral foundations and individuals tend to differentially endorse the various moral foundations, it is important to covary out participant endorsement of moral foundations. Moral foundation endorsement was measured with the Moral Foundations Questionnaire, which is a 30-item measure of the importance of five domains of moral judgment (MFQ; Graham et al., 2011). Participants rate their agreement with statements regarding moral judgments on a 6-point Likert scale (1 = *not at all relevant or strongly disagree*; 6 = *extremely relevant or strongly agree*). High scores on each of the five subscales indicate a high priority for that moral foundation. The reliability of the Care (α = .66, ω_h = .75), Fairness (α = .66, ω_h = .72), Authority (α = .63, ω_h = .64), Loyalty (α = .68, ω_h = .75), and Sanctity (α = .67, ω_h = .72) subscales were consistent with previous research (Graham et al., 2011). See Appendix K for this measure.

Trait Emotional Affect. Participant trait affect was measured before the manipulations. Emotions were measured using an adapted version of the *Positive and Negative Affect Scale* (PANAS; Watson et al., 1988) with modified instructions to measure trait affect. The PANAS consists of 20 emotions that are rated on a scale of 1 (very slightly or not at all) to 5 (extremely)

for the extent the participant has felt those emotions within the last month. The reliability of the overall positive affectivity ($\alpha = .89$, $\omega_h = .90$) and overall negative affectivity ($\alpha = .86$, $\omega_h = .88$) subscales were acceptable. See Appendix E for this measure.

Demographics. Participants were asked to provide basic demographic information including their age, gender, ethnicity, and political affiliation. See Appendix L for these questions.

Study 2 Results

The primary purpose of study 2 was to examine how experiencing moral foundation violations influences the ethical decision-making process. Additionally, data collected in study 2 were used to test the relationship between moral foundation violations and emotions experienced with a focus on external validity by requiring participants to engage in the ethical decision-making process and assessing emotions experienced afterwards. Finally, the relationship between violations to moral foundations and how individuals perceive the moral intensity of a situation was examined. To test these relationships, ANCOVAs were used to test the mean differences in the twelve measured emotions between conditions while controlling for theoretically important variables. For all ANCOVA analyses, gender, endorsement of each moral foundation, and positive and negative affectivity were initially entered as covariates. The results presented below retained only the covariates which accounted for a significant portion of variance. See Table 4 in Appendix D for the means, standard deviations, and correlations among the variables included in this study. See Table 5 in Appendix E for the means and standard errors by condition as well as information on which variables were transformed. See Table 6 in Appendix F for a summary of results.

Emotions

Moral foundation violation conditions demonstrated a main effect on anger (F (4, 286) = 4.46, p = .001, η^2p = .05) after controlling for overall negative affectivity (F (1, 286) = 11.39, p < .000, η^2p = .03) and participants' endorsement of the sanctity foundation (F (1, 286) = 15.06, p < .000, η^2p = .05). Tukey's post-hoc comparisons revealed that individuals who received violations to the fairness foundation experienced significantly more anger than individuals who received violations to the authority foundation (t(286) = 2.75, p = .04, d = .52), violations to the sanctity foundation (t(286) = 3.40, p = .006, d = .61), and those in the control condition (t(286) = 3.25, p = .01, d = .59).

Moral foundation violation conditions demonstrated a main effect on disgust(F (4, 286) = 5.94, p < .000, η^2p = .07) after controlling for gender (F (1, 286) = 6.97, p = .008, η^2p = .02), overall negative affectivity (F (1, 286) = 7.60, p = .006, η^2p = .02), and participants' endorsement of the sanctity foundation (F (1, 286) = 8.22, p = .004, η^2p = .02). Tukey's post-hoc comparisons revealed that individuals who received violations to the sanctity foundation experienced significantly more disgust than individuals in the control condition (t(286) = 3.96, p < .000, d = .70) and individuals who received violations to the authority foundation (t(286) = 4.14, p < .000, d = .77).

Moral foundation violation conditions demonstrated a main effect on anxiety (F (4, 288) = 3.24, p < .01, η^2p = .04) after controlling for overall negative affectivity (F (1, 288) = 20.94, p < .000, η^2p = .06). Tukey's post-hoc comparisons revealed individuals who received violations to the fairness foundation experienced significantly more anxiety than those who received violations to the sanctity foundation (t(288) = 3.17, p = .01, d = .56).

Moral foundation violation conditions demonstrated a main effect on sadness (F (4, 289) = 3.47, p = .008, η^2p = .04) after controlling for overall negative affectivity (F (1, 289) = 40.95, p < .000, η^2p = .12). Tukey's post-hoc comparisons revealed that individuals who received violations to the fairness condition experienced significantly higher levels of sadness than those who received violations to the authority foundation (t(288) = 3.03, p = .02, d = .57), and violations to the fairness foundation (t(288) = 2.85, p = .03, d = .51).

Moral foundation violation conditions demonstrated a main effect on relaxation (F (4, 287) = 3.52, p = .007, η^2p = .04) after controlling for gender (F (1, 287) = 3.99, p = .04, η^2p = .01) and overall negative affectivity (F (1, 287) = 9.35, p = .002, η^2p = .03). Tukey's post-hoc comparisons revealed that individuals who received violations to the authority foundation experienced significantly more relaxation than individuals who received violations to the care foundation (t(287) = 3.68, p = .002, d = .71).

Moral foundation violation conditions demonstrated a main effect on happiness (F (4, 286) = 5.2, p < .000, η^2p = .06) after controlling for gender (F (1, 286) = 10.16, p = .001, η^2p = .03), overall negative affectivity (F (1, 286) = 12.06, p = .004, η^2p = .04), and participants' endorsement of the loyalty foundation (F (1, 286) = 8.1, p = .004, η^2p = .02). Tukey's post-hoc comparisons revealed that individuals who received violations to the authority foundation experienced significantly more happiness than individuals who received violations to the care foundation (t(286) = 4.1, p < .000, d = .79), violations to the fairness foundation (t(286) = 3.28, p = .009, d = .62), and violations to the sanctity foundation (t(286) = 2.80, p = .04, d = .52).

Moral foundation violation conditions demonstrated a main effect on guilt (F (4, 287 = 4.32, p = .002, η^2p = .05) after controlling for gender (F (1, 287) = 8.68, p = .003, η^2p = .02) and overall negative affectivity (F (1, 287) = 20.14, p < .000, η^2p = .06). Tukey's post-hoc

comparisons revealed individuals who received violations to the fairness foundation experienced significantly more guilt than individuals in the control condition ($t(287) = 3.48$, $p = .005$, $d = .63$) and individuals who received violations to the authority foundation ($t(287) = 2.96$, $p = .02$, $d = .56$).

Perceptions of Moral Intensity

Overall perceptions of moral intensity were affected by condition (F (4, 287) = 5.36, $p < .000$, $\eta^2p = .06$) after controlling for participants' endorsement of the care foundation (F (1, 287) = 11.97, $p < .000$, $\eta^2p = .04$) and endorsement of the sanctity foundation (F (1, 287) = 3.94, $p = .04$, $\eta^2p = .01$). Tukey's post-hoc comparisons revealed that individuals in the control condition had significantly lower perceptions of the situations' moral intensity than individuals who received violations to the care foundation ($t(287) = 3.78$, $p = .001$, $d = .70$) and violations to the fairness foundation ($t(287) = 2.75$, $p = .04$, $d = .50$) but was not significantly different from individuals who received violations to the authority and sanctity foundations. Additionally, individuals who received violations to the sanctity foundation had significantly lower perceptions of the situations' moral intensity than individuals who received violations to the care foundation ($t(287)$ 3.71, $p = .002$, $d = .68$). With regard to emotions and their relationship to perceptions of moral intensity, we found that only anger ($r = .13$) and guilt ($r = .12$) were significantly correlated with perceptions of moral intensity.

Additionally, whether or not the emotions elicited by moral foundation violations acted as a mediator between moral foundation violations and perceptions of moral intensity. Results indicated that none of the emotions measured served as a mediator in this relationship.

Ethical Sensemaking

Moral foundation violation conditions demonstrated a main effect on problem recognition (F (4, 287) = 12.49, p < .000, η^2p = .14) after controlling for gender (F (1, 287) = 4.83, p = .02, η^2p = .01) and participant endorsement of the care moral foundation (F (1, 287) = 11.21, p < .000, η^2p = .02). Tukey's post-hoc comparisons revealed that individuals in the control group performed significantly worse at identifying the critical aspects of the ethical dilemma compared to individuals who received violations to the authority foundation (t(287) = 4.78, p < .000, d = .90), violations to the care foundation (t(287) = 5.99, p < .000, d = 1.12), violations to the fairness foundation (t(287) = 3.85, p = .001, d = .70), and violations to the sanctity foundation (t(287) = 6.02, p < .000, d = 1.07).

Similarly, moral foundation violation conditions demonstrated a main effect on criticality of causes (F (4, 286) = 8.83, p < .000, η^2p = .10) after controlling for gender (F (1, 286) = 7.9, p = .005, η^2p = .02), participant endorsement of the care moral foundation (F (1, 286) = 14.58, p < .000, η^2p = .04), and endorsement of the loyalty moral foundation (F (1, 286) = 9.66, p = .002, η^2p = .03). Tukey's post-hoc comparisons revealed that individuals in the control group performed significantly worse at identifying important and relevant causes of the ethical dilemma compared to individuals who received violations to the authority foundation (t(286) = 4.19, p < .000, d = .79), violations to the care foundation (t(286) = 5.19, p < .000, d = .97), violations to the fairness foundation (t(286) = 4.13, p < .000, d = .75), and violations to the sanctity foundation (t(286) = 4.74, p < .000, d = .84).

Moral foundation violation conditions demonstrated a main effect on timeframe (F (1, 288) = 5.02, p < .000, η^2p = .06) after controlling for gender (F (1, 288) = 9.39, p = .002, η^2p = .03). Tukey's post-hoc comparisons revealed that individuals who received violations to the

authority foundation considered a significantly shorter timeframe in their forecasting than individuals who received violations to the care foundation ($t(288) = 2.77$, $p = .04$, $d = .53$), and violations to the fairness foundation ($t(288) = 4.36$, $p < .000$, $d = .82$).

Metacognitive Reasoning

Moral foundation violation conditions demonstrated a main effect on recognizing circumstances (F (4, 286) = 3.59, $p = .007$, $\eta^2p = .04$) after controlling for gender (F (1, 286) = 7.67, $p = .005$, $\eta^2p = .02$), participant endorsement of the care foundation (F (1, 286) = 10.58, $p = .001$, $\eta^2p = .03$), and participant endorsement of the sanctity foundation (F (1, 286) = 6.68, $p = .01$, $\eta^2p = .02$), Tukey's post-hoc comparisons revealed that individuals who received violations to the sanctity foundation were significantly better at thinking about the origins of the problem, individuals involved, and the relevant principles, goals and values than individuals who received violations to the fairness foundation ($t(286) = 3.18$, $p = .01$, $d = .57$), and individuals in the control condition ($t(286) = 3.09$, $p = .01$, $d = .55$).

Moral foundation violation conditions demonstrated a main effect on questioning one's judgement (F (4, 289) = 4.68, $p = .001$, $\eta^2p = .06$). =Tukey's post-hoc comparisons revealed that individuals who received violations to the fairness foundation were significantly better at considering reasoning errors that commonly occur when making ethical decisions compared to individuals who received violations to the care foundation ($t(289) = 2.82$, $p = .04$, $d = .52$), and violations to the sanctity foundation ($t(289) = 4.25$, $p < .000$, $d = .76$).

Moral foundation violation conditions demonstrated a main effect on considering others' perspectives (F (4, 289) = 4.07, $p = .003$, $\eta^2p = .05$). Tukey's post-hoc comparisons revealed that individuals who received violations to the authority foundation were significantly better at being mindful of others' perceptions, concerns, and the impact of personal actions on others, socially

and professionally than individuals who received violations to the fairness foundation ($t(289) = 3.62$, $p = .003$, $d = .68$) and individuals in the control condition ($t(289) = 3.22$, $p = .01$, $d = .60$).

Ethical Decision-Making

Moral foundation violation conditions demonstrated a main effect on regard for the welfare of others (F (4, 288) = 10.79, $p < .000$, $\eta^2p = .11$) after controlling for participants' endorsement of the fairness foundation (F (1, 288) = 12.15, $p < .000$, $\eta^2p = .03$). Tukey's post-hoc comparisons revealed that the decisions made by individuals in the control condition reflected attention and care for the welfare of others to a significantly lesser extent compared to individuals who received violations to the authority foundation ($t(288) = 4.92$, $p < .000$, $d = .92$), violations to the care foundation ($t(288) = 5.92$, $p < .000$, $d = 1.10$), violations to the fairness foundation ($t(288) = 3.9$, $p = .001$, $d = .71$), and violations to the sanctity foundation ($t(288) = 4.79$, $p < .000$, $d = .85$).

Moral foundation violation conditions demonstrated a main effect on attending to personal responsibilities (F (4, 288) = 5.49, $p < .000$, $\eta^2p = .07$) after controlling for participants' endorsement of the care foundation (F (1, 288) = 8.05, $p = .004$, $\eta^2p = .02$). Tukey's post-hoc comparisons revealed that the decisions made by individuals who received violations to the authority foundation reflected attention to one's personal responsibilities to a significantly greater extent than individuals who received violations to the care foundation ($t(288) = 3.42$, $p = .006$, $d = .66$), violations to the fairness foundation ($t(288) = 3.38$, $p = .007$, $d = .64$), and individuals in the control condition ($t(288) = 4.28$, $p < .000$, $d = .80$).

Moral foundation violation conditions demonstrated a main effect on adherence to and awareness of social obligations (F (4, 286) = 5.84, $p < .000$, $\eta^2p = .07$) after controlling for gender (F (1, 286) = 5.81, $p = .01$, $\eta^2p = .01$), participant endorsement of the fairness foundation

(F (1, 286) = 10.48, p = .001, η^2p = .07), and participant endorsement of the loyalty foundation (F (1, 286) = 14.95, p < .000, η^2p = .01). Tukey's post-hoc comparisons revealed that the decisions made by individuals in the control condition reflected adherence to social obligations (i.e., the social entity may be the local group, the organization, the field, society, etc.) to a significantly lesser extent than individuals who received violations to the authority foundation (t(286) = 3.61, p = .003, d = .68) and violations to the sanctity foundation (t(286) = 4.24, p < .000, d = .75).

Finally, moral foundation violation conditions demonstrated a main effect on participant's overall decision ethicality (F (4, 288) = 7.68, p < .000, η^2p = .09) after controlling for participant endorsement of the fairness foundation (F (1, 286) = 13.03, p = .003, η^2p = .04). Tukey's post-hoc comparisons revealed that decisions made by individuals in the control condition were significantly less ethical than individuals who received violations to the authority foundation (t(288) = 5.02, p < .000, d = .94), violations to the sanctity foundation (t(288) = 4.39, p < .000, d = .78), and violations to the care foundation (t(288) = 3.36, p = .007, d = .63).

Study 2 Discussion

In study 2, moral foundation violations relationship with the ethical decision-making process was examined in addition to assessing the emotions elicited by moral foundation violations under the more applied scenario of having to make decisions concerning the violations. Finally, the relationship between violations to moral foundations and how individuals perceive the moral intensity of a situation was examined.

With regard to the emotions elicited by violations to moral foundations, we found relatively little overlap between study 1 and study 2. In study 1, anger was elicited from violations to the care, fairness, and authority condition while in study 2 anger was only elicited

from violations to the fairness condition. In study 1, disgust was elicited from violations to several foundations, but only emerged from violations to the sanctity foundation in study 2. Finally, in study 1, guilt was elicited by violations to the care and fairness foundations while this pattern was only maintained for violations to the fairness foundation in study 2. The lack of similarities in emotions elicited between studies suggests there might be different patterns of relationships that emerge at different stages of moral foundation violations and the ethical decision-making process. Moral foundation violations may elicit a relatively specific set of discrete emotions in the moment, where only the strongest felt emotions persist through the deliberative ethical decision-making process. Under the studied conditions, these emotions are anger, disgust, and guilt. Additionally, very few emotions correlated significantly with any of the sensemaking and ethical decision-making elements. This result suggests that engaging in a deliberative process such as ethical decision-making may diminish the feelings of any emotions elicited by violations of moral foundations and that these emotions do not assist in ethical sensemaking or decision-making. See Figure 2 in Appendix H for a summary of all emotions elicited by condition.

Regarding perceived moral intensity, results indicated that only anger and guilt were positively associated with perceptions of moral intensity and while significant, these associations were not strong. This finding aligns with previous research indicating a positive relationship between guilt and perceptions of moral intensity (Higgs et al., 2020). Similarly, individuals who received violations to the care and fairness foundations had significantly higher perceptions of moral intensity compared to the control condition. This pattern indicates that the presence of some (but not all) moral foundation violations cause individuals to perceive the situation as more morally intense, a finding that partially supports the theoretical foundation of MFT (Graham et

al., 2013). This finding implies that the issues raised in violations to the care and fairness foundations are significantly more intense than situations in which no moral violations are present for this sample. Graham et al. (2013) highlight how individuals may differentially endorse different moral foundations, implying that some foundations are more important to individuals than others. This finding provides initial evidence that could be used to expand this proposition by MFT in that the moral foundations endorsed by individuals will be recognized as significantly more morally intense when they are violated compared to other moral foundation violations. Considering how perceptions of moral intensity were positively associated with overall decision ethicality, this finding suggests that organizations would be wise to understand the different moral foundation violations their employees are likely to face based on their work. Depending on the violation (or lack thereof), employees would be less likely to make ethical decisions, and may therefore require additional resources or training to compensate.

Additionally, the results of a test of whether the emotions elicited by violations to moral foundation violations would mediate the relationship between foundation violations and perceptions of moral intensity found that this mediational relationship was not present for any of the measured emotions. These lack of results support the premise that the moral intensity components are more likely to serve as the antecedent of discrete emotions felt as a result of an ethical situation and subsequent emotion appraisals than as mediators or outcomes. In other words, moral intensity factors serve to increase the salience of an ethical issue and that ethical issues tend to elicit emotions (Krishnakumar et al., 2011; Graham et al., 2013; Weiss & Cropanzano, 1996; De Cremer & Van Hiel, 2010).

Ethical sensemaking and ethical decision-making processes were also examined within the context of moral foundation violations. Receiving a violation to a moral foundation generally

increased the usages of problem recognition and identifying critical causes compared to the control condition. Otherwise, individuals who received violations to the care and fairness foundations were more likely to consider a longer timeframe in their forecasting than those who received authority foundation violations. Given the nature of moral foundation violations, it follows that individuals would be motivated to and be capable of recognizing what the problem they are being faced with is as well as being able to identify the most critical causes of that problem compared to individuals who received an ethical dilemma that was perhaps less clear or offensive in nature. This finding is further supported by the significant differences that emerged with perceptions of moral intensity since individuals who received violations to the care and fairness foundation also had the highest perceptions of moral intensity. This particular finding may be of use to organizations whose employees face obscure or mildly offensive ethical dilemmas. Employees could benefit from training to assist them in recognizing problems and identifying the most critical causes of those problems.

With regard to *RQ5,* results indicated that very few of the emotions primarily elicited by moral foundation violations were related to ethical sensemaking. This result is surprising given that violations to moral foundations generally caused participants to engage more with ethical sensemaking. One limitation is that emotions were not rated until after ethical sensemaking and ethical decision making occurred. It could be that these processes help participants to work through emotions associated with various moral violations. More research is needed to solve this issue.

There were other unique patterns that emerged from the metacognitive reasoning processes results. Individuals who received violations to the authority foundation were significantly more likely to seek help, consider others, and attend to their own personal

responsibilities compared not only the control condition, but to individuals who received violations to the care and fairness foundations as well. This result speaks to violations to the authority foundation specifically which is in contrast to other results which did little to differentiate among foundation violations. It follows that in response to a challenge to authority, individuals may engage in seeking help from those more knowledgeable or experienced than them (e.g., deference), consider the perspectives of others, and adhere to their own personal responsibilities as an attempt to restore the authoritative hierarchy that has been violated. This result may also highlight an important distinction that should be made clear between each of the moral foundations (Graham et al., 2013), which is the level at which each moral foundation may operate at. For example, these results indicate that violations to the authority foundation operate at more of a system level and therefore individuals feel more need to get help from others and consider others while continuing to serve in their own role compared to care and fairness violations which may operate on an individual level and therefore individuals feel more capable of handling the dilemma themselves without the help of others. Organizations may also benefit from the understanding of employee metacognition tendencies when faced with violations to the authority foundation. Systems could be put into place to directly assist employees with these metacognitive reasoning strategies that could for example assist them in seeking and obtaining help from more experienced others.

The results demonstrated a similar pattern for ethical decision-making outcomes. Generally, experiencing a violation to a moral foundation caused participants to care for the welfare of others, attend to their own social obligations, and have overall more ethical decisions compared to individuals in the control condition. When paired with the perceptions of moral intensity and ethical sensemaking results, this could be the outcome of moral foundation

violations causing these sensemaking and decision-making processes to be more prevalent or perhaps these processes are simply easier to engage in when the situational ethical dilemma is clearer and more potent. Overall, these patterns of results indicate that moral foundation violations cause individuals to attend more to their ethical decision-making.

We found weak support for *H3* in that feelings of anger and compassion were associated with participants' regard for the welfare of others, but not for the other two aspects of the ethical decision-making outcomes. This result however would be directly predicted from MFT as these emotions are thought to be primarily elicited by violations to the care foundation. We found no support for *H4* as feelings of disgust were not significantly associated with any of the ethical decision-making outcomes.

Limitations

The inferences made by these studies are limited by the methodology of the present research. Primarily, emotions were assessed with a self-report measure. While this measure utilized several items per discrete emotion, it is still vulnerable to social desirability and other controlled processes. However, the DEQ was chosen to improve upon similar previous study designs that utilized single item emotion measures (Landman & Hess, 2018) and because it could be easily modified to capture all of the relevant emotions necessary.

The methodology used in both studies employed a low fidelity laboratory simulation which likely reduced the potency of the moral foundation violations and therefore may have influenced the findings presented here, particularly the findings regarding emotions as these typically exhibit smaller effect sizes. Participants were not asked to make decisions in any actual ethical situations but were still given a realistic hypothetical scenario in which all information, including manipulations, were presented in a fixed order. While this methodology helps to assure

control, it may not reflect real-life circumstances in which information may be presented differently which may change the pattern of results observed here. However, low fidelity simulations have been shown to be predictive of job performance in organizational settings (Motowidlo et al., 1990).

Others have experimentality manipulated moral foundation violations (Landman & Hess, 2018; Walter & Redlawsk, 2021) and even created a set of vignettes systematically designed to violate different moral foundations (Clifford et al., 2015). Some of these are highly unlikely to occur in organizational settings and are intended to reflect extremes. It is clear that there is a wide range of intensities with which moral foundations can be violated. The present studies opted for a subtler approach to violating moral foundations in order to increase realism and generalizability but, in doing so, the potency of the foundation violations may have been decreased thereby reducing the effects examined in these studies. However, ratings of the moral foundation violation stimulus materials still received ratings of moderate violation intensity by trained raters.

The nature of the research questions proposed, study design, and measures used in this study necessitated multiple ANCOVAs to analyze the results, increasing the family wise error rate and therefore the chances of encountering a Type I error. To combat this, the Holm-Bonferroni correction (Abdi, 2010) was used and the results of which are presented in Table 3 in Appendix C and Table 6 in Appendix F. Even after correction, a large portion of the results remained significant, supporting the conclusions drawn from this study.

Future Directions

Future research should seek to explore other moral foundation violation stimulus materials that are not only more realistic, but also that are more or less intense in order to

understand the interactive effects that intensity of a moral foundation violation may have with other important factors such as the intensity of emotions experienced, decision-making, and perceptions of the intensity of the violation. Varying the moral foundation violation stimulus materials may also allow for a closer examining of the level with which each foundation violation may primarily operate. For example, are the effects of violations to the authority foundation more intense when those violations occur at an organizational level compared to an individual or even intraindividual level? This line of research could reveal important differences between the moral foundations that could also be used to guide research on other moral foundations (Graham et al., 2013).

Future research should also strive to explore different methods of exposing participants to moral foundation violations. The present study utilized vignettes that were designed to violate only a single moral foundation at a mild to moderate level, similar to Clifford et al., (2015). While less controllable, exposure to real-life actors engaging in moral foundation violations may serve as a strong form of exposure capable of severely violating moral foundations. It would be fascinating for future research to examine how the clarity of moral foundation violations affects individuals as well. Are moral foundation violation effects present when the violation is obscured and unclear compared to when the violation is extremely noticeable given the same level of violation intensity?

With the understanding garnered from the present studies, future research should endeavor to further increase the understanding of emotions in MFT. Mediation or moderation models could be tested by simply changing the study design to measure emotions before any decision-making takes place. Additionally, future research could be utilized to establish which emotions more clearly exclusive to certain foundation violations by using alternative study

designs proposed by Cameron et al., (2015) which would allow for rigorous tests of morality-emotion exclusivity. This may be a particularly important area for future research to explore as it could also incorporate tests of moral foundation violation content and their effects on subsequent emotions. Graham et al., (2013) have provided a suitable foundation for identifying content relevant to each moral foundations such that others like Clifford et al., (2015) could develop succinct vignettes capable of violating moral foundations, but the relationship between foundation violating content, emotionally charged content, and elicited emotions is not well understood. Utilizing study designs such as those proposed by Cameron et al., (2015) would allow for these relationships to be properly explicated and allow for the identification and distinction of what emotions emerge when individuals experience a true moral foundation violation without emotionally charged content.

Conclusion

The present studies sought to expand on previous research (Landman & Hess, 2018; Higgs et al., 2020; Graham et al., 2013) and examine the relationship between moral foundation violations with emotions, perceptions of moral intensity, ethical sensemaking, and ethical decision-making which have remained understudied. The results presented here imply that different moral foundation violations elicit different patterns of emotions and this pattern does not remain the same after individuals have engaged in ethical decision-making. Other results suggest that different moral foundation violations do increase perceptions of moral intensity and may operate at different levels (e.g., organizational vs. individual). Similarly, experiencing a violation to a moral foundation resulted in overall more ethical decision-making. In total, these results provide support for several of MFT's propositions while also illuminating areas in which MFT may be expanded upon with future research and providing insight on how individuals in

organizations may be engaging in ethical decision-making in the face of ethical dilemmas that violate moral foundations.

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Appendix A

Table 1.

Study 1 Means, Standard Deviations, and Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
Covariates											
1. Age	18.72	1.22									
2. Work Experience	2.53	1.91	.51**								
Emotions											
3. Anger	2.21	1.44	0.07	0.09							
4. Disgust	2.07	1.22	0.1	0.13	.75**						
5. Fear	2.26	1.28	-0.07	-0.04	.77**	.69**					
6. Anxiety	2.86	1.35	-0.1	0.01	.68**	.62**	.85**				
7. Sadness	1.82	1	0.01	0.04	.62**	.68**	.72**	.68**			
8. Desire	1.98	1.12	-0.08	-0.03	.27**	.29**	.47**	.44**	.53**		
9. Relaxation	2.5	1.22	0.02	-0.06	-0.1	-0.05	-0.04	-0.1	0.1	.35**	
10. Happiness	2.38	1.23	-0.01	0	0.03	-0.04	.21**	.17*	.23**	.69**	.54**
11. Compassion	2.44	1.19	-0.03	0.06	.35**	.39**	.48**	.44**	.54**	.67**	.36**
12. Gratitude	2.97	1.21	-0.06	0.07	.27**	.26**	.41**	.49**	.36**	.59**	.29**
13. Guilt	2.1	1.21	0.02	0.12	.78**	.81**	.74**	.74**	.74**	.38**	-0.02
14. Respect	2.32	1.33	-0.05	0.04	0.12	0.11	.35**	.32**	.34**	.78**	.40**
Moral Foundations											
15. MFQ-Care	21.91	3.83	-0.06	-0.04	-0.03	-0.08	-0.09	0.01	-0.1	-0.14	-0.13
16. MFQ-Fairness	20.76	3.86	0.06	-0.01	0.02	0	0.03	0.04	-0.01	-0.11	-0.09
17. MFQ-Loyalty	15.8	4.6	-0.14	-.15*	-0.05	-0.11	-0.03	-0.04	-0.09	0.1	.23**
18. MFQ-Authority	18.06	4.16	0	-0.01	-0.01	-0.1	-0.07	-0.11	-0.1	0.02	0.12
19. MFQ-Sanctity	16.81	5.33	0.06	0.02	-0.07	-0.03	-0.06	-0.11	-0.05	0.04	0.05
Affectivity											
20. Overall Positivity	3.37	0.64	0.13	0.07	-0.04	-0.01	-0.01	-0.03	-0.04	0.09	.25**
21. Overall Negativity	2.42	0.75	-0.13	-0.05	.21**	0.14	.29**	.35**	.29**	.23**	0.08

Table 1 Continued

Variable	*M*	*SD*	10	11	12	13	14	15	16	17	18	19	20
Covariates													
1. Age	18.72	1.22											
2. Work Experience	2.53	1.91											
Emotions													
3. Anger	2.21	1.44											
4. Disgust	2.07	1.22											
5. Fear	2.26	1.28											
6. Anxiety	2.86	1.35											
7. Sadness	1.82	1											
8. Desire	1.98	1.12											
9. Relaxation	2.5	1.22											
10. Happiness	2.38	1.23											
11. Compassion	2.44	1.19	.64**										
12. Gratitude	2.97	1.21	.63**	.62**									
13. Guilt	2.1	1.21	0.1	.49**	.37**								
14. Respect	2.32	1.33	.80**	.69**	.68**	.22**							
Moral Foundations													
15. MFQ-Care	21.91	3.83	-0.03	-0.04	0.02	-0.08	-0.08						
16. MFQ-Fairness	20.76	3.86	0.03	0.02	0.12	-0.01	-0.04	.50**					
17. MFQ-Loyalty	15.8	4.6	.19*	0.05	0.06	-0.06	0.1	.15*	-0.01				
18. MFQ-Authority	18.06	4.16	0.08	-0.08	0.01	-0.14	0.01	.20**	0	.55**			
19. MFQ-Sanctity	16.81	5.33	0.06	-0.02	-0.13	-0.11	0.01	.17*	0.03	.35**	.50**		
Affectivity													
20. Overall Positivity	3.37	0.64	.17*	0.02	0.09	0.01	0.08	0.02	-0.06	.29**	.24**	.29**	
21. Overall Negativity	2.42	0.75	.21**	.19*	.31**	.18*	.25**	0.15	.16*	-0.09	0	-0.07	-0.15

Note. $n = 170$. *M* and *SD* are used to represent mean and standard deviation, respectively. * indicates $p < .05$. ** indicates $p < .01$.

Appendix B

Table 2.

Study 1 Means and Standard Errors of Emotions by Condition

Dependent Variable	Condition	Mean	SE
Anger†	Control	0.19	0.06
	Authority	0.4	0.06
	Care	0.5	0.05
	Fairness	0.46	0.05
	Sanctity	0.34	0.06
Disgust†	Control	0.24	0.05
	Authority	0.2	0.05
	Care	0.5	0.05
	Fairness	0.45	0.05
	Sanctity	0.52	0.05
Compassion	Control	2.38	0.18
	Authority	2.2	0.2
	Care	3.08	0.2
	Fairness	2.28	0.19
	Sanctity	2.23	0.2
Guilt†	Control	0.24	0.04
	Authority	0.28	0.05
	Care	0.47	0.05
	Fairness	0.47	0.05
	Sanctity	0.43	0.05
Respect†	Control	0.59	0.05
	Authority	0.53	0.06
	Care	0.57	0.06
	Fairness	0.38	0.05
	Sanctity	0.31	0.06

Note. n = 169. *SE* = standard error. † = variable was transformed using a Box Cox transformation.

Appendix C

Table 3.
Study 1 Summary of Results

Dependent Variable	Higher Scoring Condition	Lower Scoring Condition	x̄ Difference Significance	Cohen's d	Holman-Bonferroni Correction Significance
Anger	Care	Control	***	1.00	Significant
	Fairness	Control	***	.87	Significant
	Authority	Control	*	.68	Significant
Disgust	Sanctity	Authority	***	1.04	Significant
	Care	Authority	***	.97	Significant
	Sanctity	Control	***	.91	Significant
	Care	Control	**	.84	Significant
	Fairness	Authority	*	.80	NS
	Fairness	Control	*	.67	NS
Compassion	Care	Authority	*	.77	NS
	Care	Sanctity	*	.74	NS
	Care	Fairness	*	.69	NS
Guilt	Care	Control	*	.76	NS
	Fairness	Control	*	.76	NS
Respect	Control	Sanctity	*	.80	NS
	Care	Sanctity	*	.74	NS

Note. n = 170. NS = Not significant. * = Significant at $p < .05$. ** = Significant at $p < .01$. *** = Significant at $p < .001$.

Appendix D

Table 4.

Study 2 Means, Standard Deviations, and Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
Covariates											
1. Age	18.7	2									
2. Work Experience	2.42	2.3	.73**								
Emotions											
3. Anger	2.13	1.4	0	0.05							
4. Disgust	1.85	1.1	-0.03	0.01	.70**						
5. Fear	1.88	1.2	-0.06	0	.68**	.66**					
6. Anxiety	2.53	1.3	-0.03	0.02	.69**	.59**	.79**				
7. Sadness	1.75	1	-0.03	-0	.61**	.62**	.66**	.59**			
8. Desire	1.92	1.2	0.03	0.04	.36**	.43**	.48**	.49**	.59**		
9. Relaxation	2.66	1.2	0.01	0	-0.07	0.02	0.03	0.03	.21**	.41**	
10. Happiness	2.42	1.4	-0.02	-0	0.06	.17**	.18**	.23**	.29**	.67**	.65**
11. Compassion	2.53	1.4	-0.02	0	.31**	.41**	.39**	.40**	.49**	.66**	.41**
12. Gratitude	2.94	1.3	-0.04	-0	.30**	.36**	.34**	.41**	.43**	.64**	.45**
13. Guilt	1.95	1.1	-0.03	-0	.65**	.64**	.68**	.61**	.68**	.45**	0.08
14. Respect	2.06	1.3	-0.03	0	.22**	.34**	.35**	.35**	.45**	.75**	.47**
Moral Intensity											
15. PMI	3.05	0.4	0.03	0.09	.13*	0.07	0.09	0.11	0	0.02	-0.09
Moral Foundations											
16. MFQ-Care	20.7	4.5	0.11	0.08	.12*	0.01	0	0.1	-0.06	-0.08	-0.08
17. MFQ-Fairness	20.5	4.3	0.07	-0	0.09	0.03	-0.01	0.08	0.04	0.01	0.01
18. MFQ-Loyalty	14.7	5.2	0.06	0.07	.12*	.17**	.25**	.23**	.19**	.29**	.12*
19. MFQ-Authority	16.6	4.7	0.03	0.07	0.11	.13*	.19**	.17**	0.1	.17**	.12*
20. MFQ-Sanctity	14.7	5.2	-0.02	-0	.17**	.19**	.25**	.16**	.16**	.18**	0
Affectivity											
21. Overall Positivity	3.38	0.7	0.06	.12*	0.07	0.01	0.08	.15**	0.05	.19**	.17**
22. Overall Negativity	2.45	0.7	-0.09	-0	.19**	.16**	.30**	.30**	.33**	.20**	0.11

Table 4 Continued

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
Ethical Sensemaking											
23. Problem Recognition	2.87	0.7	0.02	-0	0.07	0.1	0.04	0.1	-0.06	0.05	0
24. Number of Causes	1.85	0.9	-0.03	-0.1	.17**	0.1	0.07	.12*	0.01	0	0.01
25. Criticality of Causes	2.89	0.7	0.04	-0	0.08	0.09	0.02	0.11	-0.04	0.03	-0.02
26. Constraint Breadth	2.76	0.7	0.04	-0.1	-0.02	-0.02	0.03	0.09	-0.06	-0.03	-0.01
27. Constraint Criticality	2.97	0.6	0.02	-0	0.03	0.01	0.02	0.07	-0.06	-0.03	-0.08
28. Timeframe	3.06	0.5	-0.1	-0.1	0.1	0.08	0.08	0.08	0.03	-0.02	-0.06
29. Positivity	1.77	0.8	-0.07	-0	0.01	-0.03	0	-0.01	0.08	0.08	0.09
30. Negativity	2.7	0.8	0.08	0.02	0.08	0.04	0.06	0.1	-0.06	-0.03	-0.09
31. Forecasting Quality	2.85	0.6	-0.01	-0.1	0.01	-0.01	-0.02	0.06	-.13*	-0.07	-0.07
Metacognitive Reasoning											
32. Recognize Circumstances	2.58	0.5	0.02	-0.1	0.02	0	0	0.06	-.12*	-0.03	-0.06
33. Seeking Help	1.38	0.6	0	0.01	0.05	-0.02	.13*	0.07	-0.02	-0.02	-0.01
34. Question Judgement	1.32	0.4	-0.01	0.02	0.04	-0.02	0.06	0.11	-0.01	0.05	-0.05
35. Manage Emotions	1.15	0.3	0.05	0	0.05	0	0	-0.01	0.02	-0.02	0.01
36. Anticipate Consequences	1.84	0.5	-0.02	-0.1	0.02	-0.04	-0.08	0	-0.05	-0.02	0
37. Look Within	1.2	0.3	0.07	0.04	0.02	-0.06	0.09	0.09	-0.03	-0.03	0.01
38. Consider Others	1.67	0.6	0.01	-0	-0.01	-0.03	0.03	0	-0.11	-.14*	-0.05
Decision Ethicality											
39. Welfare of Others	2.62	0.6	0.01	0.03	.12*	0.09	0.03	0.08	-0.07	-0.1	-.13*
40. Personal Responsibilities	2.98	0.6	0.04	-0	0.02	-0.04	-0.03	0.07	-.13*	-0.04	-0.03
41. Social Obligations	2.83	0.6	-0.06	-0.1	0.05	0.03	-0.01	0.08	-.12*	-0.07	-0.09
42. Overall Ethicality	2.81	0.6	0	-0	0.07	0.03	-0.01	0.09	-.12*	-0.08	-0.09

Table 4 Continued

Variable	*M*	*SD*	10	11	12	13	14	15	16	17	18	19
Covariates												
1. Age	18.7	2										
2. Work Experience	2.42	2.3										
Emotions												
3. Anger	2.13	1.4										
4. Disgust	1.85	1.1										
5. Fear	1.88	1.2										
6. Anxiety	2.53	1.3										
7. Sadness	1.75	1										
8. Desire	1.92	1.2										
9. Relaxation	2.66	1.2										
10. Happiness	2.42	1.4										
11. Compassion	2.53	1.4	.69**									
12. Gratitude	2.94	1.3	.73**	.71**								
13. Guilt	1.95	1.1	.20**	.48**	.40**							
14. Respect	2.06	1.3	.81**	.71**	.71**	.33**						
Moral Intensity												
15. PMI	3.05	0.4	-0.05	0.1	0.01	.12*	-0.06					
Moral Foundations												
16. MFQ-Care	20.7	4.5	-0.08	0	0.04	0.07	-0.08	.26**				
17. MFQ-Fairness	20.5	4.3	-0.02	0.06	0.06	.12*	0.01	.18**	.65**			
18. MFQ-Loyalty	14.7	5.2	.24**	.15**	.19**	.16**	.23**	0.08	.12*	-0.01		
19. MFQ-Authority	16.6	4.7	.16**	0.1	.15*	.15*	.15**	0.1	.18**	0.05	.67**	
20. MFQ-Sanctity	14.7	5.2	.15*	0.11	0.09	.21**	.17**	.14*	.14*	0.05	.60**	.62**
Affectivity												
21. Overall Positivity	3.38	0.7	.26**	.16**	.22**	0.09	.25**	-0.01	0.06	0.03	.29**	.27**
22. Overall Negativity	2.45	0.7	0.09	.14*	.15**	.25**	.12*	-0.06	0.08	.15**	0.11	0.03

Table 4 Continued

Variable	*M*	*SD*	10	11	12	13	14	15	16	17	18	19
Ethical Sensemaking												
23. Problem Recognition	2.87	0.7	0.03	.15*	.13*	0.08	-0.02	0.1	.20**	.19**	-0.11	-0.07
24. Number of Causes	1.85	0.9	0.02	0.06	0.07	0.07	-0.03	0.07	0.08	0.08	-0.09	0.02
25. Criticality of Causes	2.89	0.7	0.06	.17**	.13*	.13*	-0.02	.13*	.21**	.24**	-.14*	-0.05
26. Constraint Breadth	2.76	0.7	0.01	0.04	0.09	0.02	-0.09	0	.13*	.17**	-.14*	-0.08
27. Constraint Criticality	2.97	0.6	-0.03	0.07	0.09	0.05	-0.08	0.01	.13*	.20**	-.17**	-.15*
28. Timeframe	3.06	0.5	0.02	0.01	.13*	0.11	-0.01	0.08	.16**	.16**	0.03	-0.01
29. Positivity	1.77	0.8	.18**	.13*	.19**	0.08	.12*	-0.09	-.13*	-0.1	0.06	0.1
30. Negativity	2.7	0.8	-0.08	-0.01	-0.01	0.03	-0.09	.20**	.18**	.14*	-0.04	-0.06
31. Forecasting Quality	2.85	0.6	0.03	0.05	.13*	-0.02	-.14*	0.07	.21**	.20**	-0.03	-0.06
Metacognitive Reasoning												
32. Recognize Circumstances	2.58	0.5	0	0.07	0.09	0.01	-0.08	0.02	.14*	0.1	-0.04	-0.03
33. Seeking Help	1.38	0.6	0.07	0.04	0.06	0.01	0.03	-.13*	0.04	-0.06	0.03	.12*
34. Question Judgement	1.32	0.4	0.04	0.04	0.07	0.08	0	0.07	0.04	0.05	.12*	0.1
35. Manage Emotions	1.15	0.3	0.02	0.05	0.01	0.09	-0.02	0.07	0.06	-0.01	0.03	-0.06
36. Anticipate Consequences	1.84	0.5	-0.02	0.03	0.05	0	-.12*	0.05	0.1	.15*	-0.11	-0.06
37. Look Within	1.2	0.3	0	0.02	0.02	0.05	-0.07	0.06	0.08	0.11	-0.05	-0.06
38. Consider Others	1.67	0.6	0	0.02	0.03	-0.03	-0.08	0.09	0.07	0.07	-0.09	-0.07
Decision Ethicality												
39. Welfare of Others	2.62	0.6	-0.07	.13*	0.03	.14*	-0.11	.23**	.18**	.22**	-.12*	-0.11
40. Personal Responsibilities	2.98	0.6	0.02	0.05	0.1	0.04	-0.07	0.01	.15**	.16**	-0.08	-0.07
41. Social Obligations	2.83	0.6	0.02	0.1	0.08	0.09	-0.05	0.08	0.11	.17**	-.19**	-.16**
42. Overall Ethicality	2.81	0.6	-0.01	0.1	0.08	0.1	-0.08	.12*	.16**	.20**	-.15*	-.12*

Table 4 Continued

Variable	*M*	*SD*	20	21	22	23	24	25	26	27	28	29
Covariates												
1. Age	18.7	2										
2. Work Experience	2.42	2.3										
Emotions												
3. Anger	2.13	1.4										
4. Disgust	1.85	1.1										
5. Fear	1.88	1.2										
6. Anxiety	2.53	1.3										
7. Sadness	1.75	1										
8. Desire	1.92	1.2										
9. Relaxation	2.66	1.2										
10. Happiness	2.42	1.4										
11. Compassion	2.53	1.4										
12. Gratitude	2.94	1.3										
13. Guilt	1.95	1.1										
14. Respect	2.06	1.3										
Moral Intensity												
15. PMI	3.05	0.4										
Moral Foundations												
16. MFQ-Care	20.7	4.5										
17. MFQ-Fairness	20.5	4.3										
18. MFQ-Loyalty	14.7	5.2										
19. MFQ-Authority	16.6	4.7										
20. MFQ-Sanctity	14.7	5.2										
Affectivity												
21. Overall Positivity	3.38	0.7	.16**									
22. Overall Negativity	2.45	0.7	0.07	-0								

Table 4 Continued

Variable	*M*	*SD*	20	21	22	23	24	25	26	27	28	29
Ethical Sensemaking												
23. Problem Recognition	2.87	0.7	-0.11	0.02	0.04							
24. Number of Causes	1.85	0.9	0.04	0.06	0.09	.39**						
25. Criticality of Causes	2.89	0.7	-0.09	0.01	0.05	.83**	.50**					
26. Constraint Breadth	2.76	0.7	-0.11	-0.1	0.02	.55**	.27**	.56**				
27. Constraint Criticality	2.97	0.6	-.14*	-0.1	0.03	.56**	.26**	.58**	.79**			
28. Timeframe	3.06	0.5	0.05	0.04	0.04	.20**	.14*	.20**	.23**	.24**		
29. Positivity	1.77	0.8	0	0.11	0.05	-0.09	.13*	0.01	0.02	-0.04	0.05	
30. Negativity	2.7	0.8	-0.02	-0	0.06	.31**	0.09	.31**	.31**	.31**	.28**	-.51**
31. Forecasting Quality	2.85	0.6	-0.09	0.03	-0	.50**	.29**	.50**	.57**	.58**	.43**	0.11
Metacognitive Reasoning												
32. Recognize Circumstances	2.58	0.5	-.12*	-0.1	0	.49**	.29**	.50**	.57**	.63**	.19**	-0.01
33. Seeking Help	1.38	0.6	0.02	0.07	0.01	0.06	0.09	0.03	.17**	0.1	0.01	.18**
34. Question Judgement	1.32	0.4	0.04	0.03	0.03	0.09	0.07	0.1	.17**	.14*	.15**	0.11
35. Manage Emotions	1.15	0.3	-0.03	0.03	0.04	.15**	.17**	.14*	0.08	.14*	0.05	-0.05
36. Anticipate Consequences	1.84	0.5	-.12*	0	-0	.42**	.18**	.42**	.47**	.49**	.18**	-0.03
37. Look Within	1.2	0.3	-0.05	0.07	0.05	.28**	.12*	.28**	.23**	.25**	.16**	0
38. Consider Others	1.67	0.6	-0.08	-0.1	-0.1	.26**	.14*	.24**	.35**	.35**	0.02	0.07
Decision Ethicality												
39. Welfare of Others	2.62	0.6	-0.08	-0	-0.1	.39**	.25**	.41**	.40**	.48**	.23**	-0.03
40. Personal Responsibilities	2.98	0.6	-0.1	0.02	-0.1	.44**	.27**	.43**	.51**	.61**	.23**	0.08
41. Social Obligations	2.83	0.6	-.14*	-0.1	-0	.46**	.24**	.48**	.47**	.57**	.25**	0.02
42. Overall Ethicality	2.81	0.6	-.12*	-0	-0.1	.48**	.28**	.49**	.51**	.61**	.26**	0.03

Table 4 Continued

Variable	*M*	*SD*	30	31	32	33	34	35	36	37	38	39
Ethical Sensemaking												
23. Problem Recognition	2.87	0.7										
24. Number of Causes	1.85	0.9										
25. Criticality of Causes	2.89	0.7										
26. Constraint Breadth	2.76	0.7										
27. Constraint Criticality	2.97	0.6										
28. Timeframe	3.06	0.5										
29. Positivity	1.77	0.8										
30. Negativity	2.7	0.8										
31. Forecasting Quality	2.85	0.6	.40**									
Metacognitive Reasoning												
32. Recognize Circumstances	2.58	0.5	.30**	.54**								
33. Seeking Help	1.38	0.6	0.07	.12*	.20**							
34. Question Judgement	1.32	0.4	.13*	.17**	.28**	.34**						
35. Manage Emotions	1.15	0.3	.16**	0.11	.27**	-0.05	0.06					
36. Anticipate Consequences	1.84	0.5	.30**	.39**	.56**	0.01	.22**	0.11				
37. Look Within	1.2	0.3	.20**	.24**	.27**	0.07	.26**	.18**	.27**			
38. Consider Others	1.67	0.6	.14*	.23**	.38**	.38**	.16**	.12*	.12*	.12*		
Decision Ethicality												
39. Welfare of Others	2.62	0.6	.23**	.39**	.47**	0.03	0.09	.14*	.39**	.27**	.41**	
40. Personal Responsibilities	2.98	0.6	.16**	.51**	.65**	.18**	.14*	.13*	.39**	.23**	.36**	.63**
41. Social Obligations	2.83	0.6	.23**	.50**	.59**	0.09	0.06	.18**	.43**	.30**	.37**	.75**
42. Overall Ethicality	2.81	0.6	.23**	.52**	.64**	0.11	0.11	.16**	.45**	.30**	.42**	.89**

Table 4 Continued

Variable	*M*	*SD*	40	41
Ethical Sensemaking				
23. Problem Recognition	2.87	0.7		
24. Number of Causes	1.85	0.9		
25. Criticality of Causes	2.89	0.7		
26. Constraint Breadth	2.76	0.7		
27. Constraint Criticality	2.97	0.6		
28. Timeframe	3.06	0.5		
29. Positivity	1.77	0.8		
30. Negativity	2.7	0.8		
31. Forecasting Quality	2.85	0.6		
Metacognitive Reasoning				
32. Recognize Circumstances	2.58	0.5		
33. Seeking Help	1.38	0.6		
34. Question Judgement	1.32	0.4		
35. Manage Emotions	1.15	0.3		
36. Anticipate Consequences	1.84	0.5		
37. Look Within	1.2	0.3		
38. Consider Others	1.67	0.6		
Decision Ethicality				
39. Welfare of Others	2.62	0.6		
40. Personal Responsibilities	2.98	0.6		
41. Social Obligations	2.83	0.6	.76**	
42. Overall Ethicality	2.81	0.6	.88**	.93**

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. $n = 294$. * indicates $p < .05$. ** indicates $p < .01$.

Appendix E

Table 5.

Study 2 Means and Standard Errors of Dependent Variables by Condition

Dependent Variable Group	Dependent Variable	Condition	Mean	SE
Emotions	Anger†	Control	0.3	0.03
		Authority	0.32	0.04
		Care	0.42	0.04
		Fairness	0.48	0.03
		Sanctity	0.29	0.03
	Disgust†	Control	0.22	0.03
		Authority	0.21	0.03
		Care	0.33	0.03
		Fairness	0.33	0.03
		Sanctity	0.43	0.03
	Anxiety†	Control	0.53	0.04
		Authority	0.58	0.04
		Care	0.63	0.04
		Fairness	0.69	0.04
		Sanctity	0.5	0.04
	Sadness†	Control	0.27	0.03
		Authority	0.23	0.03
		Care	0.34	0.03
		Fairness	0.38	0.03
		Sanctity	0.24	0.03
	Relaxation†	Control	0.73	0.05
		Authority	0.91	0.05
		Care	0.63	0.05
		Fairness	0.76	0.05
		Sanctity	0.73	0.04
	Happiness†	Control	0.59	0.04
		Authority	0.68	0.04
		Care	0.41	0.04
		Fairness	0.47	0.04
		Sanctity	0.5	0.04
	Guilt†	Control	0.26	0.03
		Authority	0.28	0.04
		Care	0.4	0.03
		Fairness	0.45	0.03
		Sanctity	0.31	0.03
Perceived Moral Intensity	PMI	Control	2.93	0.05
		Authority	3.04	0.05

Table 5 Continued

		Care	3.22	0.05
		Fairness	3.14	0.05
		Sanctity	2.94	0.05
Ethical Sensemaking	Problem Recognition	Control	2.38	0.08
		Authority	2.96	0.08
		Care	3.1	0.08
		Fairness	2.83	0.08
		Sanctity	3.06	0.07
	Criticality of Causes	Control	2.48	0.07
		Authority	2.96	0.08
		Care	3.07	0.08
		Fairness	2.94	0.07
		Sanctity	2.99	0.07
	Timeframe	Control	3.02	0.05
		Authority	2.85	0.06
		Care	3.1	0.06
		Fairness	3.24	0.06
		Sanctity	3.04	0.05
Ethical Decision-Making	Recognizing Circumstances	Control	2.47	0.06
		Authority	2.64	0.07
		Care	2.56	0.06
		Fairness	2.46	0.06
		Sanctity	2.75	0.06
	Seeking Help†	Control	0.25	0.02
		Authority	0.28	0.03
		Care	0.1	0.02
		Fairness	0.21	0.02
		Sanctity	0.14	0.02
	Questioning Judgement†	Control	0.19	0.02
		Authority	0.2	0.02
		Care	0.18	0.02
		Fairness	0.27	0.02
		Sanctity	0.14	0.02
	Considering Others' Perspectives†	Control	0.33	0.02
		Authority	0.46	0.03
		Care	0.36	0.03
		Fairness	0.31	0.02
		Sanctity	0.39	0.02
	Regard for Welfare of Others	Control	2.2	0.07
		Authority	2.75	0.08
		Care	2.85	0.07

Table 5 Continued

	Fairness	2.62	0.07
	Sanctity	2.7	0.07
Personal Responsibility	Control	3.64	0.2
	Authority	4.94	0.22
	Care	3.87	0.21
	Fairness	3.9	0.2
	Sanctity	4.28	0.2
Social Obligation	Control	3.07	0.19
	Authority	4.11	0.21
	Care	3.47	0.2
	Fairness	3.58	0.19
	Sanctity	4.22	0.19
Overall Ethicality	Control	2.51	0.06
	Authority	3.01	0.07
	Care	2.84	0.07
	Fairness	2.77	0.06
	Sanctity	2.92	0.06

Note. n = 294. *SE* = standard error. † = variable was transformed using a Box Cox transformation.

Appendix F

Table 6.

Study 2 Summary of Results

Dependent Variable Group	Dependent Variable	Higher Scoring Condition	Lower Scoring Condition	x̄ Difference Significance	Cohen's d	Holman-Bonferroni Correction Significance
Emotions	Anger	Fairness	Sanctity	**	.61	NS
		Fairness	Control	*	.59	NS
		Fairness	Authority	*	.52	NS
	Disgust	Sanctity	Authority	***	.77	Significant
		Sanctity	Control	***	.70	Significant
	Anxiety	Fairness	Sanctity	**	.56	NS
		Fairness	Control	*	.49	NS
	Sadness	Fairness	Authority	*	.57	NS
		Fairness	Sanctity	*	.51	NS
	Relaxation	Authority	Care	**	.71	Significant
	Happiness	Authority	Care	***	.79	Significant
		Authority	Fairness	**	.62	NS
		Authority	Sanctity	*	.52	NS
	Guilt	Fairness	Control	**	.63	Significant
		Fairness	Authority	*	.56	NS
PMI	PMI	Care	Control	***	.70	Significant
		Care	Sanctity	***	.68	Significant
		Fairness	Control	*	.50	NS
Ethical Sensemaking	Problem Recognition	Care	Control	***	1.12	Significant
		Sanctity	Control	***	1.07	Significant
		Authority	Control	***	.90	Significant
		Fairness	Control	***	.70	Significant
	Criticality of Causes	Care	Control	***	.97	Significant
		Sanctity	Control	***	.84	Significant
		Authority	Control	***	.79	Significant
		Fairness	Control	***	.75	Significant
	Timeframe	Fairness	Authority	***	.82	Significant
		Care	Authority	*	.53	NS
Ethical Decision-Making	Recognizing Circumstances	Sanctity	Fairness	**	.57	NS
		Sanctity	Control	**	.55	NS
	Seeking Help	Authority	Care	***	.81	Significant
		Control	Care	***	.70	Significant
		Authority	Sanctity	**	.60	NS
		Control	Sanctity	*	.49	NS

Table 6 Continued

Questioning	Fairness	Sanctity	***	.76	Significant
Ones' Judgement	Fairness	Care	*	.52	NS
Consideration of Others	Authority	Fairness	***	.68	Significant
	Authority	Control	**	.60	NS
Welfare of Others	Care	Control	***	1.10	Significant
	Authority	Control	***	.92	Significant
	Sanctity	Control	***	.85	Significant
	Fairness	Control	***	.71	Significant
Personal Responsibility	Authority	Control	***	.80	Significant
	Authority	Care	**	.66	NS
	Authority	Fairness	**	.64	NS
Social Obligation	Sanctity	Control	***	.75	Significant
	Authority	Control	**	.68	Significant
Overall Ethicality	Authority	Control	***	.94	Significant
	Sanctity	Control	***	.78	Significant
	Care	Control	***	.63	NS

Note. $n = 294$. NS = Not significant. * = Significant at $p < .05$. ** = Significant at $p < .01$. *** = Significant at $p < .001$.

Appendix G

Figure 1. *Bar Chart of Mean Emotions Experienced by Condition in Study 1*

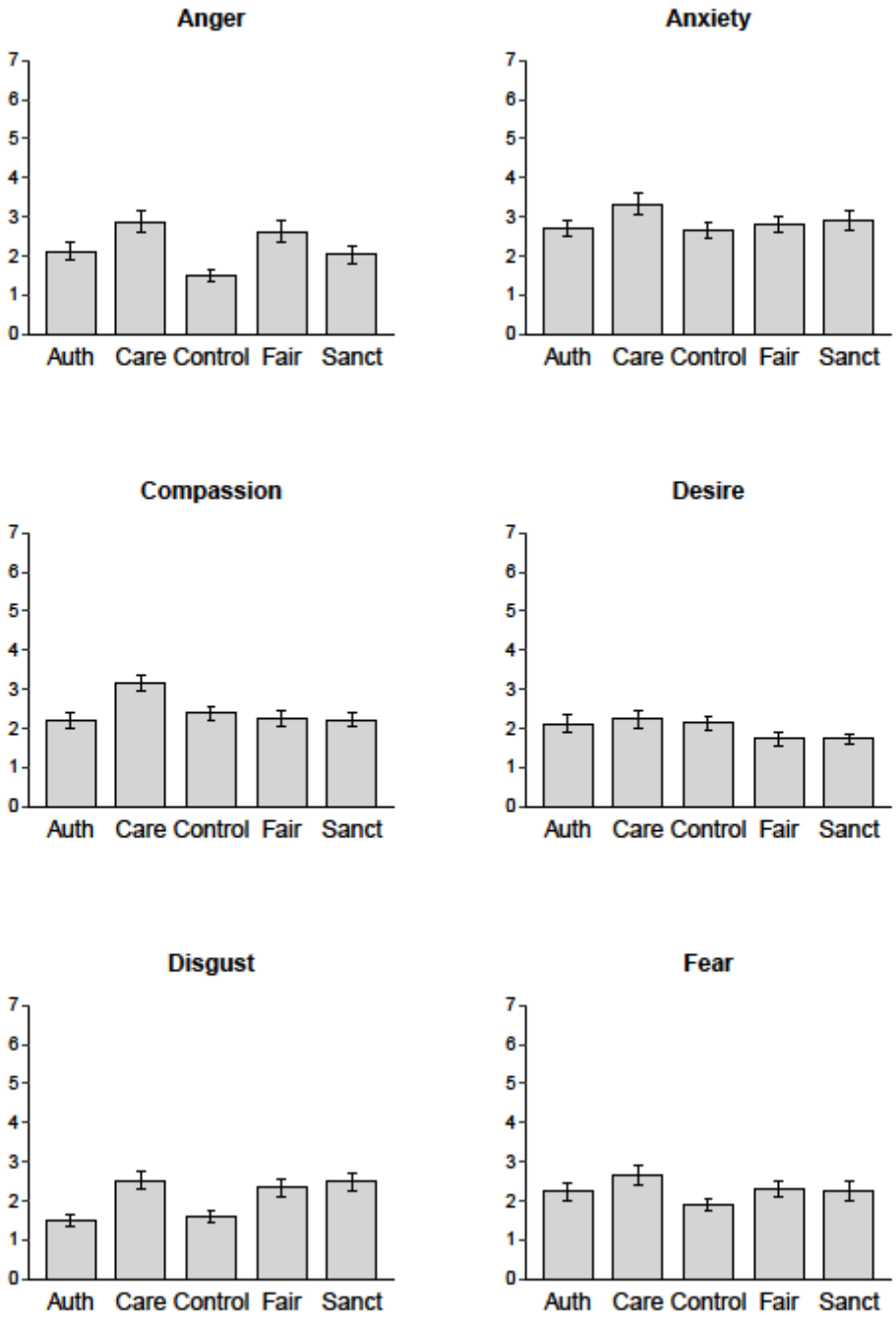
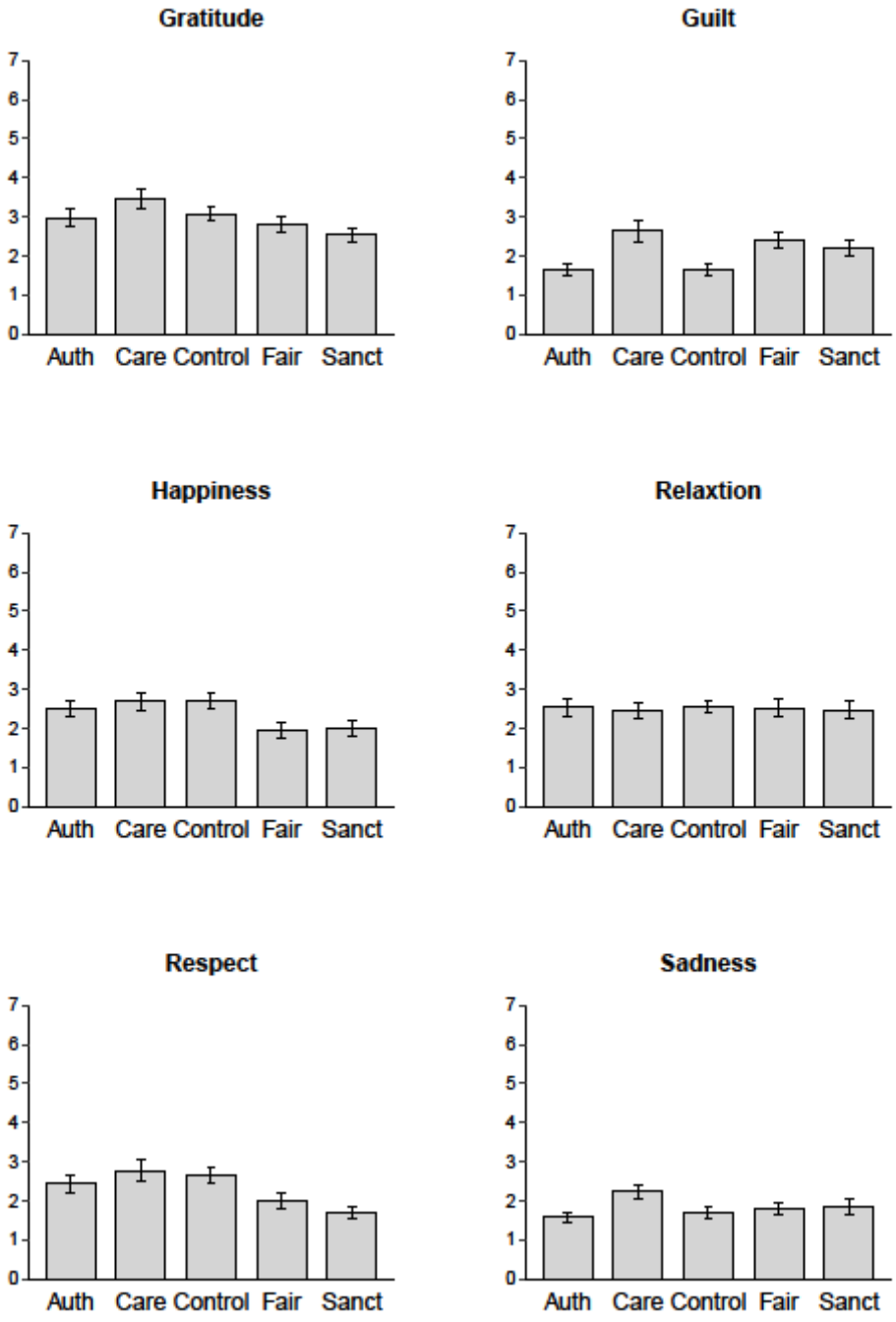


Figure 1 Continued



Note. n = 170. Auth = Violations to authority foundation condition. Care = Violations to the care foundation condition. Control = control condition. Fair = Violations to fairness condition. Sanct = Violations to sanctity foundation.

Appendix H

Figure 2. *Bar Chart of Mean Emotions Experienced by Condition in Study 2*

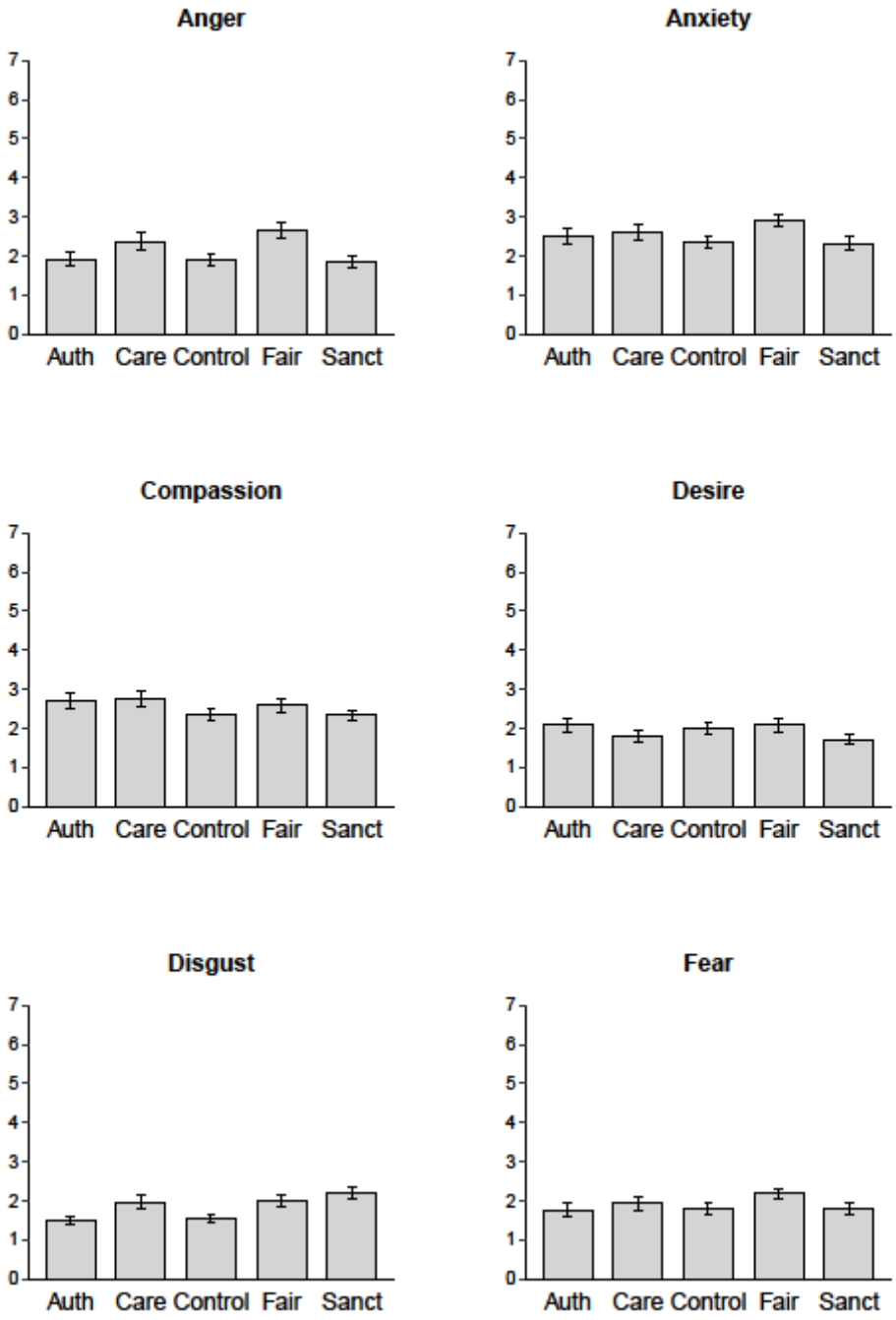
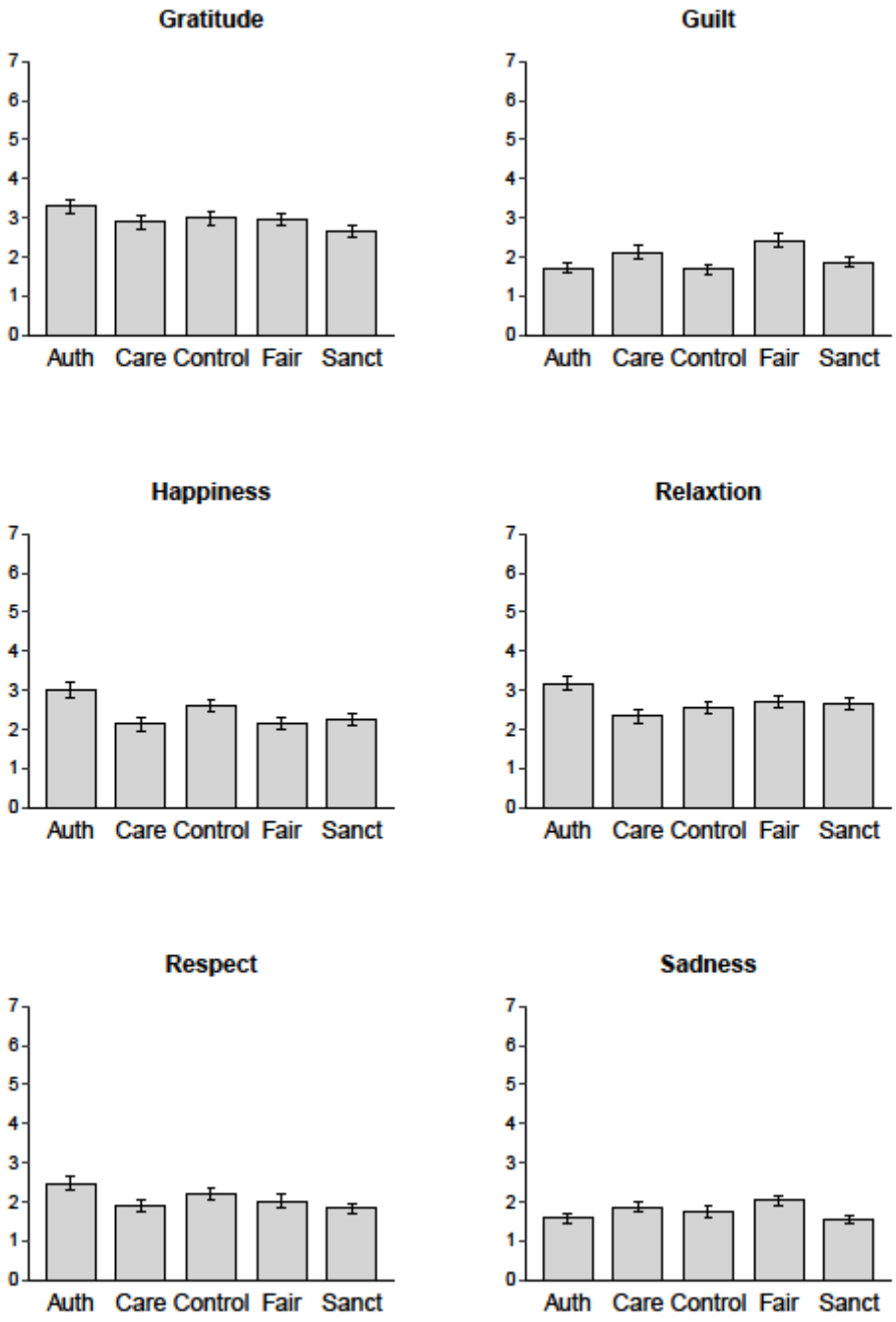


Figure 2 Continued



Note. n = 294. Auth = Violations to authority foundation condition. Care = Violations to the care foundation condition. Control = control condition. Fair = Violations to fairness condition. Sanct = Violations to sanctity foundation.

Appendix I

Manipulation – Background and Task Info

Instructions

Place yourself in the role of a sales and marketing employee working in the organization and job described below. Imagine yourself in this role as you read through information about the company and the new project you are being assigned to lead.

Veist Pharmaceuticals - Organization Background

You work for Veist, a large pharmaceutical manufacturing company whose aim is to become one of the 10 most profitable drug companies within the next 5 years. This company competes with a number of other large drug companies. The expanding market of non-opioid prescription pain medications is one of Veist's most promising areas of growth. Veist has been performing well in the market due to its aggressive sales and marketing approaches. Veist also advertises itself as a data-driven company that relies on scientific evidence in promoting its products. Veist is a publicly traded company which means executives must emphasize the importance of satisfying stockholders' interests. This market-driven approach to medicine influences organizational decisions and practices that favor increased sales and market share. Veist promotes its seamless manufacturing and delivery processes, something that has positively influenced sales in the past.

Your Role

You have been working for the past year as a senior sales and marketing representative for Veist. Your boss has been impressed with your work during your first year on the job and is putting you in charge of developing a marketing plan for Xurion, one of the company's non-opioid pain medicines that has been on the market for about ten months. It is quickly becoming one of Veist's most profitable drugs and supports about 20% of the company's workforce. Veist wants to market Xurion widely to health systems, hospitals, doctors, and patients. Your boss tells you that this highly visible project could highlight your skills and potential to senior managers and would be great for your career if it goes well.

You are eager to get started on the project. Two junior-level marketing analysts, Jamie and Austen, will be working with you on the project. Since you have not worked in the non-opioid drug area yet, you have asked your team to provide you with background information on Xurion, such as clinical trials summary reports about the drug's effectiveness, demographics of people prescribed Xurion, regional differences in sales and market share, sales comparisons to other non-opioid pain relievers, and FDA safety monitoring reports from the last 10 months.

Scenario

You just had a meeting with your team to review and discuss the background information gathered about Xurion. Here are some key things you learn during this discussion:

- Over 15 million patients have taken Xurion since it was approved, and annual revenue for the drug is 720 million so far this year. Given that there are still many places where the drug has yet to be advertised and marketed, these numbers look promising.
- Patient and doctor feedback also suggests that this drug achieves desired pain reduction effects and that patients do not develop addiction to or dependency on the drug.
- The drug, which is only approved for adults ages 18 and up, is being prescribed in larger numbers for people over 50 and percentages across different racial and ethnic groups are similar to what has been seen with other non-opioid pain medications being marketed by other companies.
- Special training has been developed to ensure salespeople have success when pitching Xurion to health professionals and health systems.

Care Foundation Violation

(The following information directly follows the background and task info)

A few days after the initial team meeting, you are looking at the new training for the Xurion salespeople. Company documents consistently reveal that Veist purposely trains its employees to avoid discussions about the drug's potential risks and side effects and to steer interactions with physicians away from unfavorable data. In response to an "obstacle," or doctor's question, sales representatives are trained to redirect the conversation to the drug's benefits. Sales representatives receive coaching that instructs them not to respond directly to physicians' questions about the drug's risks.

In an effort to find out why the training is structured this way; you find that the training was created in response to safety monitoring data which included reports of significant side effects including heart palpitations and sleep disruption in as many as 50,000 people per year. A small percentage of these have been life threatening, however, but it is too small to meet the threshold set by the FDA. There appears to be a slight upward trend in reports of these risks and side effects over time. These behind-the-scenes, economically driven practices clearly reflect a market-driven approach to medicine rather than one genuinely concerned with patients' health.

Fairness Foundation Violation

(The following information directly follows the background and task info)

A few days after the initial team meeting, you come across a file about "Vigor," an early and well-known study published by Veist, which compares patients' use of Xurion with the use of Naproxen, an over-the-counter pain relief medicine used in products such as Aleve. The FDA was clear in that the Vigor data showed Xurion was significantly less effective than Naproxen. However, you also find a Veist press headline that reads: "Veist confirms favorable performance results over other brands with Xurion."

Veist also distorted communication about Xurion in marketing-friendly ways by omitting unfavorable data from printed materials. For example, in response to concerns raised by the "Vigor" study, Veist sales managers produced a "Cardiovascular Card" which was the main way Veist showed data about its drug to physicians. The pamphlet's plainly stated purpose was to allow sales representatives to set the record straight with physicians regarding the cardiovascular profile of Xurion. The FDA strongly advised Veist against using the pamphlet because the pamphlet pooled data from older and unrelated studies, conveniently omitted unfavorable data shown in the more recent Vigor study, used a sample size of 2,000 fewer patients than the "Vigor" study, and studied patients for an average of 3.5 months less than "Vigor". Veist sales managers concealed these actions and maintained the neutrality of the pamphlet by referring to the data as brute facts and to boast Xurion over its other market competitors.

Authority Foundation Violation

(The following information directly follows the background and task info)

A few days after the initial team meeting, you receive an email from your boss. The email explains that Jamie, from your marketing team, has contacted senior marketing leadership at Veist to complain about company policies concerning the marketing of Xurion. Jamie apparently believes that the company policies and guidelines are far too restrictive and not aggressive enough. They cited previous marketing campaigns as “weak” and “extremely boring,” saying that if Xurion is to succeed how Veist wants it to, then these marketing policies must be loosened. To this end, Jamie demanded exemption from these policies and complete creative license for the marketing of Xurion.

Your boss explains that this kind of behavior is very irregular and clearly violates company communication structures. Veist is a large company and part of its success is due to carefully constructed hierarchies and communication structures that help highlight and enforce company policies. That being said, your boss admits that there might be some merit to loosening the marketing policies slightly for Xurion, something that would have to be carefully discussed with senior marketing leadership.

Sanctity Foundation Violation

(The following information directly follows the background and task info)

A few days after the initial team meeting, you come across several reports detailing large shipment batches of Xurion that were infested with bed bugs. While the tamper-proof packing of individual Xurion units protected them from the bed bugs, the bed bugs still managed to stow away in the shipping boxes. This resulted in numerous offices and hospitals around the country saying they had their own bed bug infestations as a direct result of this shipping mishap. Bed bugs reportedly leave behind shed skins, blood stains, and a particularly putrid odor making these shipments especially unsightly and gross. Despite this, the Xurion units were still perfectly safe for use.

While most of the offices and hospitals affected kept this information relatively under wraps and only reported the mishap to Veist, the bedbug shipping infestation has still been picked up by a handful of reporting agencies. This has generated some bad press for Veist and Xurion specifically. Even though this issue only effected shipping, the bad press generally concerns the public's perception of the cleanliness and purity of all Veist's operations, including Xurion. However, the scale of these reports is unlikely to significantly affect sales of Xurion according to Veist marketing officials.

Appendix J

The Discrete Emotions Questionnaire

Please indicate your response using the scale provided.

While reading and responding to the dilemma, to what extent did you experience these emotions?

1	2	3	4	5	6	7
Not at all	Slightly	Somewhat	Moderately	Quite a bit	Very much	An extreme amount

Anger (Ag) 1	Scared (F)21
Wanting (Dr) 2	Mad (Ag)22
Dread (Ax) 3	Satisfaction (H)23
Sad (S) 4	Sickened (Dg)24
Easygoing (R) 5	Empty (S)25
Grossed out (Dg) 6	Craving (Dr)26
Happy (H) 7	Panic (F)27
Terror (F)8	Longing (Dr)28
Rage (Ag)9	Calm (R)29
Grief (S)10	Fear (F)30
Nausea (Dg)11	Relaxation (R)31
Anxiety (Ax)12	Revulsion (Dg)32
Chilled out (R)13	Worry (Ax)33
Desire (Dr)14	Enjoyment (H)34
Empathy (C) 15	Tenderness(C)35
Kindness(C)16	Mercy (C)
Acknowledgment (Gr) 17	Obligation (Gr)36
Recognition (Gr)18	Thanks (Gr)37
Regret (Gu)19	Remorse (Gu)38
Shame (Gu)20	Fault (Gu)39

Nervous (Ax)40	Pissed off (Ag)41
Lonely (S)42	Liking (H)43
Appreciation (Re) 44	Awe (Re) 45
Admiration (Re) 46	

Ag = Anger items, Dg = Disgust items, F = Fear items, Ax = Anxiety items, S = Sadness items, Dr = Desire items, R = Relaxation items, H = Happiness items, C = Compassion items, Gr = Gratitude items, Gu = Guilt items, Re = Respect items.

Appendix K

Moral Foundations Questionnaire

Part I: Moral Relevance
(Responded to using the following response options: not at all relevant, not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant)

Harm:
EMOTIONALLY—Whether or not someone suffered emotionally
WEAK—Whether or not someone cared for someone weak or vulnerable
CRUEL—Whether or not someone was cruel

Fairness:
TREATED—Whether or not some people were treated differently from others
UNFAIRLY—Whether or not someone acted unfairly
RIGHTS—Whether or not someone was denied his or her rights

Loyalty:
LOVECOUNTRY—Whether or not someone's action showed love for his or her country
BETRAY—Whether or not someone did something to betray his or her group
LOYALTY—Whether or not someone showed a lack of loyalty

Authority:
RESPECT—Whether or not someone showed a lack of respect for authority
TRADITIONS—Whether or not someone conformed to the traditions of society
CHAOS—Whether or not an action caused chaos or disorder

Sanctity:
DECENCY—Whether or not someone violated standards of purity and decency
DISGUSTING—Whether or not someone did something disgusting
GOD—Whether or not someone acted in a way that God would approve of

Part II: Moral Judgments
(Responded to using the following response options: strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree)

Harm:
COMPASSION—Compassion for those who are suffering is the most crucial virtue.
ANIMAL—One of the worst things a person could do is hurt a defenseless animal.
KILL—It can never be right to kill a human being.

Fairness:
FAIRLY—When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.
JUSTICE—Justice is the most important requirement for a society.

RICH—I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.

Loyalty:
HISTORY—I am proud of my country's history.
FAMILY—People should be loyal to their family members, even when they have done something wrong.
TEAM—It is more important to be a team player than to express oneself.

Authority:
KIDRESPECT—Respect for authority is something all children need to learn.
SEXROLES—Men and women each have different roles to play in society.
SOLDIER—If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.

Sanctity:
HARMLESSDG—People should not do things that are disgusting, even if no one is harmed.
UNNATURAL—I would call some acts wrong on the grounds that they are unnatural.
CHASTITY—Chastity is an important and valuable.

Appendix L

The PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt these feelings or emotions in the last month.

Use the following scale to record your answers.

1 very slightly or not at all	2 a little	3 moderately	4 quite a bit	5 extremely
Interested			Irritable	
Distressed			Alert	
Excited			Ashamed	
Upset			Inspired	
Strong			Nervous	
Guilty			Determined	
Scared			Attentive	
Hostile			Jittery	
Enthusiastic			Active	
Proud			Afraid	

Appendix M

Demographic Questions

Below are a final set of questions concerning your demographics and time spent in this study. Please fill or mark the best responses.

Which gender do you identify with?
What is your age?
What is your race/ethnicity?
How many years of work experience do you have?
Did you know about the activities you would have to perform during this study prior to your participation (i.e., were you told by anyone what you would be doing)?
Now that you've completed this experiment, please describe in 2-3 sentences the purpose of this study. In other words, what do you think the researchers are examining in this study?

Appendix N

Perceived Moral Intensity

Magnitude of Consequences (MC)
The negative consequences (if any) of the decision will be very serious. (R)
The overall harm (if any) as a result of the decision will be very small.

Social Consensus (SC)
People are not likely to agree about whether the decision was right or wrong.
Most people would agree on what the appropriate decision is in this scenario. (R)

Probability of Effect (PE)
There is a very small likelihood that the decision will actually cause any harm.
The decision is likely to cause harm. (R)

Temporal Immediacy (TI)
The decision will not cause any harm in the immediate future.
The negative effects (if any) of the decision will be felt very quickly. (R)

Proximity of Effect (PX)
The harmful effects (if any) of the decision will affect people that are close to the decision maker. (R)
The decision maker is unlikely to be close to anyone who might be negatively affected by the decision.

Concentration of Effect (CE)
The harmful consequences (if any) of the decision will be concentrated on a small number of people. (R)
Any negative effects of the decision will be spread across a large number of individuals.

(R) = Reverse score

Appendix O

Ethical Dilemma Questions

What is the dilemma in this situation?
List and describe the causes of the problem.
What are the key factors and challenges of this dilemma?
What should you consider in solving this problem?
What are some possible outcomes of this dilemma?
What approaches and strategies do you think might help you reach your decision?
Explain in detail what you would actually do to solve this problem.
What was your rationale for making this decision?