University of Nevada, Reno

The Morality and Emotion of Forgiveness: How Three Moral Concerns
And Four Emotions are Relevant to Forgiveness Decisions

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Abstract

The purpose of this dissertation was to understand the relationship of morality and emotion to forgiveness decisions. Since religious, philosophical, and literary cultures have historically offered instruction on when it is morally right or wrong to forgive others, I predicted that a morality-forgiveness link does exist. I examined the morality-forgiveness link using the theoretical framework of Moral Foundations Theory (MFT). MFT also predicts that emotions play a role in how we interpret situations. Using Google AdWords as a recruitment method, I surveyed 237 US adults online about how they perceive five foundational aspects of morality, their decisions to forgive, and emotions they experience when wronged by others. I found that Google AdWords is a quick, reliable alternative to university recruiting and results in a sample similar to the US Internet population, but it can also be relatively expensive. I found that a morality-forgiveness link did occur within my sample, and that the moral foundation of Purity was an important predictor of forgiveness beyond the traditional moral foundation of Harm and Fairness. I found that people who were asked about whether they experienced anger and compassion when wronged by others, and people who were not asked, did not differ in their forgiveness decisions, implying that whether asked about anger and compassion or not, many people feel both emotions in reaction to wrongdoing of others. I also discovered that two additional emotions, beyond anger and compassion, significantly predicted forgiveness: embarrassment and contempt; and a model accounting for the linear effect of embarrassment, compassion, anger, and contempt accounted for over 47% of the variance in forgiveness decisions.
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Chapter 1: Introduction and Overview

The purpose of my dissertation was twofold: (1) to investigate how morality, and in particular the five-dimension model of Haidt et al., relates to forgiveness, and (2) to explore how emotions play a role in the relationship between morality and forgiveness.

Morality and Forgiveness

Morality is interwoven into the concept of forgiveness. “To err is human; to forgive, divine” (Pope, 1711) and other proverbial expressions moralize forgiveness as a virtue to which we should aspire. Homiletic stories cast forgiveness as a moral virtue in classic literature from Shakespeare to Homer; in the arguments of Greek philosophers such as Aristotle, Plato, Socrates, and Epicurus; and within texts of all major religions including the Qur’an, Torah, and Christian gospels (Griswold, 2007; Owen, 1976; Rye et al., 2000). Such writings influence our cultural representations of what we think we ought to do when confronted with wrongdoing.

As humans we are repeatedly faced with decisions of whether it is right or wrong to forgive. In some situations forgiveness is granted almost without thinking about whether it is right or wrong to forgive, such as when a partner forgets to buy an ingredient at the grocery store; perhaps we forgive because of similar decisions to forgive in the past or because we think the infraction is not that severe. At other times we debate within ourselves whether forgiveness is right or wrong in a situation, such as when we get in a heated fight with a close friend; perhaps we are unsure about forgiving because our friend was not loyal in an important moment, but we also value the friendship.

These examples illustrate that in some situations we think about whether forgiveness is right or wrong, in other situations we do not; however, McCullough,
Sandage, and Worthington (1997) argue, whether we consciously struggle with whether something is right or wrong, our actions are influenced by cultural norms (to which we are unconscious) regarding how we ought to act. Our responses to relationship infractions are influenced by moral norms of what we ought to do.

Merkl (2012) recently suggested that there may be a link between our forgiveness decisions and morality since humans, in almost every culture, seem to value forgiveness as morally good. Since morality and forgiveness seem to go hand in hand, it follows that how we conceptualize morality may affect when and how we think we ought to forgive. Moral Foundations Theory provides this conceptualization.

**Moral Foundations Theory.** The field of moral psychology has a longstanding tradition of viewing the moral reasoning of individuals as descending from two moral concerns: (1) prevention of injustice to ensure *fairness* for others (Kohlberg, 1969, 1971), and (2) prevention of *harm* to ensure care for others (Gilligan, 1982). Until recently, these two moral concerns have been the only accepted moral foundations believed to contribute to the morality of individuals.

New pioneering theory and research referred to as Moral Foundations Theory has called this longstanding tradition into question, instead showing that individuals actually use five (not two) moral foundations when making decisions about what is right or wrong (Haidt & Graham, 2007; Haidt & Joseph, 2004). In addition to ensuring fairness and preventing harm, people also define whether an act is moral based on whether it (3) violates or supports loyalty to their *ingroup*, (4) respect for *authority*, and (5) standards of *purity* (Graham et al., 2011; Haidt & Graham, 2007).
Graham et al. (2011) have tested this theory with the Moral Foundations Questionnaire, having surveyed over 118,000 participants to establish internal, external, and pragmatic validity for the instrument. The exciting discoveries made by Moral Foundations Theory using the Moral Foundations Questionnaire have reformed the way we understand how people think about right and wrong.

Because morality and forgiveness are often perceived to be interconnected, I used the present dissertation to discover whether there is a true empirically identifiable link between morality and forgiveness. Furthermore, I was interested in testing whether the domain of forgiveness should extend to include Ingroup, Authority, and Purity, and not only be bound to moral concerns relating to Harm and Fairness.

**Emotion and Forgiveness**

Emotions play an important role in Moral Foundations Theory. Moral Foundations Theory proposes that emotions guide our initial rapid and automatic gut judgments of approval or disapproval for something we see or hear about that someone else does (Haidt & Joseph, 2004). It is emotions, rather than reasoned thought, that guide the judgments people make about situations involving how people ought to act (Haidt, 2001). Emotions were therefore predicted to play a role in the forgiveness process. The research on emotions and forgiveness is still in its infancy and has primarily explored the relationship of anger and compassion to moral violations (McCullough, Rachal, Sandage, Worthington, Brown, & Hight, 1998). This study built on these findings by testing whether the intensity at which emotions are felt relates to decisions to forgive. This study also tested whether other emotions in addition to anger and compassion, such as
embarrassment, are experienced in response to contextual moral violations and what emotions motivate forgiveness.

**Data Collection Strategy**

My general data collection strategy utilized a recruitment method similar to that used by Haidt and Graham (authors of Moral Foundations Theory), though innovative in its own respect. My recruitment method used Google AdWords, which is fairly new and rarely used in the social science literature, but common to the marketing and technology literature. Recruiting a sample using Google AdWords was strategic because it allowed for a method *very similar* to that used by Haidt: online, self-selected, convenient sampling. If the predictions of Moral Foundations Theory are indeed universal to all human societies as the theory proposes, then I predicted to find results consistent with Moral Foundations Theory.

Using Google Adwords, I surveyed 237 respondents. All 237 respondents were asked to respond to Haidt’s Moral Foundations Questionnaire (Graham et al., 2011; Appendix A), Berry’s Transgression Narrative Test of Forgiveness (Berry et al., 2001; Appendix B), and demographic questions (Appendix C). Of the 247 respondents, half were in an experimental condition and were directed to identify and note their emotional reactions to scenarios of wrongdoing. Respondents were asked, “What do you feel?” and shown a list of moral emotions, as well as “How strongly do you feel this?” In contrast, respondents in the control condition received the instruction, “Thinking about the facts” and were not directed to identify and note their emotions in response to wrongdoing scenarios.
Study

I made hypotheses in three thematic areas: methods, morality’s relationship to forgiveness, and emotion’s relationship to forgiveness. To briefly summarize here (full hypotheses will be stated in Chapter 6), I hypothesized that (1) collecting data using Google AdWords would yield a sample of respondents very similar to those surveyed in the Moral Foundations studies (Graham et al. 2011) in relation to key demographics characteristics. I hypothesized that (2) morality would be a significant predictor of forgiveness, and five-factor dimensions of morality would provide a better model fit than simple two-factor dimensions of morality at explaining forgiveness. I hypothesized that (3) respondents who were primed to think of emotion and who experienced negative or positive emotion, would be respectively less likely or more likely, to forgive than the control respondents who were not asked to think of emotions. Moreover, I hypothesized that the frequency which anger or compassion were experienced would predict whether people were respectively less likely or more likely to forgive others. I predicted that contempt and disgust would predict lack of forgiveness. I also predicted that the intensity at which emotions are felt would predict whether people forgive wrongdoers.

I tested my first set of hypotheses by first simply comparing descriptives (means) of morality and forgiveness in my dataset with those reported by Haidt et al. (Graham et al., 2011) and Berry et al. (2001), respectively, to ensure no major differences in patterns stemming from data collection technique. I used t-tests and ANOVAs to test whether the Google AdWords sample means were statistically similar to Graham et al.’s (2011) sample means across the sex and political affiliation variables.
I tested my second set of hypotheses by using regression to determine whether morality (operationalized as the aggregate of the five types of morality and measured by combining the means of the five types of morality—Harm, Fairness, Ingroup, Authority, Purity—from the Moral Foundations Questionnaire) predicted forgiveness (one DV—from the Transgression Narrative Test of Forgiveness), statistically controlling for demographic variables. Additionally, I used regression to test whether the five individual types of morality (measured by the mean of each individual type of morality) each significantly predicted forgiveness. I also used a quasi-nested models approach in regression to determine whether a two-factor morality model (i.e., Harm, Fairness) or a five-factor morality model (i.e., Harm, Fairness, Ingroup, Authority, Purity) better predicted forgiveness.

I tested my third set of hypotheses by using t-tests and ANOVAs to determine if emotion created a difference in willingness to forgive. I ran t-tests and ANOVAs generally, comparing the difference in forgiveness across the experimental and control conditions, as well as across negative and positive emotions. I ran regressions on just the respondents in the experimental condition who received the emotion questions to test if anger and compassion predicted forgiveness, contempt and disgust predicted forgiveness, other moral emotions predicted forgiveness, and whether there was a linear effect of emotion intensity on forgiveness.

**Results**

I surveyed 237 US adults online and found that Google AdWords is a quick, reliable alternative to university recruiting, and results in a sample similar to the US Internet population, though it can be relatively expensive. I found that a morality-
forgiveness link did occur within my sample, and that the moral foundation of Purity was an important predictor of forgiveness beyond the traditional moral foundation of Harm and Fairness. Therefore, a three-factor model of morality composed of Harm, Fairness, and Purity, was the best predictor of forgiveness. I found that people who were asked about whether they experienced emotion generally, as well as anger and compassion, specifically, did not differ in their forgiveness decisions from those who were not asked, implying that whether asked about emotions or not, emotions may have been a ubiquitous reaction to wrongdoing caused by others. I confirmed that respondents who more frequently experience anger are less likely to forgive others, and respondents who more frequently experience compassion are more likely to forgive others. I discovered that contempt and disgust, when tested as a triad with anger (the CAD-triad hypothesis) do not significantly predict forgiveness. I discovered that among eight moral emotions, two additional emotions, beyond anger and compassion, significantly predicted forgiveness: embarrassment and contempt; and a model accounting for the linear effect of embarrassment, contempt, anger, and compassion accounted for over 47% of the variance in forgiveness decisions.

**Significance of Findings**

The results of this study add to the forgiveness literature by showing empirically that morality does relate to forgiveness. In addition, dimensions of morality other than Harm and Fairness are important to whether people think they should forgive others. Both findings add significantly to the literature on forgiveness by better expounding its links with morality.
The results of this study add to the forgiveness literature by showing that emotions indeed play an important role in how we interpret situations and the subsequent decisions we make to forgive, as Moral Foundations Theory predicts. Also, since the forgiveness literature has almost exclusively investigated the role of anger and compassion (McCullough, Bono, & Root, 2007) as a response to transgressions, this study adds to the literature by showing that the emotion of embarrassment and contempt influence forgiveness decisions.

**Overview of Chapters**

This dissertation consists of eight chapters. Following the current chapter, I introduce in chapter two the forgiveness literature by defining forgiveness, describing how forgiveness benefits individuals and groups, why studying forgiveness is both important and timely, and how forgiveness relates to morality.

In chapter three I define morality and describe the brief history of the development of the various types of morality. I argue that individualism influenced psychology's unique favor of two moral foundations, Harm and Fairness, and its disfavor of all types of morality related to collectivism. I show how research from sociology and anthropology on collectivism and morality address limitations of psychology's perspective on morality.

In chapter four, I introduce the guiding theoretical framework of this dissertation, Moral Foundations Theory, and share how it brings together the strengths of both individualistic and collectivistic perspectives of morality. I also introduce the Moral Foundations Questionnaire and argue this is a solid base to construct a measure assessing moral concerns related to forgiveness.
In chapter five, I discuss the role of emotions. I begin with a general overview of emotions, and then connect this to both (a) the literature on morality and (b) the concept of forgiveness.

In chapter six, I present an overview of the research and restate the hypotheses of this dissertation. I also discuss the data collection strategy for the study. I cover the survey mode and design, sample and sampling frame, and recruitment and procedural methods for data collection. I briefly review academic research utilizing Google AdWords as a recruitment method and show that it is a rich alternative to university student samples and offers unique online access to a diverse group of adults. I present how Google AdWords is a close recruitment method to that used in the testing of Moral Foundations Theory and discuss why I am choosing to use this methodology in this dissertation. I also introduce the methods for my study.

In chapter seven, I present results addressing my first set of hypotheses, about the similarity of my sample to previous literature. I discuss the strengths and limitations of my innovative recruitment method for the social sciences.

In chapter eight, I present results addressing my second set of hypotheses about a morality-forgiveness link. I discuss the implications of my discovery of an additional moral foundation (Purity) previously not mentioned in the literature relating to forgiveness decision.

In chapter nine, I present results addressing my third set of hypotheses, showing the role of emotion in the forgiveness process. I discuss the importance of my discovery of two additional emotions that affect decisions to forgive, and how practitioners can use this discovery to promote forgiveness in others.
In chapter ten, I conclude with a general discussion of the overarching implications of this study on the decision-making literature, review limitations from the study, and propose next steps for future research.
Chapter 2: Forgiveness

In this chapter I introduce the topic of forgiveness. I define forgiveness and argue, based on the definition, that additional types of wrongs other than harm or fairness can motivate the need for forgiveness. I describe benefits of forgiving for the self and for groups, forgiveness as a decision and process, and why forgiveness is both an important and timely topic to study. I then conclude by discussing how the forgiveness literature can be informed by the morality literature.

Why Forgive?

Forgiveness is important in many types of relationships. In romantic relationships, forgiveness enables partners to move pass temporary setbacks in relationships to focus on growing together in the present and future (Boon & Sulsky, 1997). In families, forgiveness is critical to developing healthy and happy relationships (Bugental, 1993; Enright & Rique, 2004). In the legal world, forgiveness is one aspect of promoting healing among injured parties (Lawler et al., 2003; McCullough, Sandage, & Worthington, 1997). Forgiveness is also important in one’s relationship with oneself. Forgiving oneself for infractions of social norm violations is an important aspect of developing prosocial attitudes and beliefs toward the self (Maltby, Macaskill, & Day, 2001).

Definitions

The APA Dictionary of Psychology defines forgiveness as:

willfully putting aside feelings of resentment toward an individual who has committed a wrong, been unfair or hurtful, or otherwise harmed one in some way. Forgiveness is not equated with reconciliation or excusing
another, and it is not merely accepting what happened or ceasing to be angry. Rather, it involves a voluntary transformation of one’s feelings, attitudes, and behavior toward the individual, so that one is no longer dominated by resentment and can express compassion, generosity, or the like toward the individual. (VandenBos, 2007, 385)

Based on this definition, forgiveness is a response to unfairness (injustice) and hurt (harm), but it is also a response to any kind of wrong committed against another. Forgiveness in this sense may not be wholly limited to responding to acts that are unfair or cause hurt, but it also is a response to other types of wrongs such as disloyalty to one’s ingroup, disrespecting an authority figure, or violating a standard of purity.

If people differ in the values they hold, they may differ in their sensitivity to certain types of wrongdoing and may think some acts are sufficiently wrong to require forgiveness while others do not. It is possible that people who value purity and sanctity, if confronted with an act they perceive as being impure, may be more hesitant to forgive the wrongdoer than someone who does not share a similar cultural expectation. Thus, the definition of forgiveness is sufficiently broad to be motivated by types of wrongdoing other than unfairness and hurt.

**Benefits of Forgiveness**

**Benefits for the self.** Studying forgiveness is important for many reasons. Past research has shown that among older adults, forgiveness is associated with positive psychological well-being, physical health, and life satisfaction (Krause & Ellison, 2003). In other populations it has been shown to be positively associated with positive affect,
self-reported physical health, health habits (Lawler-Row & Piferi, 2006; Seybold et al., 2001), and marital quality (Paleari, Regalia, & Fincham, 2005); and negatively associated with anxiety, depression, hostility, neuroticism, and anger (Brown & Phillips, 2005; Lawler et al., 2003; Maltby, Macaskill, & Day, 2001; Mauger et al., 1992; Seybold, Hill, Neuman, & Chi, 2001; Thompson et al., 2005; Toussaint, Williams, Musick, & Everson-Rose, 2008). Physiologically, forgiveness is negatively associated with elevated white blood cell counts, hematocrit levels (Seybold et al., 2001), blood pressure (Friedberg, Suchday, & Shelov, 2007; Lawler et al., 2003), and cardiovascular reactivity (Edmundson & Lawler, 2005; Friedberg, Suchday, & Shelov, 2007; Lawler et al., 2003; Witvliet, Ludwig, & Van der Laan, 2001).

Benefits for groups. In western cultures, forgiveness is primarily motivated by reasons that are beneficial for the self. Indeed, most of the scholarly literature on the benefits of forgiveness in western cultures is limited to benefits to the self (Hook, Worthington, & Utsey, 2009). What about other cultures? Hook et al. (2009) propose that collective cultures are motivated to forgive to maintain group harmony as opposed to inner peace. Cultures that value group harmony can benefit from forgiveness because forgiveness restores the balance to a group’s harmony that an infraction disrupts. From an evolutionary psychology perspective, Buss (2004) theorizes forgiveness restores interpersonal and intergroup relationships that have promoted group-level human survival.

Forgiveness Process

In the forgiveness literature, forgiveness has been framed as a one-time decision and at other times as a process. Philosophers and theorists have asserted different
positions on whether forgiveness is decision or process based. For example, Neblett
(1974) proposes that forgiveness is centrally a decision, while on the other hand North
(1987) proposes forgiveness as a whole is a process, and the decision to forgive is
embedded with the process. Fincham and Beach (2002) argue that forgiveness should be
conceptualized as an interpersonal process and not an individual decision. Baskin and
Enright (2004) further argue that the decision to forgive is only one ingredient in the
process of forgiveness and other elements contribute to forgiveness as a process.

The psychology literature and communication literature study the process of
forgiveness from different perspectives (Baskin & Enright, 2004). The majority of
psychological studies focus on the intrapersonal process of forgiveness (Ho & Fung,
2011). That is, the behavioral outcome of forgiveness is produced by many different
factors (e.g., emotion, culture, context, individual differences). These factors act together
as a process contributing toward a singular (or repeated) decision or behavior of
forgiveness (Baskin & Enright, 2004). The communication literature adds to the
psychological perspective by also including the interpersonal process of forgiveness
(Fincham & Beach, 2002; Kelly & Waldron, 2005). Communication researchers study
how victims negotiate both within the self and with others, how and when they should
forgive (Kelly, 1998). For the purposes of this dissertation, I will narrow my focus to
studying aspects of the intrapersonal process of forgiveness, and I do not address the
temporal time component of the process of forgiveness. I take the perspective that the
decision of whether to forgive is an outcome of the intrapersonal process.
**Broader Implications**

Understanding the process of how people decide whether they should forgive others is important because it may lead to understanding additional ways to promote forgiveness. Forgiveness is an important construct to understand because it has numerous mental and physical health benefits discussed previously. Forgiveness also can restore a sense of justice, which is critical to disengage others from revenge and retaliation, and restore power and status to victims (Wenzel & Okimoto, 2010). Studying forgiveness is timely because it demonstrates potential solutions, such as how nations should approach the phase of building communities in the aftermath of international war and conflict. After destruction has occurred, it is important to know how to rebuild the lives, culture, and economies of foreign countries. One potential way to do this is for nations and individuals to forgive others for past wrongs.

**Chapter Summary**

In this chapter I introduced the topic of forgiveness. I defined forgiveness and argued, based on the definition, that additional types of wrongs, other than harm- or injustice-based wrongs, can motivate the need for forgiveness. I described benefits of forgiving for the self and for groups, clarified the position I take regarding the decision and process of forgiveness, and described why forgiveness is both an important and timely topic to study. In my current study, I will use a measure of forgiveness as my dependent variable.

I hinted within this chapter that sometimes people recognize they should (or should not) forgive others, and reasons for forgiving. When people think about whether they *should* do something, they consult expectations (stated or unstated) from others to
guide their decision and behavior. In the next chapter, I discuss why and how the expectations of others influences how we conceptualize what we ought to do in certain situations. This topic is generally referred to as morality.
Chapter 3: Morality

Morality is part of our everyday life and language. Whether the word *morality* is actually used in conversations may not be a good indicator of a culture’s integration of the concept. Anytime people think or talk about what they or others *should* or *ought* to do, the concept of morality is at play. In the most basic unit of societies—families—parents and guardians begin teaching children how they ought to behave and how behavior differs by situation.

Extending from families into communities, cultural norms dictate the types of people who are permitted to instruct others on what they should or ought to do. In elementary school, for example, parents rely on teachers and administrators to teach their children how they should or ought to act while at school. When on the playground, children construct norms for how they ought to act around their peers. In some collectivistic cultures, norms establish how community elders ought to be treated by the young and how the young should follow the elders’ guidance. These examples demonstrate the myriad of ways we use the words *should* or *ought* and how the concept of morality guides our everyday life and language.

In this section I review the literature on morality. I first define morality, and then describe the two types of morality that have dominated the moral psychology literature and show why the field of moral psychology has been limited by only using two types of morality.

Morality Definition

A definition of morality has been long debated in the social sciences as well as which characteristics are necessary to what is moral (Malti, Gummerum, & Keller, 2008;
Whiteley, 1960). Some theorists require moral judgments be present to establish morality (Kant, 1785/1959; Kohlberg, 1984), others require emotions (Hoffman, 1982; Smith, 1759/1976), and others require intuitions (Haidt, 2001). Although usage of the term is neither precise nor consistent, the most basic proposition is that morality involves societal norms on how we ought to treat others and what is right versus wrong: “The term morality refers to a community’s commonly held beliefs and assumptions regarding right and wrong conduct and good and bad character” (Pope, 2001, p. 233).

The term morality has lengthy etymological roots. Morality is derived from the Latin word mores which meant custom (Gewirth, 1984). Shweder et al. (1987) note how morality differs by culture and geographical location and how for some cultures, such as among orthodox Hindus in India, routine practices such as arranged marriage, food taboos, kin avoidance, and naming practices are perceived as part of their culture’s natural moral order. To members of another culture, Hindu Indians’ natural moral order may be seen as unnatural, random, and even odd. These examples illustrate how morality is socially constructed, and differs across time and space.

**Types of Morality**

**Two moral foundations.** Scholars who study moral psychology have proposed two types of morality: justice and care. Lawrence Kohlberg, a developmental psychologist, argued that moral psychology was the study of how people understood justice (1969, 1971). Kohlberg noted how children role-play with each other, and by so doing, learn to take on the perspective of others. Taking on new perspectives enables children to make sense of when behaviors, thoughts, and customs are just or unjust to others. Kohlberg’s framed his ideas in his Cognitive Developmental Theory (Kohlberg,
1969, 1981; Kohlberg, Levine, & Hewer, 1983), proposing that as children mature to adolescence, they pass through developmental phases that aid children to morally reason on justice issues.

Carol Gilligan (1982) critiqued Kohlberg’s work, arguing that when morality is defined as only related to justice, it disregards the major category of care. Gilligan argued that people, and women in particular, make moral decisions and act based on a duty to care for and protect others—especially individuals who are vulnerable to harm.

The work of Kohlberg and Gilligan were the first steps in the field of moral psychology to define foundations of morality, that is, issues and concerns that activate a sense of right or wrong across a broad range of individuals. Summing the importance of issues of justice and care to morality, Eliot Turiel (1983) articulated that morality is about “prescriptive judgments of justice, rights, and welfare pertaining to how people ought to relate to each other” (p.3). Turiel’s description of morality limited its domain to justice and care.

During the early 80s, in the field of moral psychology, Turiel and others did not allow for other potential moral foundations to occupy the moral domain; other moral foundations were considered social conventions or personal choice (Turiel, Hildebrandt, & Wainryb, 1991). For example, Kohlberg observed when participants were asked to justify their moral decisions, they described issues such as authority, loyalty, and tradition. Kohlberg, however, did not give these concerns equal weight to issues of justice; instead he disregarded them as immature and trite, occupying a lower rung on his stage theory, to be upstaged by perceptions of justice, once individuals matured in their development (Kohlberg, 1971).
Building on the pioneering work of Kohlberg (1969, 1971) and Gilligan (1982), the field of moral psychology rallied around the idea that morality was only at play on issues of justice and harm. Researchers, for example, designed scales to measure a variety of aspects of morality, such as moral reasoning, identity, and deficits (Aquino & Reed, 2002; Rest, Narvaez, Thoma, & Bebeau, 1999); but all of these instruments were built on the assumption that morality was made up of only two foundations, people unjustly treating or harming others (Graham et al., 2011).

**Limits of justice and care.** Richard Shweder (1990), a cultural anthropologist, debated the assumptions of Turiel, Kohlberg, and Gilligan, arguing that issues of justice and harm did not wholly depict moral life, rather only a portion of it. For instance, Shweder (1990) critiqued the argument of morality based on issues of justice and harm as being too narrowly individualistic, and failed to take into account collectivistic moral concerns present in the majority of world societies. Instead, Shweder theorized that three “ethics”—ethics of autonomy, community, and divinity—gave equal attention to both collectivistic and individualistic moral concerns.

Shweder et al. (1997) proposed that ethics of autonomy moralize issues related to justice, rights, and harm to protect the autonomy of individuals so they can make choices of their own will and according to their own preferences. Ethics of community moralize issues related to duty, hierarchy, interdependency, and loyalty to groups, to protect the integrity of the roles or positions that make up the community. Communities, in this sense, have their own identity, status, and history. Ethics of divinity moralize sacred and natural orders, tradition, sanctity, sin, and pollution to protect the spiritual aspects (e.g., soul, spirit) of humans against debasement. In relation to individualism and collectivism,
ethics of autonomy are prioritized in individualistic cultures, whereas collectivistic cultures also prioritize ethics of community and divinity. Shweder argued that ethics of community and divinity are evident in the majority of cultures worldwide and throughout time, as well as in some Western subcultures. Therefore, the commitment of liberal Western social scientists to a metatheory for morality that only comprises harm, rights, and justice “dies hard” when applied universally (Shweder, 1990, p. 2064).

Shweder found support for his three ethics in speech patterns of children and adults in the orthodox Hindu community of Bhubaneswar, Orissa, India as well as in the U.S. among Judeo-Christian families living in Chicago, Illinois (Shweder, Mahapatra, & Miller, 1987). Other researchers found similar support among children and adults of low and high socioeconomic status in the cities of Recife and Porto Alegre in Brazil and Philadelphia in the U.S. (Haidt, Koller, & Dias, 1993). Others found support for the three ethics among fundamental Baptists (orthodox) and mainline Baptists (progressivist) in a Midwestern city in the U.S. (Jensen, 1997), and among liberal and conservative college students in Virginia (Haidt & Hersh, 2001). These findings show the ubiquity of the three ethics across geographical location and culture.

Chapter Summary

In this chapter, I reviewed the literature on morality. I first defined morality, and then described two types of morality that have dominated the moral psychology literature. I suggested why our understanding was limited by only using two types of morality. I reviewed the work of Shweder and how outside of Western society, morality can be viewed as having different foundations relating to community, authority, and
sacredness. I also cited research that has showed these different moral foundations have also been present within subcultures within the U.S.

In the next chapter I describe how recent theorists have furthered the arguments proposed by Shweder. I describe how recent additions to the field of moral psychology by Jonathan Haidt and his students integrate Shweder’s work into a new systematic theory of morality, known as Moral Foundations Theory.
Chapter 4: Moral Foundations Theory

In this chapter I describe Moral Foundations Theory and the Moral Foundations Questionnaire. I then discuss how the forgiveness literature could benefit from Moral Foundations Theory.

A New Theory of Morality: Moral Foundations Theory

Haidt and his students (Haidt & Graham, 2007; Haidt & Joseph, 2004) furthered Shweder’s (1990) theory of three ethics, adding to it a theoretical explanation for morality’s (1) origins, (2) development, and (3) cultural variations. These three accounts of morality are coalesced in Moral Foundations Theory (MFT).

Origins. The evolutionary account of morality explains how natural selection evolved human cognition and emotion to effortlessly learn how to recognize and respond to at least five sets of patterns in the social world. This account is nativist—that is, it assumes humans have within them innate knowledge for how to solve human problems (Haidt & Joseph, 2004). Throughout time, humans have repeatedly confronted difficulties to socially living within groups. Individuals who could adapt to their social world were favored by natural selection. Over time, knowledge about how to adapt to certain challenges in social lives became evolutionarily interwoven into the human mind. Children demonstrate this knowledge even if others do not teach them (Kohlberg, 1971).

Development. The developmental/cognitive account of morality describes how people mature in their moral development. Children learn to identify and master values embraced by their culture that build upon the five moral foundations (Haidt & Graham, 2007). Some types of values are learned effortlessly whereas others are more difficult to learn. An example of a value that is learned effortlessly is the tit-for-tat rule (Haidt &
Graham, 2009). A value that is difficult to learn is to love your enemy and turn the other cheek if someone hits you (Haidt & Graham, 2009). The five moral foundations build on cognitive pathways “organized in advance of experience” (Marcus, 2004, p.40) that allow certain types of information to be learned effortlessly, whereas other information requires authoritative instruction (e.g., from parents, religion) because they are unnatural to perform (Haidt & Graham, 2007).

**Cultural variations.** The cross-cultural account of morality explains why cultures differ in the norms, virtues, laws, and institutions they construct (Haidt & Graham, 2009). Social scientists have tried to explain why similarities and differences exist across and within cultures on matters of morality. How do we all determine what is right or wrong? Why is our conceptualization of what is right or wrong similar to or different from others around us? Haidt argues that similarities across cultures occur because humans have the same evolved mental equipment; differences occur because cultures vary in how they implement universal moral knowledge (Haidt & Graham, 2009). Cultures differ in virtues they construct that build upon moral foundations, and the degree to which they value certain virtues (Haidt & Graham, 2007). Individuals can differ from others within a culture if they value certain moral systems above virtues commonly held by others, and if they make self-serving biases that distort social perception (Haidt & Graham, 2007).

Haidt and Joseph (2004) proposed that five moral foundations (also known as moral systems, psychological systems) explain how moral intuitions vary across cultures, noting that each moral foundation has a unique evolutionary purpose and history. Cultural variation in the application of the five psychological systems occurs as cultures
differ in the extent to which they value, teach, and perform virtues related to the five foundations.

**Five foundations of morality.** Haidt and Graham (2007) termed the five moral foundations: (1) Harm/Care, (2) Fairness/Reciprocity, (3) Ingroup/Loyalty, (4) Authority/Respect, and (5) Purity/Sanctity. For this dissertation, I simplify these five to Harm, Fairness, Ingroup, Authority, and Purity.

**Harm.** The Harm foundation builds on the concept of kin altruism in kin selection theory (Hamilton, 1964; Smith, 1964) and prosocial displays of empathy and compassion (Hoffman, 1982). Evolutionary biology has documented how mammals are evolutionarily motivated to socially cooperate with kin to ensure the reproductive success of gene-sharing relatives. Social cooperation can involve caring for and protecting vulnerable children from harm. Caretakers notice signs of distress or suffering (or potential for distress or suffering) and are motivated to alleviate the suffering or protect their offspring from harm.

The evolutionary history of humans demonstrates a sensitivity to detect and alleviate signs of suffering within offspring. Among humans and primates, the brains of mothers are wired to respond with compassion to the cry of their children (Nitschke, et al., 2004). As humans and other primates evolved, they extended protection and care to others (non-familial) who were suffering. Acts of social cooperation to non-familial others arises from reciprocal altruism, securing mutual reciprocity by social cooperation (Haidt & Graham, 2009). At the cultural level, expressions of approval are encoded into virtues such as kindness and compassion and expressions of disapproval are encoded into vices such as cruelty and aggression (Haidt & Graham, 2007).
**Fairness.** Stemming from kin selection theory is the theory of reciprocal altruism, that group cooperation evolved such that non-gene-sharing others benefitted by extending relief and protection to allied others (Trivers, 1971). When non-kin help others, a social debt is created in which the beneficiary becomes motivated to reciprocate the helping behavior, creating an alliance. Over time, alliances through reciprocity offered evolutionary advantage and became commonly accepted as norms that promoted social order (Haidt & Graham, 2007). When others do not reciprocate, norms of Fairness are violated. Cultures differ in the degree to which they codify virtues that promote reciprocity and Fairness. Virtues that promote reciprocity and Fairness include acting fairly, wise, compassionate, and with equality.

**Ingroup.** The Ingroup foundation builds on the work of Tajfel and colleagues on social groups in social identity theory (Tajfel, 1970, 1974; Tajfel, Billig, Bundy, & Flament, 1971) and self-categorization theory (Tajfel & Turner, 1986). People identify with members of their social groups (ingroups), and contrast their identity with people from other social groups (outgroups). Perceived group identification can serve as a psychologically meaningful category to explain intergroup behavior. Group membership affects people’s perceptions such that they prefer their ingroup over outgroups (Tajfel, 1970). Ingroup favoritism arises because people are motivated to achieve positive distinctiveness (Tajfel & Turner, 1979). Over time people intertwine their wellbeing with the collective wellbeing of the group (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987).

Evolutionarily, groups evolved over time such that loyalty to one’s ingroup produced greater fitness as ingroup members reciprocated cooperative behavior (Haidt & Graham, 2007). Loyalty is a complex construct that incorporates emotional, cognitive,
and behavioral components (Van Vugt & Hart, 2004). Because of this group loyalty, members who identify with the group can exhibit loyal behavior for the group even when it involves personal disadvantage (Brewer, 1979; Van Vugt, Jepson, Hart, & De Cremer, 2004). Loyalty to one’s ingroup is influenced by one’s strength and nature of identifying with the group (Van Vugt & Hart, 2004). That is, for group members who identify highly with their group, they mainly conceptualize themselves by their group membership, whereas group members who identify weakly with their group mainly conceptualize themselves as unique individuals. Groups codify virtues such as loyalty, patriotism, and heroism to praise members who cooperate and even sacrifice for other group members, and condemn those who betray or retreat from helping group members (Haidt & Graham, 2007).

**Authority.** The Authority foundation builds on the work of social structure within groups in the form of social/dominance hierarchies. Social or dominance hierarchies describe the allocation of power within a group, and involve select members of a group having greater share of resources and power than subordinate members of the group (Moosa & Ud-Dean, 2011). Social hierarchies are systems in which “an implicit or explicit rank order of individuals or groups with respect to a valued social dimension” (Magee & Galinsky, 2008, p. 354). Dominance hierarchies are often used to describe hierarchies among a broad range of insects, animals, and humans (Moosa & Ud-Dean, 2011), whereas social hierarchies tend to focus just on humans (Zitek & Tiedens, 2012). Dominance hierarchies are present in cooperative, gregarious social species (Allee, 1938; Langbein & Puppe, 2004; Rowell, 1973). The need for dominance hierarchies arises when resources are scarce and group members must compete for the resources (West-
Eberhand, 1979). Primates enforce hierarchies primarily by physical force, whereas humans have developed beyond enforcing by physical force, and use more nuanced tactics such as relying on voluntary deference (Henrich & Gil-White, 2001).

Dominance hierarchies are better at reducing group conflict compared to groups with no hierarchy (Gurney & Nisbet, 1979; Sloman & Armstrong, 2002) and provide members who rank highly greater evolutionary survival than subordinates (Buston, 2003; Moosa & Ud-Dean, 2011). Evolutionarily, organization within groups evolved such that group members who recognized signs of rank and status and showed deference to those high in power were exposed to less conflict and achieved greater survival rates (Haidt & Graham, 2007).

Cultures vary in their degree of embracing hierarchical structure or power equality (Zitek & Tiedens, 2012). In the United States, some scholars have documented cases in which the public perceives the structure of equality more enjoyable and more valued than hierarchy (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1996; de Tocqueville, 1969; Fiske, 1991). Some people perceive hierarchical group structures as inhumane, immoral, and undemocratic (Leavitt, 2004). While some scholars have noted preferences for equality over hierarchy, others have noted situational preference for hierarchy over equality (Dryer & Horowitz, 1997; Tiedens & Fragale, 2003). In everyday practice, the majority of world cultures utilize social hierarchies for group organization (Magee & Galinsky, 2008; Sidanius & Pratto, 1999); within families, children are typically raised in parent-child hierarchies (Bugental, 1993; Bugental & Goodnow, 1998; Youniss, 1980); and, within informal social networks, people often take on a role of being either dominant or submissive within relational interactions (Markey, Funder, &
Ozer, 2003; Sadler & Woody, 2003; Strong et al., 1988, Tiedens & Fragal, 2003). Moral Foundations Theory explains these differences in preferences of hierarchy and equality, proposing that cultures evolve over time such that certain virtues and moral systems are regarded with higher esteem compared to others (Haidt & Graham, 2007). Cultures have codified virtues such as magnanimity, fatherliness, and wisdom toward good leaders (Haidt & Graham, 2007). Cultures have also codified virtues related to deference toward good leaders, such as respect, duty, and obedience (Haidt & Graham, 2007).

Purity. The Purity foundation builds on work from evolutionary and health psychology on wellness (Haidt & Graham, 2009). Whereas the other four moral foundations relied on the social nature of humans, the Purity foundation builds on the physical nature of humans as omnivores (Rozin, Haidt, & McCauley, 2000) and evolves into social nature.

Over time it became adaptive for humans, who were living in close proximity to others, to develop rules for preparing and sharing food to prevent the spread of germs and disease (Haidt & Graham, 2009). Social actions of ostracism and avoidance were used to castigate members who brought with them signs of disease (Haidt & Graham, 2007). Groups often have selection criteria used to enter or exit the group, and to identify members of one’s ingroup and outgroup (Tajfel, 1970). Signs served the adaptive function of allowing group members to reduce conflict by keeping close ties with ingroup members and avoiding outgroup members. Symbols and indicators of wellness evolved from detection of criteria that affected physical wellness (e.g., boils on lepers), to criteria that affected social wellness (e.g., low status; Haidt & Graham, 2007). Groups codified virtues that promoted living a pure, sanctified life such as chastity, piousness, spiritually
minded; and codified vices that promoted living a debased, impure, and unclean life such as lust, greed, gluttony, and anger (Haidt, 2006; Rozin, Haidt, & McCauley, 1999). For example, in religious cultures the moral foundation of Purity aids group members to detect members of an ingroup who live a pure, elevated and sanctified life from outgroup members who lived a carnal and debased life.

**Empirical Tests of Moral Foundations Theory**

The measure developed to test Moral Foundations Theory is the Moral Foundations Questionnaire (MFQ). The MFQ was created to “gauge individual differences in the range of concerns that people consider morally relevant” (Graham et al., 2011, p. 369). This was accomplished by (1) overtly asking participants whether certain moral concerns were relevant to their decisions of whether something was right or wrong (e.g., “Whether or not someone was denied his or her rights”), and (2) asking participants about specific, contextualized statements of moral judgment (e.g., “Justice is the most important requirement for a society”).

Graham et al. (2011) found that a five-factor model (Harm, Fairness, Ingroup, Authority, Purity) of morality improved both fit and parsimony in comparison to one-factor models (Harm), two-factor models (Harm and Fairness), and three-factor models (relating to Shweder’s three ethics of autonomy, community, and divinity).

The MFQ has been tested on different samples, by varying modes of recruitment, and varying methods of measurement. Haidt and his students introduced the first and second versions of the MFQ in Graham et al. (2009), testing it on a large, heterogeneous sample ($N = 3,825$). Participants were recruited from the web-based survey on ProjectImplicit.org, a virtual laboratory. The third version of the MFQ was tested on
28,000 participants and the fourth (and latest) version of the MFQ, published by Graham et al. (2011), tested it on 34,476 adults, and some measures, on 104,893 adults. The third and fourth versions recruited from web-based surveys on YourMorals.org. The MFQ has been tested on both western cultures (United States, United Kingdom, Canada, Western Europe; \( n = 104,893 \)) and eastern cultures (South Asia, East Asia, and Southeast Asia; \( n = 2,258 \)).

Although the MFQ has involved tens of thousands of participants across 11 nations suggesting the pattern is widespread, the method of recruitment in Haidt’s work has traditionally been web-based. As such, other scholars have administered the MFQ to a nationally representative sample in the United States (Smith & Vaisey, 2010) and on participants who do not have access to the Internet in Managua, Nicaragua (Graham, Cox, & Casablanca, 2010). As of 2011, work has also begun among non-English speaking samples in Arabic, Chinese, Croatian, Dutch, Farsi, German, Hebrew, Indonesian, Italian, Korean, Polish, Russian, and Spanish (Graham et al., 2011). The MFQ has also varied in the measures used, such as vignettes, sentence scenarios, word occurrence in religious sermons, and family metaphors (Graham et al., 2009, 2011).

**Morality and Forgiveness**

In my review of some of the most used forgiveness scales such as the Attitudes toward Forgiveness Scale (Brown, 2003), Tendency to Forgive Scale (Brown, 2003), Transgression Narrative Test (Berry, Worthington, Parrott, O’Connor, & Wade, 2001), Conceptual Forgiveness Scale (Kanz, 2000), and Forgiveness Attitudes Questionnaire (Kanz, 2000), I have found that forgiveness is almost exclusively framed as a response to issues relating to Harm and Fairness, with occasional (though very rare) references to
disloyalty to Ingroups and disrespect for Authority. In the instances when references are made to Ingroups and Authority, they are always combined with statements of Harm and Fairness so that distinguishing among them is not possible.

The dominating use of Harm and Fairness as transgressions that may necessitate forgiveness implies that forgiveness is almost restrictively limited to situations involving those two moral concerns. This initial review lays the groundwork for establishing a need to discover whether people think the three other moral concerns are important to forgiveness decisions.

**Chapter Summary**

In this chapter, I presented Moral Foundations theory. I introduced the three main tenets of (MFT), the evolutionary, developmental/cognitive, and cross-cultural accounts of morality. I described the five moral foundations to our perception of situations and events. I described how Moral Foundations Theory has been empirically tested using the Moral Foundations Questionnaire. I then connected Moral Foundations Theory with the topic of forgiveness, and argued this theory would serve well to help me understand the relationship of morality to forgiveness. In the next chapter I move on to the topic of emotions and how emotions relate to Moral Foundations Theory and forgiveness.
Chapter 5: Emotions

In this chapter, I introduce the role of emotion as a response to moral violations and explain why certain types of emotion can either motivate or inhibit prosocial behavior in the form of forgiveness. I begin with a general overview of emotions, and then connect emotions to both (a) the literature on morality and (b) the concept of forgiveness.

Emotions Defined

Affect is defined as a momentary pleasant or unpleasant state (Schimmack & Crites, 2005). Affect is a general term used to describe both emotion and moods, as both are affective states (Clore, & Schnall, 2005). Moods last longer in duration and are lesser in intensity than emotion (Schimmack & Crites, 2005). The difference between emotion and mood is related to duration, intensity, object directedness, and knowing the cause behind the state (Schimmack & Crites, 2005). Emotion is directed toward an object whereas moods are not (Frijda, 1993). Past research has shown how emotion can influence people’s perceptions of situations, highlighting that certain perceptions are unstable and change with context (Wyer & Albarracin, 2005).

Emotions and Moral Foundations Theory

Moral Foundations Theory proposes that humans are born with intuitive ethics, “an innate preparedness to feel flashes of approval or disapproval toward certain patterns of events involving other human beings” (Haidt & Joseph, 2004, p. 56). Intuitive ethics involve intuitions, which are rapid “judgments, solutions, and ideas that pop into consciousness without our being aware of the mental processes that led to them” (p. 56). When people experience sudden answers to questions they have been mulling over, the
knowledge they construct is intuitive. More specifically, moral intuitions are a “subclass of intuitions, in which feelings of approval or disapproval pop into awareness as we see or hear about something someone did, or as we consider choices for ourselves” (p. 56). These feelings of approval or disapproval relate to our intuitions of how we think people should or ought to act in circumstances.

**Social intuitions.** Intuitions arise from one of two forms of cognitive processing: the intuitive system and the reasoning system (Bruner, 1986; Chaiken, 1980; Epstein, 1994; Metcalfe & Mischel, 1999; Petty & Cacioppo, 1986; Pyszczynski & Greenberg, 1987; Reber, 1993; Wegner, 1994; Zajonc, 1980). Most of cognition takes place in the intuitive (automatic) system (Haidt, 2001). The intuitive system is fast and effortless, involves unintentional and automatic processing, the process is inaccessible and we are only aware of the results, does not require attentional resources, is metaphorical and involves pattern matching, is common to all mammals, and is context dependent (Haidt, 2001). In contrast, the reasoning system is slow and effortful, involves intentional and controllable processing, the process is consciously accessible, requires limited attentional resources, is analytical and involves symbols, is unique to humans older than two years old, and is context independent (Haidt, 2001).

Past research attempting to understand people’s responses to moral dilemmas has focused on the reasoning system, whereas recent research suggests responses are mostly from the intuitive system (Haidt, 2001, 2004). In laboratory experiments when people are asked why they made certain moral judgments, they use their reasoning system to construct motives in hindsight; however, the actual decision making happens within a second or two of when a situation is presented by a quick gut feeling that comes into
consciousness using the rapid, intuitive system (Haidt, 2001; Nisbett & Wilson, 1977).

Haidt points out that if researchers focus on the reasons people provide for their judgments, they are studying the rational tail that got wagged by the emotional dog (Haidt, 2001). The real source for learning about why people make the moral decisions they do lies within the domain of emotion and social cognition research.

**Role of emotions.** Emotion plays an important role in Moral Foundations Theory as the emotive vehicle that drives moral intuitions. People experience emotions that relate to approval or disapproval for how others act or how they should act themselves (Haidt & Joseph, 2004). Haidt and his students (Graham et al., 2011; Haidt & Graham, 2007; Haidt & Joseph, 2004) have begun to outline which emotions are characteristic of the five moral foundations: Harm, Fairness, Ingroup, Authority, and Purity. Of particular relevance to this dissertation are emotions experienced in response to moral violations, since the scenarios used as dependent variables will all include wrongdoing in the form of a moral violation. The CAD-triad hypothesis (Rozin et al., 1999) proposes that three emotions are experienced as responses to violations of Shweder’s three moral codes (community, autonomy, divinity; Shweder et al., 1997). The three emotions proposed by the CAD-triad hypothesis include contempt, anger, and disgust (CAD). Haidt (2003) describes that these emotions “act as guardians of different portions of the moral order” (p. 858). Therefore, in response to moral violations, at least three emotions should be present. Emotions have also been observed in relation to the five moral foundations in Moral Foundations Theory.

**Harm.** The heightened sensitivity of humans to harm of others is expressed by feelings of approval for people who protect and care for vulnerable others, and feelings of
disapproval for people who are cruel to others (Haidt & Graham, 2007). Caring for vulnerable others is motivated by the emotion of compassion (Haidt & Joseph, 2004). Violation of caring for others triggers negative affect (Haidt & Joseph, 2004), being insulted triggers anger (Baumeister, Stillwell, & Wotman, 1990; Izard, 1977; Shaver, Schwartz, Kirson, & O’Connor, 1987), and cruelty triggers disgust (Miller, 1997).

**Fairness.** Humans are sensitized to fairness for others as expressed by feelings of approval for people who are fair and just to vulnerable others, and feelings of disapproval for people who are unjust or who do not reciprocate. Emotions such as guilt, gratitude, and trustworthiness motivate reciprocity and fairness (Trivers, 1971). Guilt, for example, serves an important social purpose of reprimanding norm violators to align their future behavior with group norms (Panksepp, 2007). Violation of treating others fairly or justly triggers negative affect (Haidt & Joseph, 2004) and, specifically, anger (Baumeister, Stillwell, & Wotman, 1990; Izard, 1977; Shaver, Schwartz, Kirson, & O’Connor, 1987). Cheating triggers anger (Haidt & Joseph, 2004).

**Ingroup.** People generally express feelings of approval for others who are loyal to their Ingroup and feelings of disapproval for people who betray their Ingroup. Emotions such as distress at another’s distress and compassion serve the purpose of aiding individuals to identify, trust, and cooperate with group members; emotions such as gratitude and elevation are felt toward people who are loyal to their Ingroup. Violation of loyalty to one’s Ingroup triggers negative affect (Haidt & Joseph, 2004, p. 60), being betrayed triggers anger (Baumeister, Stillwell, & Wotman, 1990; Izard, 1977; Shaver, Schwartz, Kirson, & O’Connor, 1987) and disgust (Miller, 1997). Hypocrisy triggers disgust (Haidt, 2003). Low status outgroups (and their bodily activities) trigger disgust.
Emotions such as contempt, disgust, and anger are felt for people who betray or are unpatriotic to their Ingroup.

**Authority.** Research on social cognition processes has shown that hierarchies offer greater predictability to Ingroup members compared to structures of equality (Leavitt, Dill, & Eyring, 1973). Predictability increases because group members have attitudes and behaviors consistent with the roles within the hierarchy (Leavitt, Dill, & Eyring, 1973). The ability for group members to process stimuli easy creates positive affect and favorable attitudes toward people and situations (Winkielman, Schwarz, Fazendeiro, & Reber, 2003) and can result in emotional displays of smiling (Harmon-Jones & Allen, 2001; Winkielman & Cacioppo, 2001). Emotions such as respect, awe, elevation, and admiration are felt toward legitimate authorities and people who respect Authority; emotions such as anger, sadness, contempt, and disgust are felt toward illegitimate authorities and people who disrespect Authority (Haidt & Graham, 2007). Disrespect to authorities can trigger negative affect (Haidt & Joseph, 2004). Arrogant behavior by subordinates can trigger contempt (Haidt & Joseph, 2004).

**Purity.** People can be sensitized to situations involving purity or sanctity and express feelings of approval for people who protect purity and feelings of disapproval for people who disregard or violate standards of purity. The main emotion that has been studied in relation to purity is disgust. Humans are the only social group that has developed the emotion of disgust (Rozin et al., 2000). In all cultures, disgust guards against biological and cultural disease transmission (Haidt & Graham, 2007). Thus people often feel the emotion of disgust toward people who violate standards of purity (Haidt & Joseph, 2004) such as incest or other sexual rule violations, drug use, and body

Types of Moral Emotions

Haidt (2003) proposes two approaches to defining moral emotions. The first approach is that moral emotions can be described as “the emotions that respond to moral violations or that motivate moral behavior” (p. 853). The second approach is that moral emotion are “emotions that are linked to the interests or welfare either of society as a whole or at least of persons other than the judge or agent” (p. 853). Haidt suggests that humans, more so than other animals, devote the majority of their moral emotion experience to reacting to situations or events that do not directly affect the self.

Among the many emotions people experience, Haidt (2003) proposes at least 11 moral emotions and groups them into responses to bad deeds done by others or by the self, and responses to bad things experienced by others. Emotions directed toward condemning others include contempt, anger, and disgust (CAD-triad hypothesis; Rozin et al., 1999). Self-conscious emotions include shame, embarrassment, and guilt. Emotions directed toward others who suffer include distress at another’s distress (DAAD) and sympathy/compassion. Although not as relevant to this study, emotional responses to good deeds and moral exemplars include emotions that praise others such as awe, elevation, and gratitude. While this is not an exhaustive list, Haidt’s (2003) list of 11 moral emotions—particularly the first eight for the purposes of this study—serves as a starting ground to understand what emotions may be at play.

Even though Moral Foundations Theory makes predictions about which emotions will be experienced in relation to situational characteristics of moral violations (e.g.,
CAD-triad hypothesis; Rozin et al., 1999), it does not predict which emotions relate to prosocial or antisocial behaviors, such as forgiveness or lack of forgiveness. This study seeks to clarify the relationship of emotional responses to moral violations and their relation to forgiveness, or lack thereof.

**Moral Emotions and Forgiveness**

Moral emotions likely influence decisions to forgive, to not forgive, or to seek more information about the transgression context. The literature on emotion and forgiveness is still in its infancy. A few scholars have studied the relationship of anger (McCullough, Bono, & Root, 2007) and compassion to forgiveness (McCullough et al., 1997, 1998). However, no researchers have yet tested whether merely encouraging participants to focus on their emotions affects their likeliness of forgiveness. Researchers have also not yet tested whether the degree of intensity with which someone experiences emotion relates to decision to forgive. This study tests these potential relationships.

Other research relating to emotion has only explored whether people are able to emotionally forgive in general (Hodgson, & Wertheim, 2007), and has not explored the variety of emotions that are experienced in response to moral violations or that motivate forgiveness. This study will therefore take an exploratory approach to learn what emotions in addition to anger and compassion people feel in response to moral violations as well as what emotions relate to the decision to forgive.

**Chapter Summary**

In this chapter, I defined emotion and gave an overview of its relationship with affect and moods. I reviewed the literature on morality in relation to emotions. I described the relation of emotion to each of the five moral foundations for the purpose of
demonstrating a theoretical relationship between emotion and Moral Foundations Theory in general. I also reviewed the fledgling literature on forgiveness and emotion and predicted that raising participants’ awareness of their own emotions in relation to moral violations should relate to their willingness to forgive. I also predicted that the intensity of anger felt in response to moral violations should relate to decisions to forgive. In addition, I predicted that other emotions, in addition to anger, should be felt in response to moral violations and should motivate forgiveness. In the next chapter I progress to describe the strategy I used to collect data for my dissertation, and the methods I used.

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1 Even though I describe the theoretical relationship between emotion and the five moral foundations, in the present work I will not focus on the emotional link to MFT, but rather use MFT to predict the emotional link to forgiveness and empirically test whether such a relationship exists.
Chapter 6: Hypotheses, Data Collection Strategy, Methods

In this chapter I present the hypotheses of interest in this dissertation and discuss the data collection strategy. I introduce the method of Google AdWords to recruit participants. I briefly review academic research utilizing Google AdWords as a recruitment method and show that it is a rich alternative to university student samples and offers unique online access to a diverse group of adults. I also discuss pros and cons of online surveys as well as the survey mode and design, sample and sampling frame, and procedural methods I used for data collection.

Overview and Hypotheses

Based on the arguments constructed in my literature review, I make the following hypotheses in this dissertation:

H1a: Collecting data using Google AdWords (which will be described shortly) will yield results consistent with Moral Foundations Theory as demonstrated by Graham et al. (2011) in relation to key demographic dimensions.

H1b: Collecting data using Google AdWords will yield results consistent with patterns found by Berry et al. (2001) on the Transgression Narrative Test of Forgiveness in relation to sex and religiosity.

H2a: Morality will be a significant predictor of forgiveness, when controlling for other factors (e.g. sex, political affiliation, religiosity)

H2b: The five moral concerns will each significantly predict forgiveness, when controlling for other factors (e.g., sex, political affiliation, religiosity).

H2c. Five-factor dimensions of morality will provide a better model fit than two-factor dimensions of morality at explaining forgiveness.
H3a: Respondents who are primed to think of emotion will be no different at forgiving compared to the control condition.

H3b: Respondents who are primed to think of emotion and who experience negative emotion (i.e., anger) will be less likely to forgive than the control respondents who are not asked to think of emotion, and this should hold across other factors (e.g., religiosity).

H3c: Respondents who are primed to think of emotion and who experience positive emotion (i.e., compassion) will be more likely to forgive than the control respondents who are not asked to think of emotion, and this should hold across other factors (e.g., religiosity).

H3d: Respondents who more frequently experience anger will be less likely to forgive than respondents who experience anger less frequently.

H3e: Respondents who more frequently experience compassion/sympathy will be more likely to forgive than respondents who experience compassion/sympathy less frequently.

H3f: Respondents will feel contempt and disgust in response to wrongdoing, and those two emotions will be significantly associated with lack of forgiveness.

H3g: Respondents will feel emotions beyond anger, compassion, contempt, and disgust (e.g. distress at another’s distress, embarrassment, shame, guilt), some of which will significantly predict forgiveness.

H3h: The strength of an emotion will be significantly related to forgiveness (in the expected direction).
Data Collection: Web-Based Survey

Data collection will utilize a survey research design. The benefit of a survey design is the ease of accessibility and low cost (Groves et al., 2009). Among survey designs, there are multiple modes including face-to-face, mail, phone, and web. The web mode will be used for the present survey. Web surveys are a growing trend and becoming more commonplace because of their low cost in comparison to mail surveys, telephone surveys, and face-to-face surveys (Dillman, Smyth, & Christian, 2009). Of course, web surveys also carry some disadvantages, and these are discussed in Appendix J (along with ways in which I have systematically minimized problems that can be associated with web surveys).

Jonathan Haidt and his students’ work on Moral Foundations Theory has exclusively surveyed participants using a convenience sample of participants who self-selected to participate by seeking out Haidt’s surveys on his website (YourMorals.org). Since I do not have access to recruit from Haidt’s website, I need to establish that a different method can produce similar results to those reported by Haidt. I accomplished this using Google AdWords, online-sponsored advertising.

Google AdWords. Recruiting a sample using Google AdWords is strategic because it allows for a method very similar to that used by Haidt: online, self-selected, convenience sampling. If the predictions of Moral Foundations Theory are indeed universal to all human societies as the theory proposes, then I should find results consistent with Moral Foundations Theory using this alternate method of self-selected, convenience sampling. Results confirming patterns predicted by Moral Foundations Theory would establish that this new method of recruitment allows access to a sample
that perceives moral concerns following the same patterns from samples used by Haidt and colleagues.

Search engines have become a dominant, worldwide tool for everyday people to find information on the Internet. Search engines assist people by organizing the enormous amount of online information into the best resources about a topic. Google has a network of thousands of websites, news pages, and blogs that display AdWords. As the name suggests, AdWords services are geared toward marketing professionals to advertise businesses and products to potential consumers by competing for consumers’ attention. Google AdWords is a Pay-Per Click (PPC) system that charges clients a small fee every time someone clicks on their ads. Google AdWords is the most popular program for paid placement listings that appear as sponsored advertisements (Xiang et al., 2012). Sponsored advertisements usually appear at the top or at the right of search result pages. Revenue from sponsored advertising\(^2\) (also known as keyword advertising, paid searches, search engine advertising) allows search engines to provide their web search services for free to the general public (Rosso, McClelland, Jansen, & Fleming, 2009).

A search in June 2012 of PsycINFO, Sociological Abstracts, Academic Search Premier, Communication Abstracts, ERIC and 47 other online databases for peer-reviewed articles in the social sciences using “AdWords” in the title or abstract revealed one article published in a psychology\(^3\) journal and none in sociology, communications, or anthropology journals. This deficiency of peer-reviewed studies devoted to investigating

\(^2\) Google’s total advertising revenues were $36.5 billion in 2011 (Google Investor Relations, 2012).

\(^3\) Lewis and Arbuthnott (2012) did not use AdWords as methodology for recruiting participants, rather as an information source using the Keyword Tool to detect online keywords typed into search engines to find pro-eating disorder websites.
AdWords as a method to collect data is not surprising as AdWords is a relatively new service and marketed exclusively toward the applied business sector. The term “AdWords” does, however, appear in the title or abstract of some (less than 20) articles in marketing, economics, law, and technology journals. The fact that some scholarly studies have begun to use Google AdWords, even if outside of the social sciences, points toward the potential of using this method for successfully recruiting participants for the current study.

**Sample, Sampling Frame, Sample Size**

A survey population includes all units of the population (e.g., individuals, households) to which a researcher wants to generalize survey results (Dillman et al., 2009). For ease of data collection and because a list was not available for individuals in the group from which I wanted to recruit, I used a convenience sample instead of random samples. Using convenience samples limits the generalizability of my findings for each group, however, if the phenomena under investigation are indeed universal as theory predicts, then I predicted the phenomena should be present in my convenience sample.

The sample for the current study drew from English-speaking adults in the U.S. who visited websites which allowed advertising from Google, and who searched online for content similar to the topic of the survey (e.g., morality, ethics, forgiveness). Google has a network of thousands of websites, news pages, and blogs that display AdWords ads.

A sample frame is the source list from which the sample is drawn (Dillman et al., 2009). I generated my sample frame by identifying search *queries* (keywords that describe an information need typically in one to three words; Jansen & Spink, 2006)
related to topics in this dissertation (e.g., morality, ethics, forgiveness, emotion). This involved searching for the types of keywords potential participants may type into a search engine to find related information. This was an important initial step because it allowed me to place ads directly in front of individuals for whom the topic was personally relevant. To do this, I used the Google AdWords Keyword Tool to detect related search queries that comprised my sampling frame. This novel method for generating a sample frame was used by Xiang et al. (2012) to create a list of the top travel-related search queries viewers used. The Keyword Tool is designed to help marketers select keywords for their search engine marketing campaigns based on the highest-volume queries.

I manually typed into the Keyword Tool certain keywords that reflected the general topics under investigation in the current study (i.e., morality, moral, ethics, right or wrong, forgiveness, forgive, forgiving, sorry, apologize, apology, emotion, affect, mood). I extracted all the related queries recommended by AdWords and the accompanying monthly volumes for the month. Based on this list, I selected the queries with the highest monthly volume. These queries along with the monthly search volume in the U.S. were as follows: “forgive” (450,000), “forgiveness” (673,000), “forgiving” (550,000), “forgiven” (673,000), “emotion” (673,000), “moral” (1,000,000), “morality” (301,000), “ethics” (1,830,000), and “values” (7,480,000). The sample frame for the current study consisted of all individuals over the age of 18 with Internet Protocol (IP) addresses in the U.S. who typed queries into Google’s search engine matching the queries I listed above and to whom the ad was displayed.

To compute sample size I used the G*Power software (Faul, Erdfelder, Buchner, & Lang, 2009). Sample size calculation requires selecting in advance (1) which statistical
analysis I will conduct, (2) number of groups, (3) the effect size, (4) power, and (5) Type I error probability. To determine a priori effect size I consulted past literature testing Moral Foundations Theory. Haidt and students report effect sizes in Graham et al. (2011) with $d$s in between .15 and .58 when using independent-samples t-tests to test differences between women and men on the five moral foundations. Thus to calculate t-tests to compare mean differences between two groups (more details described in the Results section of Study One and Two), and to mimic tests reported by Haidt and colleagues (Graham et al., 2011), required a sample of 210 respondents to achieve an effect size of $d = .5$.

I also used G*Power software to compute a sample size for my multiple regression analyses. For a two-tailed test with a moderate effect size of $f^2 = .15$, with 8 predictors, desired statistical power of 0.8, and a probability level of 0.05, I needed a minimal sample size of 55. Stevens (1996) recommends about 15 participants per predictor for a reliable equation, which would recommend a sample of 120.

I computed sample size for my structural equation model using Daniel Soper’s a priori sample size calculator for structural equation models. Absent of any predicted effect size from past literature, I chose the most conservative effect size to detect a small effect. Based on Roper’s SEM sample size calculator, for a small effect size (0.1), desired statistical power of 0.8, 6 latent variable (Harm, Fairness, Ingroup, Authority, Purity, Forgiveness), 35 observed variables (five observed variables per moral foundation and five for forgiveness), and a probability level of 0.05, I needed a minimum sample size of 1,148 to detect an effect. This led me to reconsider the use of SEM, as I will discuss in Chapter 8.
Methods

Recruitment. I recruited participants using a combination of text- and image-based ads. Text-based ads took the form of a 25-character headline, two 35-character description lines, a display Uniform Resource Locator (URL) and a destination URL. Image-based ads take the form of small images, a display URL and a destination URL. The images were in the dimensions of a 320 x 50 pixel mobile leaderboard, 468 x 60 pixel banner, 728 x 90 pixel leaderboard, 250 x 250 pixel square, 200 x 200 pixel small square, 336 x 280 pixel large rectangle, 300 x 250 pixel inline rectangle, 120 x 600 pixel skyscraper, and a 160 x 600 pixel wide skyscraper. Figure 1 displays the image-based ads I used in my study. I placed ads on both mobile and desktop devices.

Google AdWords places text-based ads in the margins of search result pages (see Figure 2), whereas image-based ads are placed on websites of Google partners—referred to as Google’s Display Network (Google Adwords, 2012; see Figure 3). The Display Network operates by using a contextualized targeting technology that best matches client keywords with content from related websites (Google Adwords, 2012). Google AdWords allows for targeting geographic areas or languages. I used this feature to restrict ads to display only in the contiguous U.S. and on English-language websites. When people typed in keywords to search engines that matched my keywords, the text-based ads could have appeared in the margin of the page and image-based ads could have appeared on Display Network webpages.

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4 Google clients compete in an auction process with each other for top ranking advertisement locations for specific queries. Clients who are willing to pay more for someone to click into their website get their ads placed in better positions.
My text- and image-based ads displayed on 2,146,895 webpages. A total of 11,753 people clicked on my ads, and my cost-per-click ranged from $0.05 to $0.40—averaging $0.08 per click. My most popular ad was a text-based ad that displayed only on mobile devices. The ad read, “Are you moral? Do a 10 min survey.” That ad was displayed 149,994 times, and was clicked 2,301 times, yielding a cost-per-click of $0.07. The ad averaged in the 1.3 position in relation to other ads. Table 1 describes my top ten clicked ads, frequency of clicks and impressions, average cost-per-click, total cost, and average relative position in relation to other ads.

**Design.** As noted earlier, this study uses a web-based survey. Within that, though, is an experimental manipulation that determined who among those surveyed received questions concerning emotions. Using a javascript randomizer, I directed half of the sample to an experimental condition in which they were presented instructions and subsequent questions about emotions. I directed the other half of the sample in the control condition to neutral instructions and contained no questions about emotion.

The experimental design was implemented in relation to the Transgression Narrative Test on Forgiveness (TNTF). In addition to Berry et al.’s (2001) instruction on how to engage with the forgiveness scenarios, respondents in the experimental condition received the instruction, “Thinking about your emotional reactions, how would you respond to the situation?” and in addition to rating how likely they would be to forgive, were presented two questions on emotion. Participants were asked, “What do you feel?” and were presented the options of anger, contempt, disgust, shame, embarrassment, guilt, distress at another’s distress, and sympathy/compassion, and were able to select all that apply. The moral emotions presented were emotional responses to moral violations.
proposed by Haidt (2003). The moral emotions were randomized to reduce the potential bias of order effects. After each emotion participants selected, they were asked, “How strongly do you feel this?” and asked to rate this on a 7-point scale (1 = very little; 7 = very strongly). All items can be viewed at the end of Appendix B.

The control condition received the instruction, “Thinking about the facts, how would you respond to the situation?” In contrast to the experimental condition, the control condition were not presented with emotion questions after each of the TNTF scenarios.

Procedure

When recruited online, I gave participants the option of clicking an html link that directed them to the current study’s informed consent form. If potential participants reported on the informed consent form that they were 17 or younger, they received the following notification after attempting to create a profile: “We are sorry, but research and ethics laws prohibit us from conducting research on anyone under 18 years old.”

Participants who provided consent were presented with a demographics questionnaire followed by a sequence of measures in the order of the MFQ, TNTF, and demographic questionnaire (described below). All of the items within each measure were randomized to reduce the potential bias of question-order effects. Following completion of the survey, participants were shown in graph format how their personal responses related to all of the other responses collected up until that time.

I considered visual confirmation of how participants ranked among their peers an essential element of this study as it provided participants an emotional-cognitive incentive—immediate satisfaction resulting from reducing their uncertainty of how they
ranked compared to others. I expected that knowledge of peer ranking would encourage participation in online surveys, while not sacrificing privacy of participant responses since all other-related information was presented in aggregate form. Following completion of the survey, participants were presented a webpage debriefing them as to the purposes of the study and who to contact if they had questions or comments.

**Materials.** This study included a demographic questionnaire, the Moral Foundations Questionnaire (MFQ; Graham et al., 2011), and the Transgression Narrative Test of Forgiveness (TNTF; Berry et al., 2001). All of the items within each measure were randomized to reduce the potential bias of question-order effects.

**Demographic questionnaire.** I included a questionnaire that asked participants about their sex, age, political orientation, relative income, frequency of attending religious services, and education. The wording of the demographic questions replicated wording used by Haidt at YourMorals.org.

**MFQ.** I tested whether a sample recruited from Google AdWords differed in the range of concerns the respondents consider morally relevant to their decisions. I used Graham et al.’s (2011) 30-item Moral Foundations Questionnaire (MFQ). Recall that the MFQ was created to “gauge individual differences in the range of concerns that people consider morally relevant” (Graham et al., 2011, p. 369). I used both parts of the MFQ—one part that assesses the relevance of abstract moral concerns to decisions (hereafter “Moral Relevance” section) as well as a part that assesses contextualized moral statements (hereafter “Moral Context” section). The Moral Relevance and Moral Context sections contain a variety of statements relating to five moral concerns (i.e., Harm, Fairness, Ingroup, Authority, Purity). The internal reliability of Graham et al.’s (2011)
the MFQ was adequate\(^5\) (\(\alpha = .73\) average across subscales—subscales ranged from .65 to .84). The internal reliability with my sample was also adequate (\(\alpha = .65\) average across subscales; Harm \(\alpha = .56\), Fairness \(\alpha = .59\), Ingroup \(\alpha = .62\), Authority \(\alpha = .69\), Purity \(\alpha = .80\)).

Participants were asked, “When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking?” Examples of items in the Moral Relevance section were as follows: “Whether or not someone suffered emotionally” (Harm); “Whether or not some people were treated differently from others” (Fairness); “Whether or not someone’s action showed love for his or her country” (Ingroup); “Whether or not someone showed a lack of respect for authority” (Authority); “Whether or not someone violated standards of purity and decency” (Purity). The 15 items were rated on a 6-point scale (0 = not at all relevant; 5 = extremely relevant). Individuals who scored high on this measure viewed the related moral concern as being relevant to their decisions. All items can be viewed in Appendix A, Part I.

In the Moral Context section, participants were asked to make judgments about normative declarations, hypotheticals, value endorsements, and opinions about government policies. Examples of items in the Moral Context section are as follows: “Compassion for those who are suffering is the most crucial virtue” (Harm), “When the government makes laws, the number one principle should be ensuring that everyone is treated fairly” (Fairness), “I am proud of my country’s history” (Ingroup), “Respect for

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\(^5\) Graham et al. (2011) prepared the scale to achieve sufficient internal consistency while maximizing item heterogeneity rather than maximizing item consistency. It was important to the authors to have dissimilar items that were moderately correlated, but each assessing a different aspect of each moral concern, rather than similar and highly correlated items that captured a narrow scope of each moral concern.
authority is something all children need to learn” (Authority), and “People should not do things that are disgusting, even if no one is harmed” (Purity). The 15 items were rated on a 6-point scale (0 = *strongly disagree*; 5 = *strongly agree*). Individuals who scored high on this measure agreed that the contextualized moral concern affected their judgments. All items can be viewed in Appendix A, Part II.

**TNTF.** I tested participants’ disposition to forgive interpersonal transgressions across a variety of situations, relationships, and over time. Berry et al. (2001) refer to this disposition as “forgivingness” and consider it a trait that is stable over time, though, for convenience I will refer to it as forgiveness in the present study. I used Berry et al.’s (2001) Transgression Narrative Test of Forgiveness (TNTF). Participants were asked to imagine themselves experiencing five different scenarios and rate how likely (on a 1 to 5 scale) they would be to forgive the transgressor if the event happened. I made a slight change to one scenario that involved the participant taking on the perspective of a college student to make it applicable to a broader audience. At the beginning of this scenario I added, “You are attending a continuing education course to qualify for a pay raise at work.” This sentence maintains the intended message of the scenario while making it easier for a general audience to imagine being enrolled in a college course. I also added a brief description of forgiveness in the introduction to ensure participants understood they were not required to verbalize their feelings.

The five narrative-based scenarios were developed based on independent variables used in past forgiveness studies. The first and third scenarios are based on scenarios from Gonzales, Manning, and Haugen (1992); the second, fourth, and fifth scenarios are based on scenarios from Schonbach (1990). The scenarios vary the
relationship of the offender to the victim (i.e., family relative, friend, acquaintance), culpability of the offender (i.e., intentional, negligent), and admission of fault and apology (Boon & Sulsky, 1997). The first and fourth scenarios involve intentional wrongdoing, the second and third scenarios involve negligent wrongdoing by friends, and the fifth scenario involves intentional wrongdoing by a relative after which the relative apologizes.

The internal reliability of the TNTF with Berry et al.’s (2001) sample was adequate (Combined α = .79; Study One α = .73; Study Two α = .76; Study Three α = .81). The internal reliability with my sample was similarly adequate (α = .80).

Participants were instructed to read the scenarios and check the numeric value that represents their likelihood of forgiving the offender. The five scenarios were rated on a 5-point scale (1 = definitely not forgive; 5 = definitely not forgive). Raw scores ranged from 5 to 25. Individuals who scored high on this measure were more likely than those who scored low on the measure to forgive others for any wrongdoing across situations, intentions, and relationships. All items can be viewed in Appendix B.

**Data Preparation**

I examined all variables in the analysis for assumptions of homogeneity and normality. For data that violated the assumptions of the statistical tests in this study, I performed transformations.

**Missing data and outliers.** A total of 247 people participated in the survey. Of those 247, 10 cases were deleted—6 cases provided no responses to the morality or forgiveness questions (the main variables of interest to this study), 2 cases were univariate outliers with flat line responses to all of the morality and forgiveness
questions, and 2 cases were univariate outliers on the age control variable. After removing those 10 cases from the dataset, a total of 237 participants were left in the study. Of the 237 participants, 9.2% of the participants had missing data on the variables of interest to this study—21 cases were missing one response and 1 case was missing two responses. I examined the cases and missing data for patterns, but the missing cases were spread out evenly among the five moral foundations and five forgiveness statements and could not detect any patterns. Among my control variables, 6.3% had missing data. In sum, a total of 15.6% of my data had missing values, therefore replacing the values should have little effect on the outcome of the analyses (Mertler & Vannatta, 2005). I proceeded with replacing missing values to maintain adequate power for my analyses.

To handle the missing data, I considered the best method for dealing with my missing data to be mean replacement since between 5-15% of the data were missing (for all variables combined) and the mean is the best estimate for a missing value on a given continuous variable when no other information is available (Mertler & Vannatta, 2005). This is considered a conservative procedure since inserting the overall mean value for a missing case for a given variable does not change the mean value of the variable, though the variance is somewhat reduced because the “actual” value would likely not have been the actual mean (Mertler & Vannatta, 2005). I did, however, slightly alter this procedure for variables that were not interval by using median replacement rather than mean replacement. I did so because the variables with missing values were categorical, and a mean for the variables would not have been logical.

To establish groups, I sorted the variables by sex (2), political affiliation (6), education (5), relative income (10), and then by age. Each of the missing cases fell within
this 2 X 6 X 5 X 10 grouping. A median was detected from the five cases above and below the missing case, and was chosen as the value for the missing variable. Median replacement of missing values is more appropriate than replacing with column means in situations involving group comparison analyses, and avoids reducing the variance as much as column mean replacement (Mertler & Vannatta, 2005). More details on missing data replacement for each variable can be found in Appendix K.

**Participant demographics.** Among the 237 respondents who participated in the study, 139 were females, 98 were males. Ages ranged from 18 to 83 ($M = 39.17$, $SD = 16.23$). In response to how often participants attended religious services (not including social obligations such as weddings or funerals), 127 participants attend less than monthly, and 110 participants attend more than monthly. Of the participants’ highest education level, 19.4% went up to high school, 24.9% attended some college, 13.1% were in college, 20.3% completed college, and 22.4% had completed or attended some graduate school. Regarding race, 2.2% were American Indian or Alaska Native, 1.3% were Asian, 21.1% were Black or African American, 6.3% were Hispanic, 0.4% were native Hawaiian or Pacific Islander, 62.3% were White, and 6.3% provided no answer.

When asked about their social status (money, education, job) on a 1 (bottom) to 10 (top) scale, 47.3% were in the bottom half and 52.7% were in the top half (1 = 1.3%, 2 = 3.8%, 3 = 8.4%, 4 = 15.2%, 5 = 18.6%, 6 = 21.9%, 7 = 19.0%, 8 = 7.2%, 9 = 2.5%, and 10 = 2.1%). Participants described themselves politically as Liberal (32.5%), Moderate (13.5%), Conservative (34.6%), Libertarian (3.8%), and Other or not political (15.6%). Table 2 summarizes the demographics of my sample.
Overview of Study

In this study I tested whether a Google AdWords sample yields results in alignment with MFT. I also tested the relationship of morality to forgiveness decisions, and whether people consider issues relating to all five moral concerns relevant to their forgiveness decisions. I addressed the main purpose of this dissertation by discovering whether morality relates to forgiveness decisions, and whether issues of moral Harm, Fairness, Ingroup, Authority, and Purity relate to decisions of whether participants should forgive others.

In this study I also tested the relationship of emotion to forgiveness. Moral Foundations Theory (MFT) proposes that emotions play a central role, even more than logical argument, on how we initially interpret situations and events (Haidt & Graham, 2007; Haidt & Joseph, 2004; Haidt, Koller, & Dias, 1993). Emotions affect our immediate, visceral responses, and it is only in hindsight that we justify our responses with rational processes (Haidt, 2001).

The study of emotions in relation to forgiveness has been a fruitful area of research. One of the important findings this research has yielded is that anger affects our willingness to forgive others (McCullough, Bono, & Root, 2007). However, no studies had yet looked at the intensity or degree to which anger is felt, and whether that intensifies or attenuates the relation of anger to forgiveness. This study tested whether such a relationship exists.

Moral Foundations Theory also proposes that in addition to anger other emotions are involved in how we interpret moral violations. In addition to anger, people may experience moral emotions such as contempt, disgust, shame, embarrassment, guilt,
distress at another’s distress, and sympathy/compassion (Haidt, 2003). This study explored whether emotions beyond anger were at play when respondents decided whether or not to forgive others.

**Chapter Summary**

In this chapter I described the Google AdWords methodology and showed how it can be used to recruit participants. I reviewed the academic research utilizing this methodology and argued that Google AdWords is a strong alternative to college-student sampling. I also brought together the actionable points of chapters 2, 3, 4, 5 and 6, and presented the methods of my study.

In the next three chapters I analyze the results of my study and discuss their implications in relation to my hypotheses. The next immediate chapter reports on the similarity of my sample recruited from Google AdWords with samples of Graham et al. (2011) and Berry et al. (2001).
**Chapter 7: Hypothesis 1 Results and Discussion**

As mentioned previously, I have several hypotheses about the relevance of moral concerns to forgiveness decisions using a sample recruited by Google AdWords. Before I begin analyzing the hypothesized morality-forgiveness link, I need to first establish that any findings from my study are not biased by the data collection method. It is also a notable contribution to the social science literature to experiment with an innovative recruitment method to determine whether this online data collection strategy would provide an alternative to traditional university student samples to access a more heterogeneous sample.

**Restatement of the Hypotheses**

H1a: Collecting data using Google AdWords will yield results consistent with Moral Foundations Theory as demonstrated by Graham et al (2011) in relation to sex and political affiliation.

H1b: Collecting data using Google AdWords will yield results consistent with patterns found by Berry et al. (2001) on the Transgression Narrative Test of Forgiveness in relation to sex and religiosity.

**Analysis for Hypothesis 1A**

I approached my first hypothesis by initially comparing mean scores of morality in my dataset with those reported by Haidt et al. (Graham et al., 2011) to ensure no major differences in patterns stem from data collection technique. Table 3 presents mean scores on the MFQ from the present study ($N = 237$). Table 4 presents mean scores reported by Graham et al. (2011; $N = 34,476$). A visual inspection of the grand means from the tables demonstrates similar patterns among mean scores for Harm and Fairness, though my
sample appears to have slightly higher mean scores on Ingroup, Authority, and Purity compared to Graham et al. Both my sample and Graham et al. appear to have similar standard deviations for all variables.

On visual inspection of the patterns of mean scores between Liberals and Conservatives, my sample follows the identical patterns reported by Graham et al. (2011). To further illustrate the similarity in pattern between my sample and Haidt and Graham (2007, 2009), I replicated a graph from Haidt and Graham (2007; see Figures 5) which visually shows my means follow the same pattern between very political liberals and conservatives across the foundations relating to moral relevance (Figure 4; Figure 5 is the comparative graph from Haidt & Graham, 2007). I also replicated graphs from Haidt and Graham (2009; see Figure 7, 9) that show that my means follow the same pattern across the political identity spectrum on the relevance of the moral foundations (Figure 6; Figure 7 is the comparative graph from Haidt & Graham, 2009) and agreement with moral context statements (Figure 8; Figure 9 is the comparative graph from Haidt & Graham, 2009).

In relation to the TNTF, the mean score for Berry et al.’s combined sample was $M = 14.6$ ($SD = 3.9, N = 467$), in comparison to the mean score of my sample was $M = 15.95$ ($SD = 4.33, N = 237$), on a scale from 5 to 25. Table 5 presents mean scores on the TNTF from the present study ($N = 237$), and for comparison, mean scores from Berry et al.’s three studies and combined sample. These promising initial results led to a more rigorous comparison of my Google AdWord sample compared to previous literature.

**MFQ differences by political affiliation, sex.** Following this cursory inspection of the means from the MFQ and TNTF, I conducted five independent-samples t-tests to
test political affiliation (categorical IV, liberal/conservative) differences among five types of morality (five continuous DVs) to verify that my Google AdWord sample predicts morality following the same pattern as Graham et al. (2009, 2011) in which political liberals valued Harm and Fairness concerns more than conservatives; and political conservatives valued Ingroup, Authority, and Fairness more than liberals. Using G*Power 3.1 and running an a priori power analysis, to detect a moderate effect size of $d = 0.5$, with a $0.05 \alpha$ error probability and power of 0.80, required a sample size of 128. Since my sample included 237 participants, I had sufficient power to detect an effect if it exists.

Usually with one categorical IV and five continuous DVs, it is recommended to proceed with a one-way between-groups multivariate analysis of variance (MANOVA) to reduce the risk of an inflated Type 1 error (Pallant, 2010). However, since MANOVA works best when the DVs are moderately correlated, if correlations are low among the DVs, then running separate univariate ANOVAs is recommended (Pallant, 2010). Table 6 demonstrates that among the five variables, correlations are high for four of the relationships, and low for six of the relationships. Since the majority of the relationships have low correlations ($r < .200$), and since my purpose was to replicate the same analyses reported by Graham et al. (2009, 2011), I proceeded with five independent-samples t-tests.

I screened for univariate outliers and conducted preliminary assumption testing to check for normality and homogeneity of variance. Moderate negative skew affecting normality was present in many variables. The Kolmogorov-Smirnov statistic indicated non-normality in one of the groups in every condition; however, since the t-test is
reasonably robust to violations of normality with sample sizes greater than 30 (Pallant, 2005), I was tolerant of this violation. Levene’s test for equality of variance demonstrated homogeneity of variance, so I assumed variability of scores from the political groups were equal.

Independent-samples t-tests compared differences between political liberals ($N = 77$; combined very liberal, liberal, and slightly liberal) and conservatives ($N = 82$; combined very conservative, conservative, and slightly conservative) among five types of morality. Scores ranged from 1 to 5, with higher scores demonstrating greater sensitivity to violations of that type of morality. On the Harm variable, political liberals ($M = 3.82, SD = .76$) had significantly higher Harm morality scores than conservatives ($M = 3.53, SD = .77; t (157) = 2.38, p = .019, two-tailed$). The magnitude of the differences in the means (mean difference = .29, 95% CI: .05 to .53) was between small and moderate (eta squared = .035). On the Fairness variable, political liberals ($M = 3.67, SD = .78$) had significantly higher Fairness morality scores than conservatives ($M = 3.33, SD = .73; t (157) = 2.86, p = .005, two-tailed$). The magnitude of the differences in the means (mean difference = .34, 95% CI: .11 to .58) was between small and moderate (eta squared = .049). On the Ingroup variable, political conservatives ($M = 3.30, SD = .76$) had significantly higher Ingroup morality scores than liberals ($M = 2.74, SD = .91; t (157) = -4.113, p < .001, two-tailed$). The magnitude of the differences in the means (mean difference = -.54, 95% CI: -.81 to -.28) was between moderate to large (eta squared = .097). On the Authority variable, political conservatives ($M = 3.60, SD = .70$) had significantly higher Authority morality scores than liberals ($M = 2.82, SD = 1.00; t (157) = -5.75, p < .001, two-tailed$). The magnitude of the differences in the means (mean
difference = -.78, 95% CI: -1.05 to -.51) was large (eta squared = .174). On the Purity variable, political conservatives ($M = 3.57, SD = .88$) had significantly higher Purity morality scores than liberals ($M = 2.46, SD = 1.24; t(157) = -6.54, p < .001, two-tailed). The magnitude of the differences in the means (mean difference = -1.11, 95% CI: -1.43 to -.77) was large (eta squared = .214).

These findings are consistent with patterns reported by Haidt and Graham (2007) and Graham et al. (2009, 2011). The small effect sizes found in the Harm and Fairness variables, the medium effect size in the Ingroup variable, and the large effect sizes in the Authority and Purity variables are consistent with the general degree of the relationships as described by previous authors, though previous authors do not report effect sizes. In summary, my Google AdWords sample appears statistically similar to Graham et al (2011) between the political affiliation and morality variables.

I next tested for similarity in pattern between females ($N = 139$) and males ($N = 98$) on the five types of morality in my Google AdWord sample with Graham et al. (2009, 2011) using independent-samples t-tests. On the Harm variable, females ($M = 3.82, SD = .71$) had significantly higher Harm morality scores than males ($M = 3.34, SD = .80; t(235) = 4.94, p < .001, two-tailed). The magnitude of the differences in the means (mean difference = .49, 95% CI: .29 to .68) was between moderate to large (eta squared = .094). On the Fairness variable, females ($M = 3.62, SD = .74$) had significantly higher Fairness morality scores than males ($M = 3.36, SD = .73; t(157) = 2.65, p = .009, two-tailed). The magnitude of the differences in the means (mean difference = .26, 95% CI: .06 to .45) was between small and moderate (eta squared = .029). On the Ingroup variable, no difference existed between females ($M = 3.00, SD = .88$) and males ($M =
2.98, SD = .92) on Ingroup morality scores, \( t(235) = .198, p = .843 \), two-tailed. On the Authority variable, no difference existed between females (\( M = 3.18, SD = .95 \)) and males (\( M = 3.07, SD = .93 \)) on Authority morality scores, \( t(235) = .857, p = .392 \), two-tailed. On the Purity variable, no difference existed between females (\( M = 3.03, SD = 1.13 \)) and males (\( M = 2.93, SD = 1.21 \)) on Purity morality scores, \( t(235) = .691, p = .490 \), two-tailed.

These findings, too, are consistent with patterns reported by Graham et al. (2011). The small effect sizes found in the Harm and Fairness variables in the present study, combined with no effect found in the Ingroup and Authority variables, are consistent with Graham et al. (2011). Graham et al. do report a very small effect with females scoring higher than men on the Purity variable; I did not find an effect between females and males. Since Graham et al.’s effect size was very small (\( d = 0.15 \)), and my mean differences are in the same direction of females scoring higher than males, it is likely the only difference between our findings is related to sample size (Graham et al. had 49,428 women and 68,812 men). In summary, my Google AdWords sample appears statistically similar to Graham et al (2011) between the sex and morality variables.

Analysis for Hypothesis 1B

In the second part of my first hypothesis I tested whether there existed differences in mean scores between my sample and Berry et al. (2001) on sex and religiosity variables. I started by visually comparing means of forgiveness in my dataset with those reported by Berry et al. (2001), and observed similar patterns between males and females, and religiosity. As Berry et al. (2001) did not display mean scores in a summary table, I
similarly introduce the means from this study in-text below. I next proceeded to conduct inferential testing.

I conducted an independent-samples t-test to test sex (categorical IV) differences on forgiveness (continuous DV) to verify that my Google AdWord sample predicts forgiveness following the same pattern as Berry et al. (2001) in which no difference was found between males and females on forgiveness. I also tested for religiosity (categorical IV; low religiosity/high religiosity) differences on forgiveness to verify my data follow the same pattern as Berry et al. (2001).

I screened for univariate outliers and conducted preliminary assumption testing to check for normality and homogeneity of variance. Visual inspection of the shape distributions using histograms appeared roughly normal. The Kolmogorov-Smirnov statistic indicated univariate normality among males, but not females; and normality among people high in religiosity, but not low in religiosity. Since the t-test is reasonably robust to violations of normality with larger samples (Pallant, 2005), I was tolerant of this violation. Levene’s test for equality of variance demonstrated homogeneity of variance for sex, so I assumed variability of scores between females and males were equal. Levene’s test demonstrated violation of this assumption for religiosity, so I used the alternate t-value.

Independent-samples t-tests compared differences between females \((N = 139)\) and males \((N = 98)\) on the TNTF forgiveness variable. Scores ranged from 5 to 25, with higher scores demonstrating greater willingness to forgive across a variety of transgressions and relationship types. No difference existed between females \((M = 15.95, SD = 4.46)\) and males \((M = 15.97, SD = 14.18)\) on forgiveness scores, \(t(235) = -.026, p = \)
.979, two-tailed. My Google AdWords sample appears statistically similar to Berry et al. (2001) between sex and forgiveness.

Independent-samples t-tests compared differences between low religiosity ($N = 127$) and high religiosity ($N = 110$) on the TNTF forgiveness variable. Consistent with Berry et al. (2001), people high in religiosity ($M = 17.12, SD = 4.65$) had significantly higher forgiveness scores than people low in religiosity ($M = 14.95, SD = 3.78$; $t(210.04) = -3.92, p < .001$, two-tailed). The magnitude of the differences in the means (mean difference $= -2.18$, 95% CI: $-3.27$ to $-1.09$) was moderate (eta squared $= .063$). In summary, my Google AdWords sample appears statistically similar to Berry et al. (2001) between religiosity and forgiveness variables.

**Discussion of Hypothesis 1 Findings**

Overall, the findings from my first hypothesis suggest that in relation to Graham et al. (2011) and Berry et al. (2001), my sampling methodology yields similar results. Importantly, this establishes that the findings from my subsequent analyses are likely due to factors other than differences in sampling strategy.

The findings from this study bolster the results reported in previous literature, evidencing the effect of moral foundations in how we interpret situations involving a variety of moral violations (Graham et al., 2009, 2010, 2011; Haidt & Graham, 2007, 2009; Smith & Vaisey, 2010). This study shows that yet another method of recruitment using online, self-selected, convenient sampling results in patterns predicted by Moral Foundations Theory. The patterns in this study further support the prediction of Moral Foundations Theory as a universal evolutionary, social and cultural phenomenon.
This study shows that the Google AdWords method of data collection does provide a sufficiently heterogeneous sample to achieve patterns predicted by Moral Foundations Theory and the Transgression Narrative Test of Forgiveness. As hypothesized, I found that my Google AdWord sample performed similar to Graham et al. (2009, 2011) on the Moral Foundations Questionnaire. Political liberals rated moral concerns of Harm and Fairness more important than political conservatives. Political conservatives rated moral concerns of Ingroup, Loyalty, and Purity more important than political liberals. Also as hypothesized, women rated moral concerns of Harm and Fairness more important than men. This study, however, did not find that women rate the moral concern of Purity more important than men. I expect difference in my study is likely due to sample size since Graham et al. found only a small effect in magnitude with a very large sample of over 118,000 people, whereas my study only had 237. These findings suggest that if I do find significant findings in my other hypotheses involving effects related to morality, the effects are unlikely to be because of differences in data collection strategy.

This study also shows that the Google AdWords data collection method provides a sample that achieves patterns of forgiveness predicted by previous literature using the Transgression Narrative Test of Forgiveness (Berry et al., 2001). Similar to Berry et al., I found no differences between men and women on forgiveness. I also similarly found that people who attend religious services frequently are more likely to forgive across a range of situations and relationships than people who attend religious services less frequently. These findings suggest that this data collection technique yields a sample that perform
similar to the sample used by Berry et al. (2001), and findings in this study in relation to forgiveness should not be related to the data collection strategy.

The findings of this study provide additive value to the fields of psychology, sociology, communications, and anthropology by introducing a data collection method that can provide a valuable alternative to university student convenient samples. This study is one of the first of its kind to experiment with connecting social scientists with potential participants using advertisements on thousands of online networks using the popular search engine, Google. Google AdWords can be a relatively fast collection method. The present study collected data over three weeks time (though it could have been accomplished in less time had I preferred to not get a sampling across many days and times, to reduce sampling bias). In comparison to University samples that often are limited to narrow age ranges in the young 20s, the present study connected to a broad range of ages, from 18 to 83 ($Md = 37, M = 39.17, SD = 16.23$) with 72.3% of the sample older than age 25 (see age groups in Table 2). University student samples are also limited to a certain education level, whereas in comparison to my study, only 13.1% were currently in college. The present study also included people who only went to school up to high school, people who attended some college then dropped out, people who completed college, and people who had attended some or completed graduate school. This diversity of ages and education levels represents a broad spectrum of life experience that can affect people’s perceptions of moral violations and forgiveness. In sum, this study suggests a Google AdWords recruitment method does, as predicted, reach a diverse audience beyond University student samples.
Another learning of this study is that Google AdWords can be relatively expensive as a sampling strategy without monetary incentives. If the goal of researchers is to get people to their online survey, Google AdWords can be an efficient use of money. This study had 11,753 people click my ads to view the introduction page of my survey, which resulted in an average cost-per-click of $0.08, which is much lower than values reported in previous literature of $1 to $2 (MarketingSherpa, 2005). Furthermore, since my ads were displayed 2,146,895 times, I had a response rate of 0.55%, which is higher than previous literature (0.1% to 0.3%; MarketingSherpa, 2005, Richardson, 2006, 2007).

I was able to achieve this extremely low cost and high response rate in part because I ran both mobile and image-based ads, which have less competition than text-based ads displayed on desktops. The low cost-per-click I achieved is also because the keywords I used were not highly competitive keywords (in comparison to keywords relating to consumer products) because of the topical area. This low cost of persuading people to visit a website has implications for other social scientists who often study topics with keywords that are not competitive. I had a survey conversion rate of 2.0% of the people who visited my introductory webpage. This percentage is a unique contribution to the social science literature, since it establishes a baseline to which other research can be compared.

This study, however, does show that if the goal of the researcher involves not just persuading people to visit a website, but, in addition, to complete a survey, then this method can get expensive. It is important to note that this study did not offer any monetary incentive, which I expect would result in an increase of completed surveys. For the 237 completed cases I use in this study, I paid $940.00, averaging $3.97 per
completed survey. In relation to other general Internet population panels such as Amazon Mechanical Turk (MTurk), this Google AdWords method for completed surveys is more expensive. Using MTurk, a 10 minute study averages $0.70 to $0.90. I estimate that to collect 249 completed surveys (expecting that approximately 3% of data will be deleted during data cleaning to yield a sample of 237) would cost me between $175 and $225, approximately a quarter of what I spent to get my sample. Therefore, if the needs of the researcher are to reduce costs of data collection and not provide monetary incentive, this study suggests other online crowdsourcing panels should be preferred.

This study does have implications for helping researchers who study hard-to-find populations, which are difficult to find at scale using other online panels. Because this data collection method allows the researcher to specify keywords that must be typed into an online search field, researchers would be able to use keywords that identify their population of interest. The speed of data collection does depend on the volume that keywords are searched for monthly. So it may take longer than the present study to get rare populations to click into the study, but has potential to reach a broader audience than other online panels.
Chapter 8: Hypothesis 2 Results and Discussion

One of the primary relationships of interest in this study is morality in relation to forgiveness. Using three hypotheses I tested the relevance of moral concerns to predicting forgiveness decisions using a sample recruited with Google AdWords. My three hypotheses conceptualize morality as the average of the five moral foundations, as the five individual foundations, and as five latent variables. I assert the following hypotheses about a morality-forgiveness link:

Restatement of the Hypotheses

H2a: Morality will be a significant predictor of forgiveness, when controlling for other factors (e.g. sex, political affiliation, religiosity)

H2b: The five moral concerns will each significantly predict forgiveness, when controlling for other factors (e.g., sex, political affiliation, religiosity).

H2c. Five-factor dimensions of morality will provide a better model fit than two-factor dimensions of morality at explaining forgiveness.

Analysis for Hypothesis 2A

I wanted to understand whether people’s sense of morality predicts their willingness to forgive. I tested this relationship by first operationalizing morality as the aggregate of the five types of morality and measured by averaging the means of the five morality types (Table 3) from the Moral Foundations Questionnaire (Graham et al., 2009, 2011). I operationalized forgiveness as one dependent variable summing responses from five scenarios (Table 5) from the Transgression Narrative Test of Forgiveness (Berry et al., 2001). I also wanted to understand whether morality predicts forgiveness when
statistically controlling for demographic variables and variables known for group differences in morality and forgiveness, and testing for interactions. I tested the morality-forgiveness relationship using hierarchical multiple regression.

**Averaged five-factor morality.**

For my first test, I hypothesized that if I control for the possible effect of sex, political orientation, age, relative income, frequency of attending religious services, and education; morality (defined as the aggregate of the five types of morality) will still predict a significant amount of the variance in forgiveness.

In my preliminary analyses, I screened for missing data and outliers and then examined for violation of the assumptions of regression. I searched for multivariate outliers by calculating the Mahalanobis distance from an initial regression procedure. I computed the probability of Mahalanobis $D^2$ with the cumulative density function (Schwab, 2003) and determined no multivariate outliers existed in my model, $D^2 > 0.001$.

Since residual scatterplots may be examined as a substitute for routine pre-analysis screening (Tabachnick & Fidell, 1996), I used residual scatterplots to test the assumptions of linearity, normality, and homoscedasticity. I found no violation of the assumptions. I also found no evidence of multicollinearity as tolerance was greater than 0.1 for all variables. Using G*Power 3.1 and running a power analysis, to detect an effect size of $f^2 = 0.15$, with a 0.05 $\alpha$ error probability and power of 0.95 with 8 predictors requires a sample size of 55. Furthermore, Stevens (1996) recommends about 15 participants per predictor for a reliable equation, which my sample surpasses. Having demonstrated that I had sufficient number of cases to detect an effect ($N = 237$), no assumption violations, no
outliers, and no multicollinearity (Mertler & Vannatta, 2005), I proceeded to interpret the regression.

In my hierarchical multiple regression model, I entered sex, political orientation, age, relative income, frequency of attending religious services (religion), and education at Step 1, which explained $R^2 = 8.0\%$ ($R^2_{adj} = 5.2\%$) of the variance in forgiveness. After entry of the averaged five-factor morality at Step 2, the total variance explained by the model was $R^2 = 9.7\%$ ($R^2_{adj} = 6.5\%$), $F (8, 228) = 3.05, p = .003$. The averaged five-factor morality explained an additional 1.7% of the variance in forgiveness, after controlling for sex, political orientation, age, relative income, frequency of attending religious services, and education, $R^2$ change = .017, $F$ change (1, 228) = 4.26, $p = .040$, Cohen's $f^2 = .02$, indicating a small, albeit significant, increase in explanatory power with the addition of morality. In the first model with the control variables, only religion was statistically significant, $B = 2.07, SE = .60, p = .001$. In the second model with the averaged five-factor morality, morality was a significant predictor ($B = 1.00, SE = .48, p = .040$) in addition to religion ($B = 1.91, SE = .60, p = .002$), and no other variables were significant. I therefore find support for Hypothesis 2a. See Table 7 for descriptive statistics and Table 8 (Model 1 and 2) for regression weights and coefficients.

I also tested for interaction effects between the averaged five-factor morality and religion, as well as the other control variables, but did not find a significant interaction, $p > .05$. Although the morality-religion interaction was not significant, the addition of the interaction term does make the averaged five-factor morality variable no longer significant, ($B = .74, SE = .94, p = .231$). This suggests that when people are high in
religiosity, morality does not relate to their forgiveness; however, for people low in religiosity, morality does relate to their forgiveness.

**Analysis for Hypothesis 2B**

Having demonstrated a significant effect of the averaged five-factor morality variable on forgiveness, I proceeded to test the relationship of the individual morality factors to forgiveness to gain a more detailed understanding of which specific morality factors are most at play. In this test I operationalized morality as five distinct types (Harm, Fairness, Ingroup, Authority, Purity), as measured by the mean of the individual types of morality from the Moral Foundations Questionnaire (Graham et al., 2009, 2011). As in part A of Hypothesis 2, I operationalized forgiveness as one dependent variable summing responses from five scenarios from the Transgression Narrative Test of Forgiveness (Berry et al., 2001) and statistically controlled for demographic variables and variables known for group differences in morality and forgiveness, and tested for interactions. I tested the morality-forgiveness relationship using hierarchical multiple regression.

Before all of my analyses, I screened for missing data and outliers and then examined for violation of the assumptions of regression using the methods described above. I found no multivariate outliers in any of my model, $D^2 > 0.001$. I found no violations of the assumptions of linearity. I did find an occasional mild violation of normality. Since up to moderate violations of normality do not adversely affect the analysis with larger sample sizes, I can overlook this violation (Mertler & Vannatta, 2005). I also found an occasional mild violation of homoscedasticity. This violation
weakens the regression analysis but does not invalidate it (Tabachnick & Fidell, 1996). I found no evidence of multicollinearity as tolerance was greater than 0.1 for all variables.

**Harm.** In my Harm model, I entered sex, political orientation, age, relative income, frequency of attending religious services (religion), and education at Step 1, which explained \( R^2 = 8.0\% \) (\( R^2_{\text{adj}} = 5.2\% \)) of the variance in forgiveness. After adding Harm morality at Step 2, the total variance explained by the model was \( R^2 = 9.7\% \) (\( R^2_{\text{adj}} = 6.5\% \)), \( F(8, 228) = 3.06, p = .003 \). Harm morality explained an additional 1.7% of the variance in forgiveness, after controlling for sex, political orientation, age, relative income, frequency of attending religious services, and education, \( R^2 \) change = .017, \( F \) change (1, 228) = 4.38, \( p = .037 \), Cohen's \( f^2 = .02 \), indicating a small but significant improvement in explanatory power. In the first model with the control variables, only religion was statistically significant, \( B = 2.07, SE = .60, p = .001 \). In the second model with Harm morality, Harm morality was significant (\( B = .77, SE = .37, p = .037 \)) in addition to religion (\( B = 2.04, SE = .60, p = .001 \)), and no other variables were significant. I therefore find support for Hypothesis 2b—at least with reference to Harm morality. I also tested for interaction effects between Harm morality and religion, as well as the other control variables, but did not find a significant interaction, \( p > .05 \). See Table 7 for descriptive statistics and Table 8 (Model 1 and 3) for regression weights and coefficients.

**Fairness.** In my Fairness model, I entered sex, political orientation, age, relative income, frequency of attending religious services (religion), and education at Step 1, which explained \( R^2 = 8.0\% \) (\( R^2_{\text{adj}} = 5.2\% \)) of the variance in forgiveness. After adding Fairness morality at Step 2, the total variance explained by the model was \( R^2 = 9.4\% \)
Fairness morality explained an additional 1.4% of the variance in forgiveness, after controlling for sex, political orientation, age, relative income, frequency of attending religious services, and education, \( R^2 \) change = .014, \( F \) change (1, 228) = 3.60, \( p = .059 \), Cohen's \( f^2 = .02 \), indicating a nonsignificant improvement in explanatory power. In the first model with the control variables, only religion was statistically significant, \( B = 2.07, SE = .60, p = .001 \). In the second model with Fairness morality, Fairness morality was marginally significant but did not quite meet the .05 threshold (\( B = -.71, SE = .38, p = .059 \)). Religion was significant (\( B = 1.97, SE = .60, p = .001 \)), and no other variables were significant. I therefore do not find support for Hypothesis 2b with reference to Fairness morality. See Table 7 for descriptive statistics and Table 8 (Model 1 and 4) for regression weights and coefficients.

I also tested for interaction effects between Fairness morality and religion, as well as the other control variables, and found one significant interaction (\( B = 1.57, SE = .46, p = .042 \)) between Fairness morality and political liberals (1 = liberal, 0 = conservative). The Fairness morality and political liberal interaction was significant (\( B = -1.28, SE = .46, p < .01 \)), suggesting that Fairness morality significantly affects forgiveness among political liberals. Religiosity maintained its significance in the equation (\( B = 1.97, SE = .60, p = .01 \)). See Table 7 for descriptive statistics and Table 8 (Model 1 and 5) for regression weights and coefficients.

**Ingroup.** In my Ingroup model, I entered sex, political orientation, age, relative income, frequency of attending religious services (religion), and education at Step 1, which explained \( R^2 = 8.0\% \) \( (R^2_{adj} = 5.2\%) \) of the variance in forgiveness. After adding Ingroup morality at Step 2, the total variance explained by the model was not
significantly affected by Ingroup morality, \( R^2 = 8.5\% \ (R^2_{adj} = 5.3\% \) ), \( F (8, 228) = 2.663, p = .008 \). Ingroup morality only explained an additional 0.6% of the variance in forgiveness, after controlling for sex, political orientation, age, relative income, frequency of attending religious services, and education, \( R^2 \) change = .006, \( F \) change (1, 228) = 1.44, \( p = .231 \). In the model with Ingroup morality, Ingroup morality was not significant \( (B = .39, SE = .33, p = .231) \) and only religion was significant \( (B = 2.01, SE = .61, p = .001) \), and no other variables were significant. I therefore do not find support for Hypothesis 2b with regards to Ingroup morality. I also tested for interaction effects between Ingroup morality and religion, as well as the other control variables, but did not find a significant interaction, \( p > .05 \). See Table 7 for descriptive statistics and Table 8 (Model 1 and 6) for regression weights and coefficients.

**Authority.** In my Authority model, I entered sex, political orientation, age, relative income, frequency of attending religious services (religion), and education at Step 1, which explained \( R^2 = 8.0\% \ (R^2_{adj} = 5.2\% \) ) of the variance in forgiveness. After adding Authority morality at Step 2, the total variance explained by the model was \( R^2 = 9.5\% \ (R^2_{adj} = 6.3\% \) ), \( F (8, 228) = 2.99, p = .003 \). Authority morality explained an additional 1.5% of the variance in forgiveness, after controlling for sex, political orientation, age, relative income, frequency of attending religious services, and education, \( R^2 \) change = .015, \( F \) change (1, 228) = 3.81, \( p = .052 \). In the first model with the control variables, only religion was statistically significant, \( B = 2.07, SE = .60, p = .001 \). In the second model with Authority morality, Authority morality was marginally significant \( (B = .63, SE = .32, p = .052) \), but did not fall under the required .05 threshold for true statistical significance. Religion was still significant \( (B = 1.90, SE = .61, p = \)
.002), and no other variables were significant. I therefore fail to find support for Hypothesis 2b with regards to Authority morality. I also tested for interaction effects between Authority morality and religion, as well as the other control variables, but did not find a significant interaction, $p > .05$. See Table 7 for descriptive statistics and Table 8 (Model 1 and 7) for regression weights and coefficients.

**Purity.** In my Purity model, I entered sex, political orientation, age, relative income, frequency of attending religious services (religion), and education at Step 1, which explained $R^2 = 8.0\%$ ($R^2_{adj} = 5.2\%$) of the variance in forgiveness. After adding Purity morality at Step 2, the total variance explained by the model was $R^2 = 11.3\%$ ($R^2_{adj} = 8.2\%$), $F(8, 228) = 3.64, p = .001$. Purity morality explained an additional 3.4\% of the variance in forgiveness, after controlling for sex, political orientation, age, relative income, frequency of attending religious services, and education, $R^2$ change = .034, $F$ change (1, 228) = 8.65, $p = .004$, Cohen's $f^2 = .03$, indicating a significant improvement in explanatory power of the model with the addition of Purity. In the first model with the control variables, only religion was statistically significant, $B = 2.07, SE = .60, p < .001$. In the second model with Purity morality, Purity morality was significant ($B = .77, SE = .26, p = .004$) in addition to religion ($B = 1.71, SE = .61, p = .005$), and no other variables were significant. I therefore find support for Hypothesis 2b with regards to Purity morality. I also tested for interaction effects between Purity morality and religion, as well as the other control variables, but did not find a significant interaction, $p > .05$. See Table 7 for descriptive statistics and Table 8 (Model 1 and 8) for regression weights and coefficients.
Analysis for Hypothesis 2C

In part B of Hypothesis 2, I established using regression that as individual predictors, Harm and Purity significantly relate to forgiveness, whereas as individual predictors Fairness, Ingroup, and Authority do not significantly relate to forgiveness (but Fairness and Authority are nonetheless close to meeting significance thresholds, and would be considered ‘marginally significant’ by some scholars). I also learned that in every model from part B, religiosity was the only significant control variable.

In part C of Hypothesis 2, I test whether a five-factor dimension of morality is a better predictor of morality than a two-factor dimension. Based on the results from part B, I realized it was likely that Fairness, Ingroup, and Authority may not significantly contribute to a best fitting model that predicts forgiveness, so I also wanted to identify the most parsimonious model of morality that predicted forgiveness. I approached answering this question using hierarchical multiple regression. Using structural equation modeling (SEM) would have been more ideal, but I was forced to use regressions because my N was not large enough to provide confidence in an SEM.

When I initially proposed the SEM analysis in my prospectus, I depicted the five moral factors as observed variables that cause the observed variable of forgiveness. During data collection I realized, however, that this proposed relationship, which treated the variables as observed variables, was only possible to analyze with multiple regression. To use the strengths of SEM would require that I treat Harm, Fairness, Ingroup, Authority, Purity, and forgiveness as latent variables. Therefore, to assess the five-factor morality model should include 30 observed variables (six variables for each latent morality factor) being caused by five (latent) factors of morality, and 5 observed
variables being caused by forgiveness (latent); and the five (latent) factors of morality
would be depicted as causing forgiveness (latent). This SEM with 35 observed variables
and 6 latent variables, would require a minimum sample size of 1,148⁶ to detect an effect
size of 0.10, with a 0.05 error probability and power of 0.80 (Soper, 2013c).

Based on the cost of using Google AdWords to obtain 237 completed cases, (and
with my post hoc findings of the expense to recruit participants using this method), I
estimate that to obtain 1,148 cases would cost approximately $4,500 with Google
AdWords. Since this analysis would require a significantly greater sample size than I had
budgeted for this dissertation, I recommend that this analysis be undertaken in a future
study using a different sampling strategy such as using Amazon MTurk, which I estimate
should cost approximately $800 to $1000. I therefore forgo using SEM on this dataset
since I cannot be confident that I have a large enough N to detect an effect.

**Regression to find best model fit.** I hypothesized that if I control for the effect of
religiosity, a five-factor dimension of morality will provide a better model fit than a two-
factor dimension of morality. In my preliminary analyses, I screened for outliers and then
examined for violations of the assumptions of regression. I searched for multivariate
outliers by calculating the Mahalanobis distance from an initial regression procedure. I
computed the probability of Mahalanobis D² with the cumulative density function
(Schwab, 2003) and removed one multivariate outlier that existed in my model, D² <
0.001. Bivariate scatterplots showed no evidence of curvilinearity. Residual scatterplots

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⁶ The three-factor SEM with 23 observed variables and 4 latent variables, would require a minimum sample
size of 1,024 to detect an effect size of 0.10, with a 0.05 error probability and power of 0.80. The two-
factor SEM with 17 observed variables and 3 latent variables, would require a minimum sample size of
1,023 to detect an effect size of 0.10, with a 0.05 error probability and power of 0.80.
demonstrated fair dispersion, linearity, and normality, so I will assumed
homescedasticity, linearity, and normality. I also found no evidence of multicollinearity
as tolerance was greater than 0.1 for all variables. Using G*Power 3.1 and running a
power analysis, to detect an effect size of $\eta^2 = 0.15$, with a 0.05 $\alpha$ error probability and
power of 0.95 with 6 predictors requires a sample size of 89. Having demonstrated that I
had sufficient number of cases to detect an effect ($N = 236$), no assumption violations, no
outliers, and no multicollinearity (Mertler & Vannatta, 2005), I proceeded to interpret the
regression.

In my hierarchical multiple regression model, I chose religiosity as the only
control variable instead of the other control variables used in part B of Hypothesis 2,
because it was the only significant predictor of forgiveness from the analyses in part B.
Furthermore, by only including religiosity in the model, the adjusted $R^2$ increases from
5.0% to 5.8%. This increase in adjusted $R^2_{adj}$ demonstrates that the other control variables
are adding noise to the model. I therefore entered religiosity as a control variable at Step
1, which explained $R^2 = 6.2\%$ ($R^2_{adj} = 5.8\%$) of the variance in forgiveness. Religiosity
was statistically significant, $B = 2.16$, $SE = .55$, $p < .001$.

After entry of the two-factor dimension of morality at Step 2, the total variance
explained by the model was $R^2 = 12.9\%$ ($R^2_{adj} = 11.8\%$), $F (3, 232) = 11.47, p < .001$.
Adding the two-factor dimension of morality explained an additional 6.7$\%$ of the
variance in forgiveness, after controlling for religiosity, $R^2$ change = .067, $F$ change (2,
232) = 8.96, $p < .001$, Cohen’s $f^2 = .08$. This is a substantial, statistically significant
improvement in explanatory power. It should also be noted that in the second model with
the two-factor dimension of morality, Harm was a significant predictor ($B = 1.60$, $SE = \ldots$
.42, \( p < .001 \) as well as Fairness \( (B = -1.65, SE = .44, p < .001) \), in addition to religiosity \( (B = 1.80, SE = .54, p = .001) \).

At Step 3, I entered the five-factor dimension of morality, which explained \( R^2 = 15.4\% \) \( (R^2_{adj} = 13.2\%) \), \( F (6, 229) = 6.94, p < .001 \), of the total variance of the model. The five-factor dimension of morality did not, however, result in a statistically significant improvement over the two-factor model, explaining only an additional 2.5% of the variance in forgiveness, after controlling for religiosity, \( R^2 \) change = .025, \( F \) change (3, 229) = 2.22, \( p = .086 \). I therefore do not find support for my hypothesis that a five-factor dimension of morality is a better model fit than a two-factor dimension of morality. In the third model, the significant predictors included Harm \( (B = 1.41, SE = .43, p = .001) \), Fairness \( (B = -1.65, SE = .44, p < .001) \), as well as Purity \( (B = .64, SE = .32, p = .045) \), in addition to religiosity \( (B = 1.32, SE = .57, p = .021) \). See Table 9 for descriptive statistics and Table 10 (Model 1, 2, and 3) for regression weights and coefficients.

Beyond learning that the five-factor dimension of morality and two-dimension of morality, I also wanted to identify the most parsimonious model of morality that predicts forgiveness. Based on results from the previous hierarchical regression, I suspected that a three-factor dimension (Harm, Fairness, Purity) of morality would result in a better model fit than the two-factor model (Harm, Fairness). Using hierarchical multiple regression, and entering the same variables in Step 1 and Step 2 as the previous regression, I now entered the three-factor dimension of morality, which explained \( R^2 = 15.4\% \) \( (R^2_{adj} = 13.9\%) \), \( F (4, 231) = 10.49, p < .001 \), of the total variance of the model. The three-factor dimension of morality resulted in a statistically significant improvement over the two-factor model, explaining an additional 2.5% of the variance in forgiveness by itself, \( R^2 \)
change = .025, $F$ change (1, 231) = 6.70, $p < .01$, Cohen's $f^2 = .03$, which was significant. In the third model, all predictors were statistically significant including Harm ($B = 1.41$, $SE = .42$, $p = .001$), Fairness ($B = -1.65$, $SE = .44$, $p < .001$), as well as Purity ($B = .64$, $SE = .25$, $p = .010$), in addition to religiosity ($B = 1.32$, $SE = .57$, $p = .020$). I therefore showed that a three-factor dimension of morality is a better model fit than a two-factor dimension of morality. See Table 9 for descriptive statistics and Table 10 (Model 1, 2, and 4) for regression weights and coefficients.

**Discussion of Hypothesis 2 Findings**

One of the primary purposes of this dissertation was to test whether a relationship exists between morality and forgiveness, when controlling for other factors. I wanted to understand whether people’s sense of morality predicted their willingness to forgive others for wrongdoing. This study shows that when morality is defined as the average of all five of our moral concerns, morality does significantly predict forgiveness of others, when controlling for other factors (e.g., religiosity, sex). This finding supports Hypothesis 2a.

I next predicted that when morality is defined as sensitivity to individual moral concerns (isolated from each other), each of the five moral concerns would significantly predict forgiveness, when controlling for other factors. I found only partial support for Hypothesis 2b. Only two of the five factors, when isolated, predicted forgiveness. Harm and Purity emerged as significant predictors of forgiving others, whereas Fairness, Ingroup, and Authority did not predict forgiveness (although Fairness and Authority were close to reaching significance).
This finding concerning Purity morality uniquely contributes to the forgiveness literature because it shows that moral violations of standards of Purity also significantly predict forgiveness. That is, people who are highly sensitive to violations of Purity and sanctity standards are more likely to forgive than people who are less sensitive to violations of Purity. This is a significant contribution to the forgiveness literature, which to date has not recognized forgiveness as a response to violation of sanctity and Purity.

While isolating these moral concerns was valuable from a theoretical perspective, it is arguable that while people differ in the degree to which they are sensitive to the five moral concerns, it is unlikely in every occurrence that people would only rely on one moral concern to guide their decision to forgive others while negating the influence of the other moral concerns. This led to the third part of this hypothesis that I tested; whether multiple dimensions of morality provided a better model fit than other dimensions.

In my literature review, I noted my observation that many of the frequently used forgiveness scales such as the Attitudes toward Forgiveness Scale (Brown, 2003), Tendency to Forgive Scale (Brown, 2003), Transgression Narrative Test (Berry, Worthington, Parrott, O’Connor, & Wade, 2001), Conceptual Forgiveness Scale (Kanz, 2000), and Forgiveness Attitudes Questionnaire (Kanz, 2000), almost exclusively framed forgiveness as a response to issues relating to Harm and Fairness, with relatively rare references to disloyalty to Ingroups and disrespect for Authority. The ubiquitous use of forgiveness as a response to Harm and violations of Fairness implies that forgiveness is almost restrictively limited to situations involving those two moral concerns, whereas research from moral psychology suggests that people’s interpretation of offenses is not just two dimensional; rather it can use at least five other dimensions. I therefore tested
whether conceptualizing morality as comprising five factors (Harm, Fairness, Ingroup, Authority, Purity) provided a better model fit than two factors (Harm, Fairness) at explaining forgiveness decisions.

I first approached answering this question by confirming that a two dimensional morality composed of Harm and Fairness significantly predicted forgiveness. As predicted, I found that when morality is conceptualized as sensitivity to moral concerns of Harm and Fairness, both Harm and Fairness each significantly predict forgiveness. Individuals who are highly sensitive to moral violations of care resulting in Harm of others, are more likely to forgive wrongdoers than people who are less sensitive. And individuals who are highly sensitive to moral violations of justice and Fairness, are less likely to forgive wrongdoers than people who are less sensitive. These findings support the literature on forgiveness that defines forgiveness as a response to hurt (Harm) and unfairness (VandenBos, 2007).

I next tested whether a five dimensional morality composed of Harm, Fairness, Ingroup, Authority, and Purity significantly predicted forgiveness beyond what was explained by the two dimensional morality. My findings did not support this hypothesis; the five dimensional morality was not a significantly better model than the two dimensional morality. Building on this hypothesis, I next wanted to explore whether eliminating some of the noise resulting from the Ingroup and Authority variable (which were not shown to significantly predict forgiveness) would allow for a three dimensional morality to be a significantly better model at predicting forgiveness than the two dimensional morality. I found that the three dimensional morality, composed of Harm, Fairness, and Purity, added a significant but small magnitude of difference beyond the
two dimensional morality. Therefore, a three-factor dimension of morality comprised of Harm, Fairness, and Purity emerged as the best predictors of forgiveness in this study.

In each of these analyses, the control variable of religion was a significant predictor of forgiveness, whereas sex, political orientation, age, relative income, and education were not predictive of forgiveness. Even when I controlled for the effect of each of these variables, the findings stated above still held. I found no significant interactions between the morality variables of interest and the religion variable. Although the interaction term was not significant in the first part A of my hypothesis, it did make aggregated five-factor morality no longer significant, which suggests that morality does not impact the forgiveness decisions for people high in religiosity, but it does impact the forgiveness decision for people low in religiosity.

In summary, I found that morality does significantly predict willingness to forgive, when statistically controlling for demographic variables. Among the five distinct types of morality, I found significant effects between Harm morality and forgiveness, as well as Purity morality and forgiveness. I did not find interaction effects of note between my IVs and control variables. As predicted, religiosity was a consistent predictor of forgiveness in each model. And finally, a three-factor model of morality composed of Harm, Fairness, and Purity was the best predictor of forgiveness—and, in combination with religiosity, produces the most robust and parsimonious model of forgiveness I was able to achieve with my variables. Overall, the findings of this study demonstrate that a significant morality-forgiveness link does exist.
Chapter 9: Hypothesis 3 Results and Discussion

Emotion plays an integral role in how we interpret situations and which moral foundation is activated that guides our thoughts and behaviors (Haidt & Graham, 2007; Haidt & Joseph, 2004)). In the third section of this dissertation, I test the relationship of moral emotions to forgiveness.

In the forgiveness literature, two emotions have had center stage: anger and compassion. Anger has been associated with the lack of forgiveness (McCullough et al., 2007), and compassion has been associated with forgiveness (McCullough et al., 1997, 1998). I first tested whether merely asking about emotion (which I thought would invite introspection) affects forgiveness. Second, I replicated findings from previous forgiveness literature by confirming the predictive ability of anger and empathy within my sample. Third, I tested whether Moral Foundations Theory could provide additive predictive ability beyond anger and compassion, by testing whether other key moral emotions (e.g., contempt, disgust) are experienced in response to moral violations, and whether they are associated with forgiveness or lack of forgiveness.

I also explored whether other moral emotions, not predicted by Moral Foundations Theory, are related to forgiveness decisions. Lastly, I added to the forgiveness literature by testing whether emotion intensity related to forgiveness. In summary, I made the following hypotheses about the role of emotion in the forgiveness process.

Restatement of the Hypotheses

H3a: Respondents who are primed to think of emotion will be no different at forgiving compared to the control condition.
H3b: Respondents who are primed to think of emotion and who experience negative emotion (i.e., anger) will be less likely to forgive than the control respondents who are not asked to think of emotion, and this should hold across other factors (e.g., religiosity).

H3c: Respondents who are primed to think of emotion and who experience positive emotion (i.e., compassion) will be more likely to forgive than the control respondents who are not asked to think of emotion, and this should hold across other factors (e.g., religiosity).

H3d: Respondents who more frequently experience anger will be less likely to forgive than respondents who experience anger less frequently.

H3e: Respondents who more frequently experience compassion/sympathy will be more likely to forgive than people who experience compassion/sympathy less frequently.

H3f: Respondents will feel contempt and disgust in response to wrongdoing, and those two emotions will be significantly associated with lack of forgiveness.

H3g: Respondents will feel emotions beyond anger, compassion, contempt, and disgust (e.g. distress at another’s distress, embarrassment, shame, guilt), some of which will significantly predict forgiveness.

H3h: The strength of an emotion will be significantly related to forgiveness (in the expected direction).

**Analyses for Hypotheses 3A, 3B, 3C**

I examined Hypothesis 3a by testing whether merely asking about emotion (encouraging introspection) affects forgiveness. In my experimental condition, I asked half of my sample ($N = 110$) questions about emotions related to forgiveness
(Transgression Narrative Test of Forgiveness; Berry et al., 2001), and in my control condition, I did not ask half \((N = 127)\) about emotions related to forgiveness. I initially tested whether merely asking about emotion (which I thought would make the emotions more salient to the decision process) primed participants to forgive more often than participants not primed. I hypothesized because many of the moral emotions are counterbalanced as suggested by the forgiveness literature (McCullough et al., 1997, 1998), the positive and negative would neutralize the influence of each other, so when combined no effect would be detectable in comparison to the control condition. However, when separated into positive and negative emotions, differences between the experimental and control conditions would be evident.

I screened for univariate outliers and conducted preliminary assumption testing to check for normality and homogeneity of variance. Skewness and kurtosis were both less than 1 and close to 0, though the Kolmogorov-Smirnov statistic indicated non-normality. Since the t-test is reasonably robust to violations of normality with sample sizes greater than 30 (Pallant, 2005), I was tolerant of this violation. Levene’s test for equality of variance demonstrated homogeneity of variance, so I assumed variability of scores were equal.

Independent-samples t-tests compared differences between the experimental condition \((N = 110)\) and control condition \((N = 127)\) on the forgiveness variable. Scores ranged from 5 to 25, with higher scores demonstrating greater forgiveness across situations and relationships. No difference existed between participants in the experimental condition \((M = 15.97, SD = 4.63)\) and control condition \((M = 15.94, SD = 4.08)\) on forgiveness scores, \(t(235) = -0.055, p = .956\), two-tailed. This analysis indicates
the prime of asking about emotion did not significantly influence decisions to forgive. I therefore find support for my hypothesis that respondents who are primed to think of emotion are no different at forgiving compared to the control condition.

I tested Hypothesis 3b by conducting an analysis of covariance (ANCOVA) to test the effect of asking about feelings of anger in response to wrongdoing. The independent variable was the presence of anger in response to any of the five forgiveness scenarios in the experimental and control condition (anger $N = 103$, control $N = 127$), the covariate was religiosity, and the dependent variable was forgiveness. I screened for univariate outliers and conducted preliminary assumption testing to ensure no violation of the assumptions of normality, linearity, homogeneity of variance, and homogeneity of regression slopes. I found no statistically significant difference between the control condition and respondents who felt anger in the experimental condition, $F(1, 226) = 0.77, p > .05$. Table 11 presents a summary of the ANCOVA results. I therefore do not find support for the hypothesis that respondents who are primed to think of emotion and who experience negative emotion are less likely to forgive than the control respondents.

I tested Hypothesis 3c by conducting an ANCOVA to test the effect of asking about feelings of compassion in response to wrongdoing. The independent variable was the presence of compassion/sympathy in response to any of the five forgiveness scenarios in the experimental and control condition (compassion $N = 79$, control $N = 127$), the covariate was religiosity, and the dependent variable was forgiveness. I screened for univariate outliers and conducted preliminary assumption testing to ensure no violation of the assumptions of normality, linearity, homogeneity of variance, and homogeneity of regression slopes. I found no statistically significant difference between the control conditions.
condition and respondents who felt compassion/sympathy in the experimental condition, 
\(F (1, 201) = 0.01, p > .05\). Table 12 presents a summary of the ANCOVA results. Thus, I 
fail to find support for the hypothesis that respondents who are primed to think of 
emotion and who experience positive emotion are more likely to forgive than the control 
respondents.

**Analyses for Hypotheses 3D, 3E**

In Hypotheses 3d and 3e I wanted to replicate findings from previous forgiveness 
literature by confirming the predictive ability of anger and empathy on forgiveness. In 
these analyses, I only used participants from the experimental condition (\(N = 110\)), to test 
whether people who more frequently experience anger would be less likely to forgive 
than people who do so less frequently, and people who more frequently experience 
compassion/sympathy would be more likely to forgive than people who do so less 
frequently.

I calculated the anger and compassion variables by adding up the frequency the 
emotions were reportedly experienced in response to the five scenarios containing 
wrongdoing (see Appendix B). I calculated the presence of each emotion by adding up 
the frequency each participant felt the emotion in response to the five scenarios, and 
divided by five to obtain an average. Scores ranged from 0 to 5, with high scores meaning 
the respondent felt the emotion more frequently across multiple scenarios of wrongdoing. 
Out of 110 respondents in the experimental condition, 103 reported feeling anger and 78 
reported feeling compassion in at least one scenario. Means are presented in Table 13.

I conducted hierarchical multiple regression to determine whether the frequency 
of experiencing anger and compassion predicted forgiveness, and to observe what
additive effect each emotion had on explaining forgiveness, beyond the control variable of interest. I controlled for the effect of religiosity, the only variable shown to significantly predict forgiveness in previous analyses (also see explanation in Analysis for Hypothesis 2c).

I screened for multivariate outliers and conducted preliminary analyses ensuring no violation of assumptions of normality, linearity, multicollinearity, and homoscedasticity. I searched for multivariate outliers by calculating the Mahalanobis distance from an initial regression procedure. I computed the probability of Mahalanobis $D^2$ with the cumulative density function (Schwab, 2003) and found no outliers $D^2 > 0.001$. Bivariate scatterplots showed no evidence of curvilinearity. Residual scatterplots demonstrated no violation to the assumptions of linearity, normality, nor homoscedasticity. I also found no evidence of multicollinearity as tolerance was greater than 0.1 for all variables. I ran an a priori power analysis, and determined I need to have a sample size of $N = 78$ to detect an effect size of $f^2 = 0.15$, with a $0.05 \propto$ error probability and power of 0.80, with 1 predictor in Step 1, 2 predictors in Step 2, and 3 predictors in Step 3 (Soper, 2013a). Having demonstrated that I had sufficient number of cases to detect an effect ($N = 110$), no assumption violations, no outliers, and no multicollinearity (Mertler & Vannatta, 2005), I proceeded to interpret the regression.

In my hierarchical multiple regression model, at Step 1 I entered the religiosity control variable which explained $R^2 = 9.7\%$ ($R^2_{\text{adj}} = 8.9\%$) of the variance in forgiveness. At Step 2, I entered the anger variable, which increased the $R^2$ to 20.2\% ($R^2_{\text{adj}} = 18.8\%$). The second model was statistically significant $F (2, 107) = 13.58, p < .001$, Cohen's $f^2 = .25$, which is a moderate effect. The anger variable explained an additional 10.5\% of the
variance in forgiveness, after controlling for religiosity, $R^2$ change = .105, $F$ change (1, 107) = 14.12, $p < .001$, Cohen's $f^2 = .14$, which is a substantial and significant effect. In the second model, anger was a significant predictor ($B = -4.96, SE = 1.32, p < .001$), in addition to religiosity ($B = 2.63, SE = .81, p = .002$).

At Step 3, I entered the compassion/sympathy variable, which explained $R^2 = 38.6\%$ ($R^2_{adj} = 36.9\%$) of the variance of forgiveness. The third model was statistically significant, $F$ (3, 106) = 22.26, $p < .001$, Cohen's $f^2 = .63$, which is a large effect. The compassion/sympathy variable was statistically significant and explained an additional 18.4% of the variance in forgiveness, after controlling for anger and religiosity, $R^2$ change = .184, $F$ change (1, 106) = 31.80, $p < .001$, Cohen's $f^2 = .30$, which is a large effect. In the third model, compassion/sympathy was a significant predictor ($B = 9.05, SE = 1.61, p < .001$), as well as anger ($B = -4.83, SE = 1.16, p < .001$), in addition to religiosity ($B = 1.94, SE = .72, p = .008$). I therefore find support for Hypothesis 3d that respondents who more frequently experience anger are less likely to forgive than respondents who experience anger less frequently. I also find support for Hypothesis 3e that respondents who more frequently experience compassion/sympathy are more likely to forgive than respondents who experience compassion/sympathy less frequently. See Table 13 for descriptive statistics and Table 14 (Model 1, 2, and 3) for regression weights and coefficients.

**Analysis for Hypothesis 3F**

I next tested whether Moral Foundations Theory could provide additive predictive ability beyond the two major emotions (anger, compassion) reported in the forgiveness literature. I tested whether the other “guardians” “of the moral order” (Haidt, 2003, p.
contempt and disgust, are experienced in response to moral violations, and whether
they predict lack of forgiveness. Contempt, anger, and disgust comprise the CAD Triad
Hypothesis (Rozin et al., 1999), therefore I include all three emotions in my analysis.

As in the Hypotheses 3d and 3e, I only used participants from the experimental
condition ($N = 110$). In my analysis I included contempt, disgust, and anger. In this
analysis, I measure contempt, disgust, and anger by the frequency the emotions are
experienced in response to five scenarios containing wrongdoing (see Appendix B). I
calculated the presence of each emotion by adding up the frequency each participant felt
the emotion in response to the five scenarios, and divided by five to obtain an average.
Scores ranged from 0 to 5, with high scores meaning the respondent averaged feeling the
emotion more frequently across multiple scenarios of wrongdoing. Out of 110
respondents in the experimental condition, 57 reported feeling contempt, 72 reported
feeling disgust, and 103 reported feeling anger in at least one scenario. Means are
presented in Table 15.

I conducted hierarchical multiple regression to determine whether the frequency
of experiencing contempt, disgust, and anger predicted forgiveness, and to observe what
additive effect each emotion had on explaining forgiveness. I controlled for the effect of
religiosity, the only variable shown to significantly predict forgiveness in previous
analyses (see explanation in Analysis for Hypothesis 2c). I screened for multivariate
outliers and conducted preliminary analyses ensuring no violation of assumptions of
normality, linearity, multicollinearity, and homoscedasticity. I searched for multivariate
outliers by calculating the Mahalanobis distance from an initial regression procedure. I
computed the probability of Mahalanobis $D^2$ with the cumulative density function
(Schwab, 2003) and found no outliers $D^2 > 0.001$. Bivariate scatterplots showed no evidence of curvilinearity. Residual scatterplots demonstrated no violation to the assumptions of linearity, normality, nor homescedasticity. I also found no evidence of multicollinearity as tolerance was greater than 0.1 for all variables. I ran an a priori power analysis, and determined I need to have a sample size of $N = 87$ to detect an effect size of $f^2 = 0.15$, with a $0.05 \alpha$ error probability and power of 0.80 with 1 predictor in Step1, 3 predictors in Step 2, and 4 predictors in Step 3 (Soper, 2013a). Having demonstrated that I had sufficient number of cases to detect an effect ($N = 110$), no assumption violations, no outliers, and no multicollinearity (Mertler & Vannatta, 2005), I proceeded to interpret the regression.

In my hierarchical multiple regression model, at Step 1 I entered the religiosity control variable which explained $R^2 = 9.7\%$ ($R^2_{adj} = 8.9\%$) of the variance in forgiveness. The first model with religiosity as a control variable was statistically significant, $B = 2.90$, $SE = .85$, $p = .001$, Cohen's $f^2 = .11$, which was a small effect. At Step 2, I entered the contempt and disgust variables, which explained $R^2 = 12.5\%$ ($R^2_{adj} = 10.0\%$) of the variance of the model. The second model was a statistically significant predictor of forgiveness $F (3, 106) = 5.04$, $p < .001$, Cohen's $f^2 = .14$, which was a moderate effect. The addition of the contempt and disgust variable explained an additional 2.8% of the variance in forgiveness which was not significant, after controlling for religiosity, $R^2$ change $= .028$, $F$ change $(2, 106) = 1.68$, $p > .05$. In the second model, contempt was not a significant predictor of lack of forgiveness ($B = -1.66$, $SE = 1.91$, $p > .05$), nor was disgust ($B = -2.3$, $SE = 1.82$, $p > .05$); however, religiosity was a significant predictor of forgiveness ($B = 2.98$, $SE = .85$, $p = .001$).
At Step 3, I entered the anger variable, which explained $R^2 = 21.0\%$ ($R^2_{\text{adj}} = 17.9\%$) of the variance of forgiveness. The third model was statistically significant, $F (4, 105) = 6.96, p < .001$, Cohen's $f^2 = .27$, which was a moderate effect. Adding the anger variable with the contempt and disgust variables, explained an additional 8.5% of the variance in forgiveness, after controlling for contempt, disgust, and religiosity, $R^2$ change = .085, $F$ change ($1, 105$) = 11.24, $p = .001$, Cohen's $f^2 = .107$, which is a small effect. In the third model, anger was a significant predictor ($B = -4.79, SE = 1.43, p = .001$), however, contempt was not significant ($B = -1.68, SE = 1.83, p > .05$), nor was disgust ($B = -.08, SE = 1.86, p > .05$), though religiosity was still significant ($B = 2.64, SE = .82, p = .002$). As such, although it is true that people reported feeling contempt and disgust in response to wrongdoing, I did not find support for the main prediction of Hypothesis 3f that contempt and disgust would be significantly associated with lack of forgiveness. So, of the emotions in the (negative) CAD-triad hypothesis, all three emotions are experienced in response to wrongdoing, but only anger prevents the prosocial response of forgiveness to wrongdoing. See Table 15 for descriptive statistics and Table 16 (Model 1, 2, and 3) for regression weights and coefficients.

**Analysis for Hypothesis 3G**

Having demonstrated in my analyses of Hypothesis 3d, 3e, and 3f that only anger and compassion significantly relate to forgiveness decisions, I wanted to cast a broader net beyond the emotions specifically predicted by Moral Foundations Theory. I wanted to determine whether other emotions predict forgiveness, and, if so, which emotions would comprise the best model predicting forgiveness.
Other emotions that predict forgiveness. As in Hypotheses 3d, 3e, and 3f, I only used participants from the experimental condition (N = 110). In addition to anger and compassion, I included other moral emotions (contempt, disgust, distress at another’s distress, embarrassment, shame, guilt). In this analysis, I measured all eight emotions by the frequency the emotions are experienced in response to five scenarios containing wrongdoing (see Appendix B). I calculated the presence of each emotion by adding up the frequency each participant felt the emotion in response to the five scenarios, and divided by five to obtain an average. Scores ranged from 0 to 5, with high scores meaning the respondent averaged feeling the emotion more frequently across multiple scenarios of wrongdoing. Out of 110 respondents in the experimental condition, 57 reported feeling contempt, 72 reported feeling disgust, 74 reported feeling distress at another’s distress, 88 reported feeling embarrassment, 69 reported feeling shame, 67 reported feeling guilt, 103 reported feeling anger, and 78 reported feeling compassion/sympathy in at least one scenario. Means are presented in Table 15.

I conducted standard multiple regression and controlled for the effect of religiosity, the only variable shown to significantly predict forgiveness in previous analyses (see explanation in Analysis for Hypothesis 2c). I screened for multivariate outliers and conducted preliminary analyses ensuring no violation of assumptions of normality, linearity, multicollinearity, and homoscedasticity. I searched for multivariate outliers by calculating the Mahalanobis distance from an initial regression procedure. I computed the probability of Mahalanobis D² with the cumulative density function (Schwab, 2003) and found no outliers D² > 0.001. Bivariate scatterplots showed no evidence of curvilinearity. Residual scatterplots demonstrated no violation to the
assumptions of linearity, normality, nor homoscedasticity. I also found no evidence of multicollinearity as tolerance was greater than 0.1 for all variables. I ran an a priori power analysis, and determined I needed to have a minimum sample size of \( N = 113 \) to detect an effect size of \( f^2 = 0.15 \), with a 0.05 \( \alpha \) error probability and power of 0.80 with 9 predictors (Soper, 2013b). My sample size was slightly less than that size \( (N = 110) \), so the potential of finding a significant moderate effect was slightly reduced. Since I had no assumption violations, no outliers, and no multicollinearity (Mertler & Vannatta, 2005), I proceeded to interpret the regression.

Standard multiple regression demonstrated that the overall model did significantly predict forgiveness, \( R^2 = 44.1\% \ (R^2_{adj} = 39.1\%) \), \( F (9, 100) = 8.77, p < .001 \), Cohen's \( f^2 = .79 \), which was an extremely large effect. The model accounted for 44.1% of the variance in forgiveness. In this model, in addition to anger and compassion being significant predictors of forgiveness, embarrassment was a significant predictor of forgiveness \( (B = 4.42, SE = 1.94, p < .05) \), and contempt approached significance \( (B = -3.20, SE = 1.63, p = .052) \). Disgust, distress, shame, and guilt were not statistically significant predictors of forgiveness, \( p > .05 \). The control variable, religiosity, was a significant predictor of forgiveness \( (B = 2.08, SE = .72, p = .005) \). See Table 17 for descriptive statistics and Table 18 (Model 2) for regression weights and coefficients. As such, I find support for the general prediction in Hypothesis 3g that other emotions significantly predict forgiveness. In particular, I find that the emotion of embarrassment significantly predicted forgiveness, which is something that is not mentioned in Moral Foundations Theory, and, thus, is a new and interesting finding.
**Parsimonious model predicting forgiveness.** I next proceeded to test for a parsimonious model of emotions that predict forgiveness. Based on the findings from the previous regression, I decided to conduct hierarchical multiple regression, to determine whether embarrassment and contempt could add significantly to a model of anger and compassion, predicting forgiveness.

I ran an a priori power analysis, and determined I need to have a sample size of $N = 94$ to detect an effect size of $f^2 = 0.15$, with a 0.05 $\alpha$ error probability and power of 0.80 with 1 predictor in Step 1, 3 predictors in Step 2, and 5 predictors in Step 3 (Soper, 2013a). Having demonstrated that I had sufficient number of cases to detect an effect ($N = 110$), no assumption violations, no outliers, and no multicollinearity (Mertler & Vannatta, 2005), I proceeded to interpret the regression.

In my hierarchical multiple regression model, at Step 1 I entered the religiosity control variable which explained $R^2 = 9.7\%$ ($R^2_{\text{adj}} = 8.9\%$) of the variance in forgiveness. The first model with religiosity as a control variable was statistically significant, $B = 2.90$, $SE = .85$, $p = .001$, Cohen's $f^2 = .11$, which was a small effect. At Step 2, I entered the anger and compassion variables, which explained $R^2 = 38.6\%$ ($R^2_{\text{adj}} = 36.9\%$) of the variance of the model. The second model was a statistically significant predictor of forgiveness $F (3, 106) = 22.26$, $p < .001$, Cohen's $f^2 = .63$, which was a large effect. The addition of anger and sympathy explained an additional 28.9% of the variance in forgiveness, $R^2$ change = .289, $F$ change (2, 106) = 25.00, $p > .05$, Cohen's $f^2 = .47$, which was a large and significant effect. In the second model, anger was a significant predictor of lack of forgiveness ($B = -4.83$, $SE = 1.16$, $p < .001$), as was sympathy ($B = 9.05$, $SE = 1.61$, $p < .01$) and religiosity ($B = 1.94$, $SE = .72$, $p = .008$).
At Step 3, I entered the embarrassment and contempt variables, which explained $R^2 = 43.5\%$ ($R^2_{adj} = 40.8\%$) of the variance of forgiveness. The third model was statistically significant, $F (5, 104) = 16.04, p < .001$, Cohen's $f^2 = .77$, which was an extremely large effect. Adding the embarrassment and contempt variables with the anger and sympathy variables, explained an additional 4.9% of the variance in forgiveness, after controlling for religiosity, $R^2$ change = .049, $F$ change (2, 104) = 4.50, $p = .013$, Cohen's $f^2 = .08$, which is a significant improvement. In the third model, embarrassment was a significant predictor ($B = 3.90$, $SE = 1.48$, $p = .009$), contempt was also a significant predictor ($B = -3.41$, $SE = 1.57$, $p = .032$), as was anger ($B = -5.90$, $SE = 1.23$, $p < .001$), compassion ($B = 8.19$, $SE = 1.60$, $p < .001$), and religiosity ($B = 1.95$, $SE = .70$, $p = .006$). Therefore, reducing the model from eight emotions to four emotions increased the overall explanatory power of the model by 1.7% (adjusted $R^2$). The best model of emotions that predicts forgiveness, when controlling for religiosity, then, is a four-emotion model including anger, compassion, embarrassment, and contempt. See Table 17 for descriptive statistics and Table 18 (Model 1, 3) for regression weights and coefficients.

**Analysis for Hypothesis 3H**

One area that had not yet been explored in the forgiveness literature is whether emotion intensity relates to forgiveness. Past forgiveness literature and literature on Moral Foundations Theory only predict that certain emotions will be felt in response to situational stimuli, not the intensity at which they will be felt, nor whether the intensity should be related to prosocial behavior, such as forgiveness. It does seem a logical implication from past literature that the greater negative emotions are experienced, the
less likely people will be to forgive. Similarly, the greater positive emotions are experienced, the more likely people will be to forgive. I next test the relationship of emotion intensity to predicting forgiveness.

I only used participants from the experimental condition (N = 110). I calculated the intensity at which the emotions were felt (averaged per person), by adding up the intensity in response to the five scenarios, and dividing by five. Scores ranged from 0 to 7, with high scores meaning the respondent averaged feeling the emotion more intensely across multiple scenarios of wrong doing, and 0 meaning they felt no emotion. The average intensity of each emotional response was $M = 3.10$ ($SD = 1.89$) for anger, $M = 1.02$ ($SD = 1.35$) for contempt, $M = 1.31$ ($SD = 1.51$) for disgust, $M = 1.12$ ($SD = 1.25$) for shame, $M = 1.92$ ($SD = 1.59$) for embarrassment, $M = 1.00$ ($SD = 1.11$) for guilt, $M = 1.09$ ($SD = 1.05$) for distress at another’s distress, and $M = 1.27$ ($SD = 1.27$) for compassion.

I conducted standard multiple regression and controlled for the effect of religiosity. I screened for multivariate outliers and conducted preliminary analyses ensuring no violation of assumptions of normality, linearity, multicollinearity, and homoscedasticity. I searched for multivariate outliers by calculating the Mahalanobis distance from an initial regression procedure. I computed the probability of Mahalanobis $D^2$ with the cumulative density function (Schwab, 2003) and found no outliers $D^2 > 0.001$. Bivariate scatterplots showed no evidence of curvilinearity. Residual scatterplots demonstrated no violation to the assumptions of linearity, normality (though raw scores were severely skewed), nor homoscedasticity. I also found no evidence of multicollinearity as tolerance was greater than 0.1 for all variables. I ran an a priori power
analysis, and determined I needed to have a minimum sample size of $N = 113$ to detect an
effect size of $f^2 = 0.15$, with a 0.05 $\alpha$ error probability and power of 0.80 with 9
predictors (Soper, 2013b). My sample size was slightly less than that size ($N = 110$), so
the potential of finding a significant effect was slightly reduced. Since I had no
assumption violations, no outliers, and no multicollinearity (Mertler & Vannatta, 2005), I
proceeded to interpret the regression.

Standard multiple regression demonstrated that the overall model did significantly
predict forgiveness, $R^2 = 48.5\%$ ($R^2_{adj} = 43.8\%$), $F (9, 100) = 10.44, p < .001$, Cohen's $f^2 = .94$,
which is a large, significant effect. The model accounted for 48.5% of the variance in
forgiveness. In this model, anger intensity was a significant predictor of forgiveness ($B = -1.15, SE = .22, p < .001$) and compassion intensity was a significant predictor ($B = 1.32, SE = .30, p < .001$), as was the religiosity control variable ($B = 1.91, SE = .69, p = .007$).
However, contempt intensity, disgust intensity, distress intensity, embarrassment
intensity, shame intensity, and guilt intensity were not significant predictors of
forgiveness, $p > .05$. See Table 19 for descriptive statistics and Table 20 (Model 1) for
regression weights and coefficients.

I next tested a more parsimonious model with the intensities of the four emotions
(i.e., anger, compassion, embarrassment, contempt) that I found to be significant
predictors of forgiveness when I defined emotion as the frequency which respondents felt
the emotions. I conducted standard multiple regression and controlled for the effect of
religiosity.

I screened for multivariate outliers and conducted preliminary analyses ensuring
no violation of assumptions of normality, linearity, multicollinearity, and
homoscedasticity. I searched for multivariate outliers by calculating the Mahalanobis distance from an initial regression procedure. I computed the probability of Mahalanobis $D^2$ with the cumulative density function (Schwab, 2003) and found no outliers $D^2 > 0.001$. Bivariate scatterplots showed no evidence of curvilinearity. Residual scatterplots demonstrated no violation to the assumptions of linearity, normality (though raw scores were severely skewed), nor homoscedasticity. I also found no evidence of multicollinearity as tolerance was greater than 0.1 for all variables. I ran an a priori power analysis, and determined I needed to have a minimum sample size of $N = 91$ to detect an effect size of $f^2 = 0.15$, with a $0.05 \alpha$ error probability and power of 0.80 with 5 predictors (Soper, 2013b). Since my sample was greater than that size ($N = 110$), and I had no assumption violations, no outliers, and no multicollinearity (Mertler & Vannatta, 2005), I proceeded to interpret the regression.

Standard multiple regression demonstrated that the overall model did significantly predict forgiveness, $R^2 = 47.8\%$ ($R^2_{adj} = 45.3\%$), $F(5, 104) = 19.04, p < .001$, Cohen's $f^2 = .92$, which is a large, significant effect. The model accounted for 47.8% of the variance in forgiveness. In this model, all variables were significant predictors of forgiveness, including anger intensity ($B = -1.16, SE = .20, p < .001$), compassion intensity ($B = 1.38, SE = .27, p < .001$), embarrassment intensity ($B = .70, SE = .25, p = .006$), and contempt intensity ($B = -.52, SE = .26, p < .05$), as was the religiosity control variable ($B = 1.83, SE = .67, p = .008$). See Table 19 for descriptive statistics and Table 20 (Model 2) for regression weights and coefficients. Therefore, I find support for my hypotheses that strength of emotion will significantly predict forgiveness (in the expected directions). In comparison to the emotion-frequency best-fitting model, the emotion-intensity best-
fiting model explained an additional 1.5% adjusted $R^2$ of the overall explanatory power of forgiveness.

**Discussion of Hypothesis 3 Findings**

One of the other central themes of my dissertation was the emotion-forgiveness link. I wanted to understand whether merely asking people to describe the emotions they feel influences whether they forgive others. This study shows that asking about emotions has no effect on forgiveness decisions. That is, explicitly inviting people to be introspective and identify their emotional responses to wrongdoing does not influence their forgiveness decisions across a range of scenarios. This was surprising to me because I thought asking about emotions would prime people to feel more anger, and therefore forgive less often; and might prime others to feel more compassion, and therefore forgive more often than the control. The implication of this finding is that whether respondents are explicitly asked about their emotions or not, they still feel negative and positive emotions in response to wrongdoing.

I next predicted, based on past forgiveness literature, that people who more frequently experience anger will be less likely to forgive than people who experience anger less frequently (McCullough et al., 2007). I found support for this hypothesis. I also predicted, based on past literature, that people who more frequently experience compassion will be more likely to forgive than people who experience compassion less frequently (McCullough et al., 1997, 1998). I found support for this hypothesis as well. These findings were a replication of past studies, and suggest that the present sample recruited with Google AdWords is similar in key attributes to samples reported by McCullough et al. (1997, 1998, 2007). These findings also suggest that any novel
findings detected in my sample may generalize to samples beyond the current study.
Establishing the link between anger and forgiveness, and compassion and forgiveness,
was an important step to move beyond the limits of emotional research in the forgiveness
area. I next made predictions, based on Moral Foundations theory, about other emotions
that should be relevant to the topic of this study.

In Moral Foundations Theory, contempt, anger, and disgust are theorized to “act
as guardians of different portions of the moral order” (Haidt, 2003, p. 858). Contempt,
anger, and disgust have been classified as the CAD-triad hypothesis (Rozin et al., 1999)
for their notable presence in response to moral violations in past studies. Moral
Foundation Theory predicts that these emotions would be experienced in response to
wrongdoing, but does not state specifically whether these emotions should motivate
prosocial behavior or not. Since they are grouped as the “other condemning emotions”
(Haidt, 2003) in a triad with anger, I hypothesized that they would predict lack of
forgiveness.\(^7\) I found, as predicted, that many respondents did feel contempt and disgust
in response scenarios of wrongdoing, however, they did not significantly predict lack of
forgiveness. This was surprising to me, since these three emotions have such a lengthy
empirical relationship with each other (Haidt, 2003; Rozin et al., 1999) and would seem
to have a similar effect on prosocial behavior. However, Haidt (2003) does note that

\(^7\) Since disgust has been identified as an emotion experienced in response to violations of Purity, it could be
stated that because of this hypothesis in relation to disgust, I could have made a directional hypotheses
about the relationship of Purity to forgiveness—predicting lack of forgiveness. I did not have directional
predictions for Purity in relation to forgiveness because the MFT literature did not predict what dimensions
of morality should relate to prosocial behavior, simply that there should be negative responses to moral
violations. With what I learn about the Purity relationship to forgiveness in the present study (i.e., predicts
forgiveness), I do not think I would have predicted that relationship direction. I definitely could have
proposed a different hypothesis; however, I chose to stick with what I thought was the strongest prediction
made by MFT in relation to the emotion of disgust.
many people often do not know the meaning of contempt (as a feeling of superiority and looking down upon someone else in a subordinate position), even though it has a distinct physiology and facial expression. These findings led to the fourth topical area in this chapter, which was my test of whether any additional emotions, beyond those predicted by the forgiveness literature and Moral Foundations Theory, predict forgiveness.

I next searched for whether other emotions other than anger and compassion could predict forgiveness. I found that two other key emotions emerged as predicting forgiveness decisions: embarrassment and contempt. This was a novel and fascinating finding. Embarrassment was novel because Moral Foundations Theory did not predict it. In the moral emotions literature, embarrassment has been reportedly felt when people violate social conventions, whereas the emotion of shame is a response when people violate a social norm (Keltner & Buswell, 1996; Tangney, Miller, Flicker, & Barlow, 1996).

Past empirical research shows that embarrassment is felt toward the self, because of, for example, an awkward situation. The respondents in my study, however, do not report experiencing embarrassment in this way. Rather, they feel embarrassed for the transgressor, and in an act of perspective taking, they consider what it would be like if they were in the transgressor’s situation. Perceiving a wrongdoing from their own point of view as a victim is superseded by feelings of awkward embarrassment in behalf of the transgressor, which promotes forgiveness. Furthermore, in the context of anger, compassion, and embarrassment, contempt finally emerges as a significant predictor of forgiveness. This suggests that the unique addition of embarrassment moderates in some way the relationship between contempt and forgiveness, and lessens the likeliness that
forgiveness will be granted. Ultimately, I discovered that a four-emotion model of forgiveness is the best model that explains forgiveness decisions, and has an extremely large effect.

Finally, I predicted that emotion intensity would predict forgiveness decisions. I found that the best model of emotion intensity that predicted forgiveness was that same four-emotion model: anger, compassion, embarrassment, and contempt; and the magnitude of effect was extremely large. This means that not only does it matter whether the emotional responses of anger, compassion, embarrassment, or contempt are felt in response to wrongdoing, but also the degree at which they are felt. This is a unique contribution to the forgiveness literature because it frames emotions as not simply either on or off, but like a gradient with shades in between light and dark.

In summary, I found that the best predictor of forgiveness was a four-factor model, which included anger and contempt (which predict lack of forgiveness), and compassion and embarrassment (which predict forgiveness). Also, I found this four-factor model of emotion has an extremely large effect on predicting forgiveness. These findings can strengthen our understanding and role of emotion in Moral Foundations Theory and the forgiveness literature.

Haidt and colleagues’ understanding of emotion drew from grounded theory research, in which Haidt and others observed what emotions were present among people in certain situations, noting the elicitors, and then noting themes related to the type of morality that was triggered. Building on this, I was able to show that four distinct emotions—anger, contempt, compassion, and embarrassment—predict forgiveness decisions, both in terms of presence of the emotion(s) as well as emotion intensity.
Chapter 10: General Discussion

In this general discussion, I provide a high-level summary of the findings of this dissertation, propose some implications from this work, and discuss some of this study’s limitations. I conclude by introducing some of my research questions for future study that builds on the present work.

Summary and Implications

In this study I wanted to better understand three general topical areas. First, I wanted to test a new data collection method for the social sciences. In this study I established that a Google AdWords sample is similar to samples used in developing the Moral Foundations Questionnaire (Graham et al., 2009, 2011; Haidt & Graham, 2007, 2009). I have demonstrated that this new recruitment method is able to achieve results for the social sciences consistent with other online, convenient samples with broad representation among a diverse audience.

Second, I addressed one of the main purposes of this dissertation by discovering that morality does indeed relate to forgiveness decisions. The morality-forgiveness link is structured around three moral foundations: Harm, Fairness, and Purity. These three moral foundations significantly predicted forgiveness in my sample, and predicted forgiveness across a range of situations and relationship types, though the magnitude of effect was small.

This study suggests some implications for the very definition of forgiveness. Recall that the APA Dictionary of Psychology defines forgiveness as “willfully putting aside feelings of resentment toward an individual who has committed a wrong, been unfair or hurtful, or otherwise harmed one in some way…” (VandenBos, 2007, p. 385,
This definition of forgiveness specifically describes Harm and Fairness as being dimensions of morality that are considered wrong and in need of forgiveness, but does not include other dimensions of morality that my research suggests should also be considered wrong—Purity. Findings from the present study imply that the forgiveness definition from the *APA Dictionary of Psychology* should expand to also account for violations of Purity. This research also suggests that forgiveness for moral offenses relating to Purity would likely offer the victim the same physical and mental health benefits (Lawler-Row & Piferi, 2006; Seybold et al., 2001; Toussaint et al., 2008), relational benefits (Hook et al., 2009), and a sense of power restored to victims (Wenzel & Okimoto, 2010) that forgiveness for moral offenses relating to Harm and Fairness offers a victim.

Another important point is that the *APA Dictionary of Psychology*’s defines forgiveness as “*willfully* putting aside feelings of resentment” (VandenBos, 2007, p. 385, italics added) toward a wrongdoer for violating at least two dimensions of wrongdoing, Harm and Fairness. This means that victims use their inner agentic power to willfully choose to act in a ways that may not be considered deterministic and perhaps even logical. This definition suggests that the intensity at which someone is offended *is not* on an either-or scale with forgiveness in the opposite direction (e.g., someone who is less wronged should be more likely to forgive). It suggests that the act of forgiveness in relation to wrongdoing is not necessarily binary with two rigidly fixed options; rather, it is possible to be highly sensitive to offenses and deeply hurt, but also be forgiving. The responses are not necessarily mutually exclusive. Therefore the results of my study show that people who are sensitive to violations of care resulting in Harm, and people who are
sensitive to violations of Purity, both use their agency to willfully put aside their sensitivities (not minimizing the intensity at which they are wronged) to wrongdoing and choose to forgive. Is there something about the moral dimensions of Harm and Purity that would suggest why these predict forgiveness, whereas Fairness predicts lack of forgiveness? I think the answer lies in the mediating role of political affiliation. I observed an interaction effect between Fairness and political affiliation in relation to forgiveness. For conservatives, Fairness predicted forgiveness – parallel with the direction of Harm and Purity in relation to forgiveness. However, for liberals, the relationship is in the opposite direction. One possible explanation is that for political liberals, issues of injustice are on a binary scale with forgiveness; whereas for political conservatives, they are not. Political conservatives may be better able to use their agency to step away from the binary deterministic response to wrongdoing. This is just one possible explanation. I propose future studies focus in particular on explaining why this effect is present.

Third, I wanted to test which types of emotions would best predict forgiveness decisions. This study shows that a sample recruited from online sponsored ads is able to produce findings consistent with previous literature confirming the relation of anger and compassion to forgiveness. This study also stepped beyond the mere presence of anger and compassion, and showed that emotion intensity also relates to forgiveness decisions. While the effect of emotion intensity is not an entirely new finding for the emotion literature, it is a contribution to the forgiveness literature still in its infancy with respect to emotion.
The presence of emotion intensity may suggest that forgiveness decisions are not clear cut and instantaneous, but, rather, are an ongoing process. This has implications for the forgiveness literature, which in the past has cast forgiveness decisions as being a simple (almost sudden) choice (Neblett, 1974); whereas the communication literature has long argued that it is a much more complex process which the victim experiences within the self—involving uncertainty and multifaceted emotional processes (Fincham & Beach, 2002; North, 1987). Because the very nature of forgiveness is a complex, relational interaction, this implies that future research should continue to look for ways in which forgiveness can be understood as a fluid form of communication involving social hierarchies, social face, doubt, and also involving third parties with whom the victims seeks aid or comfort (Baskin & Enright, 2004).

Perhaps the most significant implication this second study has for the forgiveness literature is that anger and compassion are not the only emotional responses to moral violations; rather, emotions of embarrassment and contempt are at play and significantly predict our forgiveness decisions. This implies that Moral Foundation Theory’s placement of emotion at the core of relational and situational perception deserves further investigation.

People are not as deterministic as simply perceiving an offense and therefore experiencing anger and anger alone. Individuals have rich histories that affect how they emotionally interpret situations and which moral emotions are activated by the combination of events and situational nuances. Moreover, current forgiveness research shows that forgiveness can be taught to others, at any age.
The emotion of embarrassment has some worthy implications. The present study shows that people grant others who wrong them some degree of leeway when they mistakes, and are willing to grant them forgiveness because they are able to consider the situation from the transgressor’s point of view. This implies that sensitizing people to the point of view of their transgressors, and their historical context, can serve as relevant stimuli for the victim to feel second-hand emotion that they perceive the transgressor feels, and because of that embarrassment, the victim forgives the transgressor.

**Limitations**

As in many studies on the topic of forgiveness, this study does not measure the actual behavior of forgiveness, rather an expressed willingness to forgive. There is a difference between actual forgiveness and expressed willingness to forgive. For this reason, this study can only offer insight into what the sample likely would do, not what they actually did. However, there is a strong correlation between expressing a willingness to forgive and actual forgiveness (Enright & Rique, 2004).

Another limitation of the study is that it relies on an imagined scenario to create emotion. While past research has demonstrated that imagining a fictitious event happening in real life has the ability to produce emotional responses, imagined events are of course not as emotionally stimulating as real-life offenses. A relationship is assumed based on previous research to exist between how people imagine they would emotionally respond to how they respond in real life.

Another limitation regards the methodology of the study and to whom this work can generalize. Selection bias might have affected my results. It is possible that people for whom topics of forgiveness, ethics, and morality were particularly relevant would be
more likely than others to click on my sponsored ads and take my study. I do not expect this would relate to political affiliation since I achieved a fairly even split among political liberals and conservatives (32.5% and 34.6%, respectively). I also do not expect this would relate to religiosity since I also achieved a fairly even split among low and high religiosity (53.6% and 46.4%). Also, no research has yet been done to examine differences between people who click on sponsored ads, and people who do not. Therefore, selection bias may have occurred affecting my results, but I am able to be explicit about which groups may have been more likely than others to opt in to participate in my study.

Another limitation regarding methodology is that as this is not a probability-based sample, I cannot generalize beyond the immediate sample. Notwithstanding this limitation, I argue this methodology still has merit and offers valuable feedback to the forgiveness literature on a morality-forgiveness link that exists among some people, and lays a foundation for dedicating more resources to a probability-based sample on this topic. Moreover, despite some of the limitations of web-based surveys noted in Appendix K, this sample is still more diverse than would be true of a typical sample gleaned from an undergraduate student population.

Future Research

This study provides the groundwork for future work in the areas of morality, emotion, and forgiveness, and I am excited about the possibilities for future study. In future research, I would like to further explore the relational direction of emotions, specifically teasing out emotions felt toward transgressors from those felt toward the self as victim, and from those felt toward 3rd party victims, and toward the self as
transgressor. There are many parties involved in a relational offense, and the literature needs clarification of which emotions are experienced toward different people (often at the same time). I would then like to make predictions based on moral foundations theory of when certain emotions will be experienced based on the relational structures.

I would also like to understand in future research the relation of time to forgiveness. Some research on the timing of apologies suggests there may be an optimal time for wrongdoers to apologize to victims to influence their forgiveness decision (Frantz & Benningson, 2005). If wrongdoers apologize too soon, their apology can be perceived as insincere and not realizing the severity of the offense (Mitchell, 1989). If wrongdoers apologize too late, the apology can also be perceived as insincere, and like the wrongdoer is trying to manipulate the victim to get something the wrongdoer wants (Zilzer & Frantz, 2002). Therefore, there does appear to be an optimal time to apologize that is not too soon, and not to late, in which the victim feels their perspective has been understood and the severity of the offense has been realized by the wrongdoer (Frantz & Benningson, 2005). In future research I would like to understand how the timing of forgiveness relates to satisfaction from the victim’s perspective.

In future work I would also like to include a much broader variety of forgiveness scenarios that cover in as mutually exclusive way as possible the five moral foundations. This would allow me to step beyond forgiveness, and test whether valuing certain moral foundations makes someone more or less likely to forgive in scenarios that involve an offense toward someone who is highly values the moral foundation. This would lead to improvements of emotion’s role in Moral Foundations Theory.
In future research I would also want to collect data using MTurk to see if it really would be significantly cheaper (according to my estimates, as much as one fourth the cost) relative to using Google AdWords. If this were the case, I would then seek to increase my sample sufficiently to be able to run structural equation models testing the causal role of emotions as moral intuitions.

Conclusion

In conclusion, this dissertation accomplished its twofold purpose of first, investigating how morality, and in particular the five-dimension model of Haidt et al., related to forgiveness. And secondly, exploring how emotions play a role in the relationship between morality and forgiveness. I have shown that a three-dimension model of morality including Harm, Fairness, and Purity are the best predictors of forgiveness. I have also shown that a four-dimensional model of emotion including anger, compassion, embarrassment, and contempt, are the best predictors of forgiveness. I have also furthered the methodological rigor of the social sciences by experimenting with a novel new way of recruiting participants, and offering my observations of its strengths and weaknesses that will benefit future researchers.
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doi:10.1037/a0015308


doi:10.1016/j.jtbi.2012.05.007


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doi:10.1002/smi.1082


doi:10.1177/053901847401300204


Table 1
*Top Ten Clicked Ads Using Google AdWords that Drove People to the Welcome Webpage of the Survey*

<table>
<thead>
<tr>
<th></th>
<th>Ad Description line</th>
<th>Clicks</th>
<th>Impressions</th>
<th>Response Rate</th>
<th>Avg. Cost per Click</th>
<th>Cost</th>
<th>Avg. position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Are you Moral? † Do a 10 min Survey</td>
<td>2,301</td>
<td>149,994</td>
<td>1.53%</td>
<td>$0.07</td>
<td>$165.04</td>
<td>1.3</td>
</tr>
<tr>
<td>2</td>
<td>Are you moral? Take a 10 min Quiz</td>
<td>1,714</td>
<td>442,908</td>
<td>0.39%</td>
<td>$0.06</td>
<td>$107.66</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Are you moral? Take a Quiz</td>
<td>1,586</td>
<td>300,746</td>
<td>0.53%</td>
<td>$0.06</td>
<td>$101.01</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Are you moral? Take a 10 min Quiz</td>
<td>1,236</td>
<td>323,477</td>
<td>0.38%</td>
<td>$0.07</td>
<td>$84.98</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Are you ethical? Take a Quiz</td>
<td>698</td>
<td>191,939</td>
<td>0.36%</td>
<td>$0.07</td>
<td>$48.30</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Are you Moral? † Take a Survey</td>
<td>575</td>
<td>39,703</td>
<td>1.45%</td>
<td>$0.06</td>
<td>$35.48</td>
<td>1.4</td>
</tr>
<tr>
<td>7</td>
<td>Are you moral? Take a Quiz</td>
<td>544</td>
<td>147,665</td>
<td>0.37%</td>
<td>$0.05</td>
<td>$28.70</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Are you moral? Take a Quiz</td>
<td>476</td>
<td>87,678</td>
<td>0.54%</td>
<td>$0.06</td>
<td>$30.60</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Are you Ethical? † Take a Quiz</td>
<td>380</td>
<td>32,936</td>
<td>1.15%</td>
<td>$0.07</td>
<td>$25.64</td>
<td>1.2</td>
</tr>
<tr>
<td>10</td>
<td>Are you moral? Take a 10 min Quiz</td>
<td>188</td>
<td>54,414</td>
<td>0.35%</td>
<td>$0.06</td>
<td>$11.40</td>
<td>1</td>
</tr>
</tbody>
</table>

Total – Search Network 900 219,298 0.41% $0.22 $197.93 2.5
Total – Display Network 10,853 1,927,597 0.56% $0.07 $741.60 1.1
Total – Search & Display Network 11,753 2,146,895 0.55% $0.08 $939.53 1.2

† Only displayed on mobile devices * 320 x 50 pixels
### Table 2

*Group Membership Percentages of Demographic Categories*

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>Percent</th>
</tr>
</thead>
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<tr>
<td>Sex</td>
<td>Females</td>
<td>58.6</td>
</tr>
<tr>
<td>Age</td>
<td>18-25</td>
<td>27.4</td>
</tr>
<tr>
<td></td>
<td>26-35</td>
<td>20.8</td>
</tr>
<tr>
<td></td>
<td>36-45</td>
<td>16.1</td>
</tr>
<tr>
<td></td>
<td>46-55</td>
<td>15.8</td>
</tr>
<tr>
<td></td>
<td>56-65</td>
<td>13.9</td>
</tr>
<tr>
<td></td>
<td>66+</td>
<td>5.7</td>
</tr>
<tr>
<td>Education</td>
<td>Up to high school</td>
<td>19.4</td>
</tr>
<tr>
<td></td>
<td>Some college</td>
<td>24.9</td>
</tr>
<tr>
<td></td>
<td>In college</td>
<td>13.1</td>
</tr>
<tr>
<td></td>
<td>Completed college</td>
<td>20.3</td>
</tr>
<tr>
<td></td>
<td>Some/attended grad school</td>
<td>22.4</td>
</tr>
<tr>
<td>Race</td>
<td>American Indian / Alaska Native</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Black or African American</td>
<td>21.1</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>Native Hawaiian / Pacific Islander</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>62.3</td>
</tr>
<tr>
<td></td>
<td>No answer</td>
<td>6.3</td>
</tr>
<tr>
<td>Social ladder</td>
<td>1-2</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>23.6</td>
</tr>
<tr>
<td></td>
<td>5-6</td>
<td>40.5</td>
</tr>
<tr>
<td></td>
<td>7-8</td>
<td>26.2</td>
</tr>
<tr>
<td></td>
<td>9-10</td>
<td>4.6</td>
</tr>
<tr>
<td>Political</td>
<td>Liberal</td>
<td>32.5</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td>Conservative</td>
<td>34.6</td>
</tr>
<tr>
<td></td>
<td>Libertarian</td>
<td>3.8</td>
</tr>
<tr>
<td></td>
<td>Other or Not political</td>
<td>15.6</td>
</tr>
<tr>
<td>Religiosity</td>
<td>Low (attend religious services less than monthly)</td>
<td>53.6</td>
</tr>
<tr>
<td></td>
<td>High (attend religious services more than monthly)</td>
<td>46.4</td>
</tr>
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</table>

N = 237
Table 3

*Means, Standard Deviations, and Alphas for the Moral Foundations Subscales (Present Study)*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Total</th>
<th>Liberals</th>
<th>Moderates</th>
<th>Conservatives</th>
<th>Libertarians</th>
<th>Don’t know - Not Political</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 237)</td>
<td>(n = 77)</td>
<td>(n = 32)</td>
<td>(n = 82)</td>
<td>(n = 9)</td>
<td>(n = 27)</td>
<td>(n = 10)</td>
</tr>
<tr>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
</tr>
<tr>
<td>Harm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevance</td>
<td>0.61</td>
<td>3.88</td>
<td>0.89</td>
<td>4.00</td>
<td>0.88</td>
<td>3.79</td>
<td>0.89</td>
</tr>
<tr>
<td>Judgments</td>
<td>0.34</td>
<td>3.37</td>
<td>1.05</td>
<td>3.65</td>
<td>0.94</td>
<td>3.11</td>
<td>1.09</td>
</tr>
<tr>
<td>Total</td>
<td>0.56</td>
<td>3.63</td>
<td>0.79</td>
<td>3.82</td>
<td>0.76</td>
<td>3.45</td>
<td>0.82</td>
</tr>
<tr>
<td>Fairness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevance</td>
<td>0.71</td>
<td>3.86</td>
<td>0.95</td>
<td>3.95</td>
<td>0.99</td>
<td>3.94</td>
<td>0.77</td>
</tr>
<tr>
<td>Judgments</td>
<td>0.25</td>
<td>3.19</td>
<td>0.91</td>
<td>3.40</td>
<td>0.88</td>
<td>3.50</td>
<td>0.95</td>
</tr>
<tr>
<td>Total</td>
<td>0.59</td>
<td>3.52</td>
<td>0.76</td>
<td>3.68</td>
<td>0.78</td>
<td>3.72</td>
<td>0.69</td>
</tr>
<tr>
<td>Ingroup</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevance</td>
<td>0.55</td>
<td>3.24</td>
<td>1.04</td>
<td>3.07</td>
<td>1.05</td>
<td>3.36</td>
<td>1.01</td>
</tr>
<tr>
<td>Judgments</td>
<td>0.45</td>
<td>2.74</td>
<td>1.11</td>
<td>2.43</td>
<td>1.12</td>
<td>2.71</td>
<td>1.07</td>
</tr>
<tr>
<td>Total</td>
<td>0.62</td>
<td>2.99</td>
<td>0.90</td>
<td>2.75</td>
<td>0.91</td>
<td>3.04</td>
<td>0.86</td>
</tr>
<tr>
<td>Authority</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevance</td>
<td>0.59</td>
<td>2.85</td>
<td>1.06</td>
<td>2.50</td>
<td>1.10</td>
<td>2.93</td>
<td>0.94</td>
</tr>
<tr>
<td>Judgments</td>
<td>0.48</td>
<td>3.42</td>
<td>1.10</td>
<td>3.14</td>
<td>1.21</td>
<td>3.36</td>
<td>0.86</td>
</tr>
<tr>
<td>Total</td>
<td>0.69</td>
<td>3.14</td>
<td>0.94</td>
<td>2.82</td>
<td>1.00</td>
<td>3.15</td>
<td>0.75</td>
</tr>
<tr>
<td>Purity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevance</td>
<td>0.65</td>
<td>3.07</td>
<td>1.24</td>
<td>2.61</td>
<td>1.30</td>
<td>3.09</td>
<td>1.11</td>
</tr>
<tr>
<td>Judgments</td>
<td>0.66</td>
<td>2.90</td>
<td>1.30</td>
<td>2.32</td>
<td>1.39</td>
<td>2.81</td>
<td>1.21</td>
</tr>
<tr>
<td>Total</td>
<td>0.80</td>
<td>2.99</td>
<td>1.16</td>
<td>2.47</td>
<td>1.24</td>
<td>2.95</td>
<td>1.07</td>
</tr>
</tbody>
</table>

*Note.* Range is 0-5 for all items and subscales.
Table 4

Means, Standard Deviations, and Alphas for the Moral Foundation Subscales Reported by Graham et al. (2011, p. 372)

<table>
<thead>
<tr>
<th>Foundation</th>
<th>Subscale</th>
<th>$\alpha$</th>
<th>Total $(N = 34,476)$</th>
<th>Liberals $(n = 21,933)$</th>
<th>Moderates $(n = 3,203)$</th>
<th>Conservatives $(n = 4,128)$</th>
<th>Libertarians $(n = 2,999)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harm</td>
<td>Relevance</td>
<td>.70</td>
<td>3.77 (0.86)</td>
<td>3.93 (0.76)</td>
<td>3.68 (0.84)</td>
<td>3.48 (0.89)</td>
<td>3.26 (1.03)</td>
</tr>
<tr>
<td></td>
<td>Judgments</td>
<td>.51</td>
<td>3.08 (1.11)</td>
<td>3.32 (1.01)</td>
<td>2.95 (1.09)</td>
<td>2.48 (1.11)</td>
<td>2.34 (1.17)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.69</td>
<td>3.42 (0.84)</td>
<td>3.62 (0.74)</td>
<td>3.31 (0.81)</td>
<td>2.98 (0.84)</td>
<td>2.80 (0.94)</td>
</tr>
<tr>
<td>Fairness</td>
<td>Relevance</td>
<td>.65</td>
<td>3.89 (0.78)</td>
<td>4.04 (0.67)</td>
<td>3.77 (0.77)</td>
<td>3.44 (0.87)</td>
<td>3.66 (0.90)</td>
</tr>
<tr>
<td></td>
<td>Judgments</td>
<td>.40</td>
<td>3.21 (0.93)</td>
<td>3.43 (0.86)</td>
<td>3.00 (0.86)</td>
<td>2.59 (0.87)</td>
<td>2.71 (0.95)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.65</td>
<td>3.55 (0.73)</td>
<td>3.74 (0.63)</td>
<td>3.39 (0.68)</td>
<td>3.02 (0.73)</td>
<td>3.19 (0.79)</td>
</tr>
<tr>
<td>Ingroup</td>
<td>Relevance</td>
<td>.71</td>
<td>2.24 (1.03)</td>
<td>2.06 (0.94)</td>
<td>2.56 (1.00)</td>
<td>3.03 (1.02)</td>
<td>2.16 (1.10)</td>
</tr>
<tr>
<td></td>
<td>Judgments</td>
<td>.46</td>
<td>2.28 (0.98)</td>
<td>2.09 (0.91)</td>
<td>2.59 (0.90)</td>
<td>3.13 (0.85)</td>
<td>2.21 (0.97)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.71</td>
<td>2.26 (0.87)</td>
<td>2.07 (0.77)</td>
<td>2.58 (0.79)</td>
<td>3.08 (0.79)</td>
<td>2.19 (0.89)</td>
</tr>
<tr>
<td>Authority</td>
<td>Relevance</td>
<td>.67</td>
<td>2.03 (0.95)</td>
<td>1.88 (0.86)</td>
<td>2.37 (0.90)</td>
<td>2.81 (0.91)</td>
<td>1.71 (0.95)</td>
</tr>
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<td></td>
<td>Judgments</td>
<td>.60</td>
<td>2.52 (1.12)</td>
<td>2.23 (1.01)</td>
<td>2.97 (0.94)</td>
<td>3.74 (0.82)</td>
<td>2.55 (1.14)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.74</td>
<td>2.27 (0.90)</td>
<td>2.06 (0.79)</td>
<td>2.67 (0.77)</td>
<td>3.28 (0.71)</td>
<td>2.13 (0.90)</td>
</tr>
<tr>
<td>Purity</td>
<td>Relevance</td>
<td>.68</td>
<td>1.68 (1.11)</td>
<td>1.44 (0.94)</td>
<td>2.09 (1.09)</td>
<td>2.88 (1.11)</td>
<td>1.31 (1.03)</td>
</tr>
<tr>
<td></td>
<td>Judgments</td>
<td>.75</td>
<td>1.41 (1.20)</td>
<td>1.09 (0.96)</td>
<td>1.88 (1.16)</td>
<td>2.90 (1.20)</td>
<td>1.16 (1.10)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.84</td>
<td>1.54 (1.08)</td>
<td>1.27 (0.86)</td>
<td>1.99 (1.03)</td>
<td>2.89 (1.07)</td>
<td>1.23 (0.98)</td>
</tr>
</tbody>
</table>

*Note.* Range for all items and subscales is 0–5. Standard deviations are shown in parentheses.
Table 5

*Descriptive Statistics for the Transgression Narrative Test of Forgivingness*

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Present Study</th>
<th>Berry et al. (2001) Study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Scenario 1</td>
<td>3.09</td>
<td>1.24</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>3.46</td>
<td>1.15</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>3.25</td>
<td>1.18</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>2.77</td>
<td>1.17</td>
</tr>
<tr>
<td>Scenario 5</td>
<td>3.38</td>
<td>1.13</td>
</tr>
<tr>
<td>Summed Avg</td>
<td>15.95</td>
<td>4.33</td>
</tr>
</tbody>
</table>

- = Data not available

*N sizes: Present study (237); Berry et al. study 1 (88), study 2 (146), study 3 (233), combined studies (467)*
Table 6

*Correlation Matrix of Five Moral Foundations*

<table>
<thead>
<tr>
<th></th>
<th>Harm</th>
<th>Fairness</th>
<th>Ingroup</th>
<th>Authority</th>
</tr>
</thead>
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*p < .05, ** p < .01 (2-tailed)

N = 237
Table 7

Descriptive Statistics and Correlation Matrix of Forgiveness (For), Sex, Age, Relative Income (Inc), Education (Edu), Liberal Political Orientation (PolLib), Other Political Orientation (PolOth), Frequency of Attending Religious Services (Rel), and Five-Factor Morality (5Mor) for Hypothesis 2A

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*p < .05, ** p < .01 (2-tailed)
Listwise N = 237
Table 8

*Coefficients for Model Variables for Hypothesis 2A, 2B*

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DV: Forgiveness
Table 8 (cont.)

**Coefficients for Model Variables for Hypothesis 2A, 2B**

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DV: Forgiveness
Table 9

*Descriptive Statistics and Correlation Matrix of Forgiveness (For), Frequency of Attending Religious Services (Rel), Harm, Fairness, Ingroup, Authority, and Purity for Hypothesis 2C*

| Variable  | M    | SD   | For | Rel | Harm | Fairness | Ingroup | Authority | Purity |
|-----------|------|------|-----|-----|------|----------|---------|-----------|--------|-------|
| For       | 15.94| 4.34 | --- |     |      |          |         |           |        |       |
| Rel       | 0.46 | 0.50 | '   | 0.46| 0.50 | .249**   |         |           |        |       |
| Harm      | 3.63 | 0.78 | .119| 0.249| .119 |         | .151*   | .582**    |        |       |
| Fairness  | 3.53 | 0.75 |    |     |      | -.151*   | -.146*  | .582**    |        |       |
| Ingroup   | 3.00 | 0.88 | .134|     |      | .134*    | .201**  | .157*     | .066   |       |
| Authority | 3.14 | 0.94 | .182|     |      | .182**   | .275**  | .101     | -.009  | .640**|
| Purity    | 2.98 | 1.16 | .251|     |      | .251**   | .329**  | .199**   | 0.067  | .520**|

*p < .05, ** p < .01 (2-tailed)
Listwise N = 237
Table 10

*Coefficients for Model Variables for Hypothesis 2C*

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<td>0.32</td>
<td>0.17</td>
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<td>0.00</td>
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<td>Purity</td>
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DV: Forgiveness
Table 11

*ANCOVA Summary Table for Hypothesis 3A*

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<th>MS</th>
<th>F</th>
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<th>η²</th>
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<tbody>
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<td>0.874</td>
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<td>1</td>
<td>263.03</td>
<td>15.28</td>
<td>0.000</td>
<td>0.063</td>
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<tr>
<td>Anger Presence</td>
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<td>13.25</td>
<td>0.77</td>
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<td>18.16</td>
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### Table 12

**ANCOVA Summary Table for Hypothesis 3B**

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<td>1403.30</td>
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<td>0.875</td>
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<td>297.06</td>
<td>18.00</td>
<td>0.000</td>
<td>0.082</td>
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<td>Compassion Presence</td>
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<td>0.17</td>
<td>0.01</td>
<td>0.920</td>
<td>0.000</td>
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<td>38.05</td>
<td>2.31</td>
<td>0.131</td>
<td>0.011</td>
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<tr>
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<td>201</td>
<td>16.51</td>
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<tr>
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</table>
Table 13

*Descriptive Statistics and Correlation Matrix of Forgiveness (For), Frequency of Attending Religious Services (Rel), Anger, and Compassion/Sympathy (ComSym) for Hypothesis 3D, 3E*

<table>
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<td>4.63</td>
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<tr>
<td>Rel</td>
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<td>.50</td>
</tr>
<tr>
<td>Anger</td>
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<td>.30</td>
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<tr>
<td>ComSym</td>
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</tbody>
</table>

*p < .05, ** p < .01 (2-tailed)
Listwise N = 110
Table 14

**Coefficients for Model Variables for Hypotheses 3D, 3E**

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<th>Model</th>
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<th>$R^2_{adj}$</th>
<th>Variable</th>
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<th>$SE$</th>
<th>Beta</th>
<th>$t$</th>
<th>$p$</th>
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</thead>
<tbody>
<tr>
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<td>8.9%</td>
<td>Rel</td>
<td>2.90</td>
<td>0.85</td>
<td>0.31</td>
<td>3.41</td>
<td>0.00</td>
</tr>
<tr>
<td>2</td>
<td>20.2%</td>
<td>18.8%</td>
<td>Rel</td>
<td>2.63</td>
<td>0.81</td>
<td>0.28</td>
<td>3.26</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Anger</td>
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<td>1.32</td>
<td>-0.33</td>
<td>-3.76</td>
<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>38.6%</td>
<td>36.9%</td>
<td>Rel</td>
<td>1.94</td>
<td>0.72</td>
<td>0.21</td>
<td>2.69</td>
<td>0.01</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>Anger</td>
<td>-4.83</td>
<td>1.16</td>
<td>-0.32</td>
<td>-4.15</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ComSym</td>
<td>9.05</td>
<td>1.61</td>
<td>0.44</td>
<td>5.64</td>
<td>0.00</td>
</tr>
</tbody>
</table>

DV: Forgiveness
Rel = Religiosity
ComSym = Compassion/Sympathy
Table 15

*Descriptive Statistics and Correlation Matrix of Forgiveness (For), Frequency of Attending Religious Services (Rel), Contempt, Disgust, and Anger for Hypothesis 3F*

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<tr>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>For</td>
<td>15.97</td>
<td>4.63</td>
</tr>
<tr>
<td>Rel</td>
<td>.43</td>
<td>.50</td>
</tr>
<tr>
<td>Contempt</td>
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<td>.23</td>
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<tr>
<td>Disgust</td>
<td>.23</td>
<td>.24</td>
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<tr>
<td>Anger</td>
<td>.59</td>
<td>.30</td>
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*p < .05, ** p < .01 (2-tailed)

Listwise N = 110
Table 16

*Coefficients for Model Variables for Hypothesis 3F*

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<th>$R_{adj}^2$</th>
<th>Variable</th>
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<th>SE</th>
<th>Beta</th>
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<th>p</th>
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</thead>
<tbody>
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<td>1</td>
<td>9.7%</td>
<td>8.9%</td>
<td>Rel</td>
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<td>0.85</td>
<td>0.31</td>
<td>3.41</td>
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</tr>
<tr>
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<td>12.5%</td>
<td>10.0%</td>
<td>Rel</td>
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<td>0.85</td>
<td>0.32</td>
<td>3.51</td>
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<tr>
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<td>Rel</td>
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<td>0.82</td>
<td>0.28</td>
<td>3.23</td>
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<td>Contempt</td>
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DV: Forgiveness  
Rel = Religiosity
Table 17

*Descriptive Statistics and Correlation Matrix of Forgiveness (For), Frequency of Attending Religious Services (Rel), Anger, Contempt, Disgust, Compassion/Sympathy (ComSym), Distress at Another’s Distress (Distress), Embarrassment (Embarrass), Shame, and Guilt for Hypothesis 3G*

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<td>0.24</td>
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<td>Shame</td>
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<td>0.22</td>
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*p < .05, **p < .01 (2-tailed)
Listwise N = 110
Table 18

*Coefficients for Model Variables for Hypothesis 3G*

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<td>0.21</td>
<td>2.69</td>
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<td>0.21</td>
<td>2.79</td>
<td>0.01</td>
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</table>

DV: Forgiveness
Rel = Religion
ComSym = Compassion/Sympathy
Table 19

Descriptive Statistics and Correlation Matrix of Forgiveness (For), Frequency of Attending Religious Services (Rel); and Intensity of Anger, Contempt, Disgust, Compassion/Sympathy (ComSym), Distress at Another’s Distress (Distress), Embarrassment (Embarass), Shame, and Guilt for Hypothesis 3H

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<td>Rel</td>
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<tr>
<td>Contempt</td>
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</tr>
<tr>
<td>Disgust</td>
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<td>Distress</td>
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</tr>
<tr>
<td>Shame</td>
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</tr>
<tr>
<td>Guilt</td>
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</table>

* p < .05, ** p < .01 (2-tailed)
Listwise N = 110
Table 20

**Coefficients for Model Variables for Hypothesis 3H**

<table>
<thead>
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<th>Model</th>
<th>$R^2$</th>
<th>$R^2_{adj}$</th>
<th>Variable</th>
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<th>$SE$</th>
<th>Beta</th>
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<th>$p$</th>
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<td>48.5%</td>
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DV: Forgiveness  
Rel = Religion  
ComSym = Compassion/Sympathy
Figure 1. Examples of image-based ads used to recruit participants using Google AdWords.
Figure 2. Example of sponsored search results with Google AdWords. Ads display above or to the right of search results.
Figure 3. Example of sponsored ads on Google’s Display Network with Google AdWords. Ads typically display above or to the right of webpage content.
Figure 4. Moral relevance by foundation for extreme liberals and conservatives. Scale ranges from 0 = Not at all relevant to 5 = Extremely relevant.
Figure 5. Moral relevance by foundation for extreme liberals and conservatives from Haidt and Graham (2007, p. 108). Scale ranges from 1 = Not at all relevant to 6 = Always relevant.
Figure 6. Relevance of moral foundations across political identity. Scale ranges from 0 = Not at all relevant to 5 = Extremely relevant.
Figure 7. Relevance of moral foundations across political identity from Graham et al (2009, p. 1033).
Figure 8. Agreement with moral statements across political identity. Scale ranges from 0 = Strongly disagree to 5 = Strongly agree. The horizontal line at 2.5 indicates a division of agreement and disagreement (2 indicates slight disagreement and 3 indicates slight agreement.)
Figure 9. Agreement with moral statements across political identity from Graham et al (2009, p. 236). Scale ranges from 0 = Strongly disagree to 5 = Strongly agree. The horizontal line at 2.5 indicates a division of agreement and disagreement (2 indicates slight disagreement and 3 indicates slight agreement.)
Appendix A: Moral Foundations Questionnaire

Graham et al. (2011)

**Part I: Moral Relevance.** When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please answer on a scale from *Not At All Relevant* (This consideration has nothing to do with my judgments of right and wrong) to *Extremely Relevant* (This is one of the most important factors when I judge right and wrong). Response options: not at all relevant, not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant)

**Harm:**
- Whether or not someone suffered emotionally
- Whether or not someone cared for someone weak or vulnerable
- Whether or not someone was cruel

**Fairness:**
- Whether or not some people were treated differently from others
- Whether or not someone acted unfairly
- Whether or not someone was denied his or her rights

**Ingroup:**
- Whether or not someone’s action showed love for his or her country
- Whether or not someone did something to betray his or her group
- Whether or not someone showed a lack of loyalty

**Authority:**
- Whether or not someone showed a lack of respect for authority
- Whether or not someone conformed to the traditions of society
- Whether or not an action caused chaos or disorder

**Purity:**
- Whether or not someone violated standards of purity and decency
- Whether or not someone did something disgusting
- Whether or not someone acted in a way that God would approve of

**Part II: Moral Judgments.** Please read the following sentences and indicate your level of agreement or disagreement. Response options: strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree)

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

**Fairness:**
- When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.
- Justice is the most important requirement for a society.
I think it’s morally wrong that rich children inherit a lot of money while poor children inherit nothing.

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

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

*Purity:*
People should not do things that are disgusting, even if no one is harmed.
I would call some acts wrong on the grounds that they are unnatural.
Chastity is an important and valuable virtue.
Appendix B: Transgression Narrative Test of Forgiveness (TNTF)
Berry et al. (2001)

Below are a number of situations in which people might find themselves. People respond in different ways to these situations in terms of what things they will forgive. We would like you to read each situation and imagine it has happened to you right now. Then we would like you to use the scale below to indicate how you would respond to the situation:

1 = definitely not forgive,
2 = not likely to forgive,
3 = just as likely to forgive as not,
4 = likely to forgive, and
5 = definitely forgive.

The term *forgive* in this context means choosing to put aside your feelings of resentment toward an individual who has committed a wrong, been unfair or hurtful, or harmed you in some way. It does not require verbalizing your feelings (reconciling) or excusing the wrongdoer. It involves a choosing to change your feelings, attitudes, and behavior toward the wrongdoer.

1. You are attending a continuing education course to qualify for a pay raise at work. Someone you occasionally see in a class has a paper due at the end of the week. You have already completed the paper for the class and this person says he or she is under a lot of time pressure and asks you to lend him or her your paper for some ideas. You agree, and this person simply retypes the paper and hands it in. The professor recognizes the paper, calls both of you to her office, scolds you, and says you are lucky she doesn’t put you both on academic probation. Imagine yourself in such a situation and mark how likely you are to forgive the person who borrowed your paper.

2. A fairly close friend tells you that he or she needs some extra money for an upcoming holiday. You know a married couple who needs a babysitter for their 3-year-old for a couple of nights and you recommend your friend. Your friend is grateful and takes the job. On the first night, the child gets out of bed and, while your friend has fallen asleep watching television, drinks cleaning fluid from beneath the kitchen sink. The child is taken by an ambulance to the hospital and stays there for 2 days for observation and treatment. The married couple will not speak to you. Imagine yourself in such a situation and mark how likely you are to forgive your friend.

3. A friend offers to drop off a job application for you at the post office by the deadline for submission. A week later, you get a letter from the potential employer saying that your application could not be considered because it was postmarked after the deadline and they had a very strict policy about this. Your friend said that he or she met an old friend, went to lunch, and lost track of time. When he or she remembered the package, it was close to closing time at the post office and he or she would have to have rushed frantically to get there; he or she decided that deadlines usually aren’t that strictly enforced so he or she waited until the next morning to deliver the package. Imagine yourself in such a situation...
and mark how likely you are to forgive your friend for not delivering the application on time.

4. You just started a new job and it turns out that a classmate from high school works there, too. You think this is great; now you don’t feel like such a stranger. Even though the classmate wasn’t part of your crowd, there’s at least a face you recognize. You two hit it off right away and talk about old times. A few weeks later, you are having lunch in the cafeteria and you overhear several of your coworkers, who do not realize you are nearby, talking about you and laughing; one even sounds snide and hostile toward you. You discover that your old classmate has told them about something you did back in school that you are deeply ashamed of and did not want anyone to know about. Imagine yourself in such a situation and mark how likely you are to forgive your old classmate for telling others your secret.

5. A distant cousin you haven’t seen since childhood calls you one day and asks if he can stay with you while he looks for work and an apartment. You say it will be fine. He asks you to pick him up from the bus station that night and you do so. Your cousin is just like you fondly remember him; you reminisce for several hours. The next morning you give him some advice on job and apartment hunting in the area, then you go about your own business. That night you come home and witness an angry argument in front of your residence between your cousin and a neighbor. Your cousin is obviously very drunk, cursing, and out of control. You ask what’s happening and without really taking the time to recognize you, your cousin throws a bottle at you, cutting the side of your head. The police arrive and, with some scuffling, take your cousin away and take you to the emergency room where you have stitches put on your cut. The next afternoon, your cousin calls from the police station. He says he is really sorry about the whole scene and that it was not like him but he was upset about being turned down for three jobs that day. Imagine yourself in such a situation and mark how likely you are to forgive your cousin.

**Experimental Condition in Study Two ONLY**

*Questions I will add after each statement and before the forgiveness question for the experimental condition:*

a. What do you feel? (select all that apply)

- [ ] Anger
- [ ] Contempt
- [ ] Disgust
- [ ] Shame
- [ ] Embarrassment
- [ ] Guilt
- [ ] Distress at another’s distress
- [ ] Sympathy/compassion
b. How strongly do you feel this? (select one)

<table>
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O Not at all
Appendix C: Demographics

Please tell us a bit about yourself, to help us understand your responses on the questionnaires we'll show you in a moment. Everything you tell us will be kept strictly confidential. (See our privacy statement <<Include link to privacy statement>>). If you don't fit neatly into the categories we offer, please just make your best guess, and then tell us what the problem was in the "explanation box" at the end. Then we’ll know whether to delete your data on that question, or else modify the question in the future.

An asterisk (*) denotes a mandatory field.

1. * Your Sex: ○ F  ○ M

2. * When were you born? Year: [Drop down list in year format, ranging from 1904 or earlier to 2007]

3. * When it comes to politics, do you usually think of yourself as liberal, moderate, conservative, or something else? [Drop down list with the following 10 response options: Very Liberal, Liberal, Slightly Liberal, Moderate/middle-of-the-road, Slightly Conservative, Conservative, Very Conservative, Don’t know/not political, Libertarian, Other]

(The terms used in your country may differ. "Liberal" is intended to include the Left, progressives, and in some countries socialists. "Conservative" is intended to include the Right, traditionalists, and in some countries Christian Democrats.)

4. In general, how liberal (left-wing) or conservative (right-wing) are you on social issues? [Drop down list with the following 9 response options: Very Liberal, Liberal, Slightly Liberal, Moderate/middle-of-the-road, Slightly Conservative, Conservative, Very Conservative, Don’t know, Can’t pick one label]

5. In general, how liberal (left-wing) or conservative (right-wing) are you on economic issues? [Drop down list with the following 9 response options: Very Liberal, Liberal, Slightly Liberal, Moderate/middle-of-the-road, Slightly Conservative, Conservative, Very Conservative, Don’t know, Can’t pick one label]

6. Some people don't pay much attention to politics. How about you? Would you say that you are: [Drop down list with the following 3 response options: Not much interested, Somewhat interested, Very much interested]

7. Generally speaking, do you usually think of yourself as a REPUBLICAN, a DEMOCRAT, an INDEPENDENT, or what? (For Americans Only)
8a. [If answered “Republican” to #7, then asked:]
Would you call yourself a STRONG Republican or a NOT VERY STRONG Republican?
[Drop down list with the following 3 response options: No Answer, Strong, Not very strong].

8b. [If answered “Democrat” to #7, then asked:]
Would you call yourself a STRONG Democrat or a NOT VERY STRONG Democrat?
[Drop down list with the following 3 response options: No Answer, Strong, Not very strong].

8c. [If answered “Independent” to #7, then asked:]
Do you think of yourself as CLOSER to the Republican Party or to the Democratic Party?
[Drop down list with the following 4 response options: No Answer, Closer to Republican, Neither, Closer to Democrat].

8d. [If answered “Other party” to #7, then asked:]
Do you think of yourself as CLOSER to the Republican Party or to the Democratic Party?
[Drop down list with the following 4 response options: No Answer, Closer to Republican, Neither, Closer to Democrat]

8e. [If answered “No preference” to #7, then asked:]
Do you think of yourself as CLOSER to the Republican Party or to the Democratic Party?
[Drop down list with the following 4 response options: No Answer, Closer to Republican, Neither, Closer to Democrat]

9. Think of this ladder, to the right, as representing where people stand in your country.

At the top of the ladder are the people who are the best off - those who have the most money, the most education, and the most respected jobs. At the bottom are the people who are the worst off - who have the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

Where would you place yourself on this ladder?
Please choose the radio button corresponding to the position on the
ladder where you think you stand at this time in your life, compared to people in your country.

10. What is the general category of work you do in your primary job?

[Open-ended response]

11. Thinking about your life these days, how often do you attend religious services, apart from social obligations such as weddings or funerals?

[Drop down list with the following 7 response options: No Answer, Never, Once a year or less, A few times a year, Once or twice a month, Almost every week, Every week or more than once a week]

(Note: please include religious services held in private homes, as long as they involve several people coming together to worship or pray. Do not include any practices you do by yourself)

12. What is your race/ethnicity? (Select all that apply)

[List includes American Indian or Alaska Native, Asian, Black or African American, Hispanic, Native Hawaiian or Other Pacific Islander, White, No Answer]

13. Please describe your highest educational level:

[Drop down list with the following 10 response options: No Answer, Some High School, Currently in High School, Completed High School, Some College/University, Currently in College/University, Completed College/University, Some Graduate/Professional School, Currently in Graduate/Professional School, Completed Graduate/Professional School]

(The terms used in your country may differ. American "High School" is usually completed around age 18. "College/university" is usually completed around age 22. "Graduate/Professional" refers to degrees such as the Ph.D., the Masters’ degree, or degrees in medicine or law.)

14. Was anything on this page unclear, or do you need to explain anything about your answers? [Open-ended response]
Appendix D: Privacy Statement

Our goal is to conduct research on moral psychology. We are committed to conducting this research ethically and to protecting your privacy. For example, we will never give out or sell your email address to anyone for any reason.

What we collect
We request that you tell us some information about yourself that will help us to analyze your other responses. We store all of this information on a secure server, protected by a firewall. SSL encryption is used to transfer your information to our server. We do not collect personal information other than general categories that you fit under (e.g., sex, age, ethnicity).

What we will do with your information
None of the information we collect contains any information that could lead anyone to identify the people who provided the data. We will carefully guard your privacy. We plan to keep the data files for many years. We will write up scientific articles that report the results of our studies by reporting the averages and other statistics computed across many people’s data. In the rare cases that we report a quote from text that a participant typed into a text box, we will be certain that such quotes do not reveal the identity of the source.

How we use cookies
We will not place any cookies in your browser without your consent. When cookies are allowed they will only be used to manage each session you have at the web site. The cookies make sure that you and only you are able to view your scores.

Web-related information we collect automatically
Like almost all web sites, we automatically collect information on all requests for pages from our web server. We collect the type of browser you used, what you requested, and what was sent. This helps us understand usage of the web site and allows us to produce aggregate statistics on usage.

Security of the data we collect
We take reasonable technical, administrative, and physical precautions to keep your information secure. For example, we store your responses in a password-protected database located in a secure data center. When you are participating in studies, your data is sent via SSL encryption, which prevents other people from intercepting the data and identifying you.

Changes
We retain the right to change this Privacy Statement. If we do, the revised Privacy Statement would apply only prospectively to future data collected. We will post changes to this page in a prompt manner. This statement is effective as of February 15, 2013.
Appendix E: Information Sheet

Please read this carefully before you decide to participate in the study.

**Project Title:** Moral Decisions in Online Communities
The purpose of this research study is to understand the relationships among morality, values, politics, and personality, and/or to study the mechanisms and processes by which people make moral judgments. In this study we ask you to fill out a web based questionnaire. You will be asked to answer questions about your attitudes, beliefs, and judgments, or to make ratings or judgments about short stories. To provide you an overall view of how your responses compare with others who take the survey, graphs will be available at the end of the survey. The graphs show aggregate trends and you will be able to see the number of respondents as of today. The study will require less than 10 minutes of your time.

**Risks:** There are no anticipated risks in this study. Some of the scenarios and questions you will read will question your morals and some may be unsettling. You can skip any question you do not feel comfortable answering.

**Benefits:** There are no direct benefits to you for participating in this research study. The study may help us learn about moral psychology. You will receive no payment for participating in the study.

**Confidentiality:** The information that you give in the study will be handled confidentially. The information you provide will not be linked back to you, and it will be reported only in aggregated form in academic publications. If you are using a public computer (e.g., at a public library) please close your browser upon completion of the survey to protect your privacy. Your participation in the study is completely voluntary.

You have the right to withdraw from the study at any time without penalty. If you want to withdraw from the study, just close your web browser.

The survey is being conducted by Samuel Lindsey, M.A., and Clayton Peoples, Ph.D., from the Interdisciplinary Ph.D. Program in Social Psychology at the University of Nevada, Reno. This study has been reviewed and approved with exempt status by the University of Nevada, Reno Institutional Review Board for Social Behavioral Research, protocol #2013E089.

If you have questions about the study, contact: Samuel Lindsey, sclindsey@unr.edu, University of Nevada, Reno; Interdisciplinary Ph.D. Program in Social Psychology, Mailstop 300, Reno, NV 89557. Or Clayton Peoples, peoplesc@unr.edu, University of Nevada, Reno; Department of Sociology, Mailstop 300, Reno, NV 89557

If you have questions about your rights in the study, contact:
Nancy Moody, Director of Institutional Review Board for the Social Behavioral Research

Ross Hall, Room 218, Mail Stop 0331
University of Nevada, Reno
Reno, NV 89557-0331
Telephone: (775) 327-2367
Email: NMoody@unr.edu
Website: http://www.unr.edu/ohrp/
Appendix F: Invitation to Participate

Moral Decisions in Online Communities

Thank you for being willing to participate in this survey! In this survey we will ask you about your attitudes and beliefs to understand how you make moral judgments. 100,000+ people like you have taken a similar survey!

The survey should take less than 10 minutes to complete. Your responses will be kept confidential (see our privacy statement).

After you finish the survey, we will explain what the study was about, and we will show you how your answers compare with other people who took the survey.

For information about your rights as a research participant, please see the information sheet.

Click on the "Next" button to begin the survey!
Appendix G: Debriefing

Thank you for your participation in this survey.

What the study was about
As humans we are repeatedly faced with decisions of whether it is right or wrong to forgive. In some situations we forgive others almost without thinking about whether it is right or wrong to forgive, such as when a partner forgets to buy an ingredient at the grocery story; perhaps we forgive because of similar decisions to forgive in the past or because we think the infraction is not that severe. At other times we debate within ourselves whether forgiveness is right or wrong in a situation, such as when we get in a heated fight with a close friend; perhaps we are unsure about forgiving because our friend was not loyal in an important moment, but we also value the friendship.

These examples illustrate that in some situations we think about whether forgiveness is right or wrong, in other situations we do not. Research has suggested that whether we consciously struggle with whether something is right or wrong, our actions are influenced by cultural norms (to which we are unconscious) regarding how we ought to act. Our responses to relationship infractions are influenced by moral norms of what we ought to do.

Since morality and forgiveness seem to go hand in hand, it follows that how we conceptualize morality may affect when and how we think we ought to forgive. The purpose of this study is to understand the relationship of morality (i.e., whether we think something is right or wrong) and emotion to forgiveness decisions.

Your responses will be kept confidential. If you would like to be contacted about the findings of this study, or for additional information about the results of this survey, please email sclindsey[at]unr[dot]edu
Appendix H: IRB Protocol

Use this form to submit a new study for IRB review and approval.

Submitter
Lindsey, Sam
Email: SCLindsey@gmail.com

Study Title
Moral Decisions in Online Communities

Abstract, offer an abstract of your study activity in lay terms.
No answer entered. In 250 words or less, provide a brief abstract of the proposed research in language that can be understood by a non-scientist. Summarize the background, study purpose, study method and procedures, and the anticipated research findings.

Please enter the email address of the Principal Investigator
Type in the email address, hit return to move out of the box - contact information should automatically populate
Lindsey, Sam
Email: SCLindsey@gmail.com

Requirements for University of Nevada Reno Investigator go to
http://www.unr.edu/ospa/forms/forms/PI%20definition.pdf

Form to request permission to deviate from policy
http://www.unr.edu/ospa/forms/Request%20to%20Serve%20as%20PI.pdf

Describe the category of the Investigator. Check all that apply.
Item selected: UNR student

Give contact email address of Responsible Official, type in email address, hit return; contact information should automatically populate.
Peoples, Clayton PhD
Email: peoplesc@unr.edu
Business: 775.784.4765

Responsible Official is defined as supervisor for the Investigator. He/she will authorize the employees involved in the research as a scope of the person’s employment and confirms the resources in the department for the activity. For a UNR student, the Responsible Official would be your mentor/faculty advisor on the study activity.
Level of Review

Do you consider your research to meet the definition for any of the following? You must select one answer. If you are having difficulty with this question, please contact the UNR OHRP at 775-327-2368. The answer to this question will lead to specific questions aligned to your selected answer.

<table>
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<th>Item selected:</th>
<th>Not Human Subject Research are projects that either do not involve human subjects or fail to meet the definition of research are excluded from IRB review. This is not the same as exempt research.</th>
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<tr>
<td>Exempt Research</td>
<td>Exemption means that the project is not subject to the requirements of the federal regulations for the protection of human subjects (45 CFR 46). A protocol may be determined to be exempt from IRB review if all procedures fall into one or more of 6 specific categories of research and has minimal or no risk. A designated IRB reviewer makes this decision; the protocol is not reviewed further by the IRB.</td>
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<td>Expedited protocol present no more than minimal risk to subjects and include only procedures described in nine specific categories of research may qualify for expedited review. Expedited review requires all of the same considerations by the IRB as protocols that require full committee review. However, expedited review can be done by one or more designated reviewers.</td>
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<td>Full Board protocol is reviewed at a convened meeting of the IRB, at which a majority of members are present. Recommendation for action must be voted upon, and a majority must approve the recommendation. The study activity is above minimal risk and requires review at a convened meeting of the IRB.</td>
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</table>

Individual Study Team Membership

Co-Investigators

No answer entered. Please click "Add Contact" for each Co-Investigator you would like to add to this study. If your contact is not currently in the system, please have them register for the system and then they will be available to add as an answer to this question. A student researcher would be identified as a Co-Investigator.

Coordinators

No answer entered. Please click "Add Contact" for each Coordinator you would like to add to this study. If your contact is not currently in the system, please have them register for the system and then they will be available to add as an answer to this question.

Nurses

No answer entered. Please click "Add Contact" for each Nurse you would like to add to this study. If your contact is not currently in the system, please have them register for the system and then they will be available to add as an answer to this question.

Bio-statisticians

No answer entered. Please click "Add Contact" for each Bio-statistician you would like to add to this study. If your contact is not currently in the system, please have them register for the system and then they will be available to add as an answer to this question.

Faculty Advisor/Consultant

No answer. If your contact is not currently in the system, please have them register for the system and then...
They will be available to add as an answer to this question.

**Other Research Personnel**

No answer entered. Please click "Add Contact" for each other research personnel you would like to add to this study. If your contact is not currently in the system, please have them register for the system and then they will be available to add as an answer to this question.

**Will any of the study procedures or analyses be contracted to a consultant or an organization?**

No item selected from list

**For each of the people named as a contact above, please list their responsibilities from the following list.**

- **Study Coordination**
  - Consent Process with Participants
  - Recruitment with Participants
  - Data Collection
  - Data Analysis
  - Follow Up Interactions with Participants
  - Conduct Interviews, surveys or focus groups

| Samuel Lindsey | Study coordination, recruitment, data collection, data analysis. |
| Clayton Peoples | Study coordination, data analysis. |

**Example:**

- Mike Smith - Data Collection and Data Analysis
- Mark Jones - Study Coordination
- Stacey Smith - Consent Process and Recruitment with Participants

Describe in the textbox below, as a the investigator, how will you offer supervision, training, education to each study team member to apprise competency and ethical conduct in direct involvement with the participant or data from the participant. (E.g. documented team meeting minutes, observation performance of study task to evaluate competency; offer training and ethical conduct, etc.)

Dr. Peoples and I will continue to have regular meetings to monitor collection and analysis of data.

**If any member of the study team has identified and reported to the University Of Nevada-reno Conflicts of Interest Committee a conflict that resulted in a Management Plan – attach the plan.**

UNR Policy Definition: Conflict of Interest means any outside activity or interest that may adversely affect, compromise, or be incompatible with the obligations of an Employee to the University or to widely recognized professional norms. A significant conflict of interest includes, but is not limited to, situations where consideration of a significant financial or other interests will likely affect the approval, design, conduct, or reporting of research or other projects or the objectivity of decision making as an Employee of the University.

No attachments added.

**Protocol Category**

**Indicate the Department or Institution** in the list below for your study.

- Graduate School

**Performance Site**

https://irbmanager.bedirb.com/xForms/FormPageView.aspx?Print=Y&FormInstanceId=23ab080b-392a-46a6-8009-e9122745b7
Study Locations, check all that apply.

Site: University of Nevada, Reno  Permission letters are required from all non UNR sites. Washoe County School District requires contact with Jar Hall, jmhall@washoe.k12.nv.us.

See http://www.unr.edu/ohrp/school.html

Attach the letter authorizing permission to use the site. Pertains only to non UNR sites.

No attachments added.  Letter should be on official stationery of the site and signed by a person of authority at the site.

Are you conducting the research outside of the United States, in a foreign country?

Item selected: No

Offer your rationale why the performance site is appropriate for this research study. Check all that apply.

Item selected: The study will take place over the internet using a web browser.

You check the box 'other' in the previous questions. Offer an explanation in the following textbox.

No answer entered.

Subject Population

Subject Population

Identify any subject population(s) that may be targeted for the study.

Item selected: Normal/Adult Volunteers

State the number of participants you expect to enroll.

1300

If this is an observational study or ethnographic study for which the number of participants observed or interviewed cannot be determined in advance - skip the question. You will have additional questions specific to observational and ethnographic study as marked in type of study.

Does your target population include recruiting and enrolling Non English speakers?

Item selected: No  IRB will need to know the communication plan for Non English speaking participants.

Screening Questions Exemption

The activity involves a living individual about whom an investigator (professional or student) conducting research obtains identifiable private information.

Item selected: No  Identifiable = if 1) the identity of the individual from whom the information was obtained is ascertained or may be readily ascertained by the investigator; or 2) the identity of the individual from whom the information was obtained is associated or may be readily associated with the information.
Private Information = information about behavior that occurs in a context in which the individual can reasonably expect that no observation or recording is taking place or information that has been provided for specific purposes that the individual can reasonably expect will not be made public (e.g., medical record, employee or student records).
Examples of individual identifiers include the subject’s name, address, phone number, social security number, medical record number, student or employee identification number, or in some cases, the combination of data such that they can identify a single individual through deductive reasoning. For example, data about employer, job title, age and gender may not individually identify a subject, but when combined, could in certain cases, identify a specific individual.

<table>
<thead>
<tr>
<th>Will the research activity expose participants to discomfort or distress beyond that normally encountered in daily life?</th>
<th>Item selected: No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you plan to attach a protocol/proposal to this study application?</td>
<td>Item selected: Yes</td>
</tr>
<tr>
<td>Attach a copy of the protocol or proposal here.</td>
<td>Action Name</td>
</tr>
<tr>
<td>Attachment: Proposal INV Study Materials</td>
<td></td>
</tr>
<tr>
<td>Could disclosure of participants’ responses outside the research reasonably place participants at risk of criminal or civil liability or be damaging to participants’ financial standing, employability or reputation?</td>
<td>Item selected: No</td>
</tr>
<tr>
<td>Indicate all identifiers that may be accessed or included in the research records in the study activity.</td>
<td>Item selected:</td>
</tr>
<tr>
<td>Does any part of the research require deception or incomplete disclosure of information to participants?</td>
<td>Item selected: No</td>
</tr>
<tr>
<td>Will prisoners (or their data and/or specimens) be participants in the research?</td>
<td>Item selected: No</td>
</tr>
<tr>
<td>Are you providing an information sheet to the participant?</td>
<td>Item selected: Yes</td>
</tr>
<tr>
<td>If you are using an information sheet, please attach a copy here.</td>
<td>Action Name</td>
</tr>
</tbody>
</table>

https://irbmanager.becirb.com/xForms/FormPageView.aspx?Print=1&FormInstanceGUID=e3abd80b-339a-4d4-c-8d02-e9f122745b7 Page 5 of 11
**Information Sheet INV Consent Materials**

**Will you offer any compensation or incentivize the individual for participation in the study?**
- Item selected: No

**Is the research activity subject to FDA regulations?**
- Item selected: No

### Exemption Categories

**Will the study be conducted in a commonly accepted educational setting? This will meet the criteria for Category #1. You should only select one category. Review the Categories and select one, you may answer no or skip all other categories. Note: if you select more than one category of exemption, you will receive additional questions that will not apply to your study activity.**

<table>
<thead>
<tr>
<th>No item selected from list</th>
<th>Reminders for Exemption Category #1 Research:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. All the educational practices you hope to employ must be accepted, standard educational practices.</td>
</tr>
<tr>
<td></td>
<td>2. If all students will be participating in the educational practice, a consent form to be signed by the student (and parent if under 18) which states that they allow you to look at the results of their participation in the activity for the purposes of research.</td>
</tr>
<tr>
<td></td>
<td>3. If all students will not be participating in the educational practice, you must explain what the students who will not be participating will be doing instead. It is important that you design your research in a way that does not penalize students who will not be participating.</td>
</tr>
<tr>
<td></td>
<td>4. See the Family Educational Rights and Privacy Act (FERPA) for details about privacy protection of student education records.</td>
</tr>
<tr>
<td></td>
<td>5. See the Protection of Pupil Rights Amendment (PPRA) for details on the protection of the rights of parents and students.</td>
</tr>
</tbody>
</table>

**Research includes evaluation of individuals using educational or cognitive tests, surveys, questionnaires, structured or open-ended interviews, or systematic observations of public behavior. You should only select one category. Review the Categories and select one, you may answer no or skip all other categories. Note: if you select more than one category of exemption, you will receive additional questions that will not apply to your study activity.**

| Item selected: Yes | Studies cannot be exempt if the participant's name (or other identifiers like birth date and initials, social security number, phone number, etc.) is linked to "private" or "sensitive" information (i.e., any information that could possibly affect the individual's reputation, employability, or financial standing). For example, if questions about medical history, substance use, mood state, sexual behaviors, and possible criminal activity are asked, identifiers cannot be linked to responses. |

**Are all data in existence as of the date the protocol is submitted to the IRB? Do not use this category for specimen or data specific to specimens collected.**

- You should only select one category. Review the Categories and select one, you may answer no or skip all other categories. Note: if you select more than one category of exemption, you will receive additional questions that will not apply to your study activity.

| No item selected from list |

**Research studies involving the retrospective review, collection and analysis of medical record information will be conducted in one of the following ways:**

- A. Recording of Medical Information, Without Identifiers, By or Under the Oversight Of a Principal
Investigator Who Would Normally Have Access to this Information by Virtue of His/Her Patient Care Responsibilities.

B. Recording of Medical Information, Without Identifiers, By a Principal Investigator Who Does Not Have Patient Care Responsibilities.

You should only select one category. Review the Categories and select one, you may answer no or skip all other categories. Note: if you select more than one category of exemption, you will receive additional questions that will not apply to your study activity.

| No item selected from list | Investigators who wish to record identifiable information must use the expedite application/medical record review and also request a waiver of informed consent/HIPAA authorization. The conduct of research is NOT an exempt application when permanently recording identifiers. Contact staff for assistance 775-327-2368 |

Does your research study evaluate federal public benefit programs or possible changes in such programs?

You should only select one category. Review the Categories and select one, you may answer no or skip all other categories. Note: if you select more than one category of exemption, you will receive additional questions that will not apply to your study activity.

| No item selected from list |

This exemption is for a specimen bank or clinical databank. The questions will ask questions related to specimens and if applicable data collected about the specimens.

Will the clinical or medical specimen(s) or data (e.g. medical record information) be provided to the research team without personal identifiers or linkage codes?

You should only select one category. Review the Categories and select one, you may answer no or skip all other categories. Note: if you select more than one category of exemption, you will receive additional questions that will not apply to your study activity.

| No item selected from list | Specimens may include tissue, blood, or bodily fluid. Specimens were obtained independent of this research study. Specimens are archived in a recognized tissue bank, All specimens and corresponding data are recorded (1) anonymously, OR (2) identifiable data are de-identified by an appropriate software program OR (3) The de-identification of data is carried out by a person who is independent of the research (i.e., an independent "honest broker") and who has been identified by name in the protocol. Seek guidance from OHRP if you plan to use an independent honest broker. |

Exemption Application

Provide the estimated beginning and end dates of the activity.

UNR practice is to affirm the exempt category for three years from date of issued Certificate affirming the research exempt activity.

2/20/13 - 7/1/13

State what the Researcher(s) hope to learn from the study. Include an assessment of the importance of new knowledge and if applicable any previous research or literature relating to this activity.

The goal of my dissertation is twofold: (1) to investigate how morality, and in particular the five-dimension model of Haidt et al., relates to forgiveness, and (2) to explore how emotions may play a role in the relationship between morality and forgiveness.
### Exempt Category #2 Tests, surveys, Interviews etc

<table>
<thead>
<tr>
<th>Describe the tasks participants will be asked to perform. Include in your description, the frequency and duration of procedures, psychological tests, educational tests, and experiments. This will meet the criteria for Category #2. You should only select one category. The other categories from the federal regulations are described below.</th>
</tr>
</thead>
<tbody>
<tr>
<td>After clicking on a sponsored ad, participants will be directed to a website (sponsored.com) which hosts a survey. A randomization script will instantly assign them to either an experimental condition or a control condition. (Unless noted, the following procedures are identical for participants in both the experimental and control conditions). Participants will first be directed to a welcome letter describing the purpose of the study, what they can expect, how long it will take (less than 10 minutes), a link to the privacy statement, authors of the survey and IRB information, as well as a link to the information sheet. The participant will then click on a link to enter the survey. The first page will be a list of the demographic questionnaire, second page will be the Moral Foundations Questionnaire (MFQ), the third page will be the Transgression Narrative Test of Forgiveness (TNTF). The final webpage thanks them for their participation, describes the purposes of the study, allows them to share the link of the survey, and shows aggregate comparisons of their responses with all others who have taken the survey up to that time.</td>
</tr>
<tr>
<td>No personal or sensitive information can be sought. The study activity should have no risk or minimal risk and no identifiers to be recorded. If you need to have identifiers for analysis, contact staff at 775-327-2368 to determine if you should continue with the exemption form or complete the expedited application.</td>
</tr>
</tbody>
</table>

### Describe the instruments to be used in this study activity. In your description, describe the mechanism, online, paper/pencil, etc.

| This study will include a demographic questionnaire, the Moral Foundations Questionnaire (MFQ, Graham et al., 2011), and the Transgression Narrative Test of Forgiveness (TNTF, Berry et al., 2001). The demographic questionnaire is a replication of the questionnaire used by Graham et al. (2011) and includes 13 questions, of which 3 are mandatory: sex, age, and political affiliation. Age is required to ensure only participants 18 and older participate; sex and political affiliation are required because they are described group differences theorized to meaningfully differentiate perspectives of morality. The MFQ is a 31-item measure and its purpose is to "gauge individual differences in the range of concerns that people consider morally relevant" (Graham et al., 2011, p. 369). The MFQ contains two parts, one part that assesses the relevance of abstract moral concern to decisions as well as a part that assesses contextualized moral statements. The two sections contain a variety of statements relating to five moral concerns (i.e., Harm/Care, Fairness/Reciprocity, Ingroup/Loyalty, Authority/Respect, Purity/Sanctity). The TNTF includes 5 narrative-based scenarios and its purpose is to learn how and when people forgive others for wrongdoings across situations, intentions, and relationships. Participants are asked to imagine themselves experiencing five different scenarios and rate how likely they would be to forgive the transgressor if the event happened. The scenarios vary the relationship of the offender to the victim (i.e., family relative, friend, acquaintance), culpability of the offender (i.e., intentional, negligent), and admission of fault and apology (Boon & Sulskey, 1997). |

| Reminders for Exemption Category 2 Research: Surveys on sensitive or personal topics which may create stress to study participants are not exempt from IRB review. Exemptions in category 2 may be applied to research involving children for standardized educational tests or when the investigator observes public behavior but does not participate in that behavior or activity. If you are using a private list for recruitment you must have permissible access to make initial contact yourself. If you do not have permissible access to the list you must ask the custodian of the record to make initial contact for you (you will need to provide a description of how they will do this) and let the potential subjects contact you if they are interested. If you are mailing a survey to subjects and asking them to return it to you, or doing a phone interview, you must send or read a consent statement which includes the same information as the consent form but is not signed. No personal or sensitive information can be sought under this exempt category (doing so is not exempt research). Exempt research should not include direct identifiers or a link to identification. |
Name/describe the location of the participant during the data collection.

Participants will be at their personal computers taking the study.

If children are to be studied, in the textbox below describe the following:

1) Provide the specific age ranges of children to be included.
2) Describe the expertise of the investigative team for dealing with children in that age range.
3) Describe the adequacy of the research facilities to accommodate children of that age range.
4) Explain how sufficient numbers of children will be studied to answer the scientific question.
5) Explain the planned interaction directly with the children.
6) Describe how the interaction with children is limited to educational tests and/or passive observations of public behavior.

No answer entered.

Describe how potential participants will be identified and how/where approached for participation.

Recruitment will take place online on Google’s search ranking webpages and Google’s Display Network of affiliated websites that allow advertising from Google. This studies sponsored ads will appear to a sample of people who type in the search keywords: “forgive,” “forgiveness,” “forgiving,” “forgiven,” “emotion,” “moral,” “morality,” “ethics,” and “values.”

Are participants chosen from records? If you answer yes, describe in the following textbox the type of record, publicly available, etc.

No item selected from list

Explain the process for record recruitment. What records, e.g. medical, educational, employment, other? Are the records publicly available? If not, how do you have permission to access the private records (e.g. through your job, volunteer work, internship, etc.)

No answer entered.

Are you planning to send an email to the prospective participant? If so, describe your access to the individual's email address and approval for use of the email address from appropriate authority.

No answer entered.

Upload recruitment materials, (e.g. ads, letters, recruitment script, emails, etc.) to be used.

No attachments added.
Upload the measurements (surveys, questionnaires, etc.) to be used.

<table>
<thead>
<tr>
<th>Action Name</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privacy Statement</td>
<td>INV Study Materials</td>
</tr>
<tr>
<td>Questionnaire</td>
<td>INV Study Materials</td>
</tr>
</tbody>
</table>

If you have not previously answered, how will information be obtained?

Previously answered

Are you collecting any sensitive information? If yes, in the next question (textbox) describe the sensitive or private information being collected and offer a justification for the need of this information.

<table>
<thead>
<tr>
<th>Item selected:</th>
<th>Studies cannot be exempt if the participant's name (or other identifiers like birth date and initials, social security number, phone number, etc.) is linked to &quot;private&quot; or &quot;sensitive&quot; information (i.e., any information that could possibly affect the individual's reputation, employability, or financial standing).</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No answer entered.</td>
</tr>
</tbody>
</table>

In the following textbox, offer a justification for the need to collect sensitive or private information.

No answer entered.

If you have not previously answered, describe how the study will be conducted.

No answer entered.

How will confidentiality of data be maintained? If this does not apply or you have previously answered, skip the question.

All web pages will have SSL encryption and data passed between the participant's computer and the server will be encrypted. I will take reasonable technical, administrative, and physical precautions to keep participants' information secure. For example, I will store their responses in a password-protected database located in a secure data center. When they are participating in studies, their data is sent via SSL encryption which prevents other people from intercepting the data and identifying the participants. At the end of the survey, participants will only see aggregate graphs of how others who have responded to the survey performed.

Describe how you will maintain security, include in your answer where the data will be stored, duration of storage, password protection, locked, etc.

I will store all of this information on a secure server, protected by a firewall. SSL encryption is used to transfer participants' information to the server. I will not collect personal information other than general categories that participants fit under (e.g., sex, age, ethnicity). I will not place any cookies in their browser without your consent. When cookies are allowed they will only be used to manage each session they have at the web site. The cookies make sure that they and only they are able to view their scores. Once they close the site there will be no cookies.

You may not keep identifiable data in an exempt study activity.

Attach information sheet for the participant.

No attachments added.

Level of Risk
Select type of review.

| Item selected: | A risk is minimal where the probability and magnitude of harm or discomfort anticipated in the proposed research are not greater, in and of themselves, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. For example, the risk of drawing a small amount of blood from a healthy individual for research purposes is not greater than the risk of doing so as part of routine physical examination. Mark minimal risk. If your study activity is an online survey with no links to the participant, no sensitive question that risk breach of privacy, and the capacity to stop the survey at any time. Mark no risk. | No known Risk |

Supporting Documents

| Attach any supporting documents to the application. | Supporting documents may include, recruitment scripts, screening scripts, research instruments, questionnaires and survey tools, correspondence, emails or information or educational sheets to the participant, FDA documentation, protocol, Investigator Brochure, Performance Site permission/authorization correspondence or email; Certificate of Confidentiality, Limited Data Set agreement, etc. | No attachments added. |

Assurance when PI answers

The Principal Investigator agrees that the study procedures described in this submitted application have been designed to protect human subjects engaged in research in accordance with the standards set by University of Nevada, Reno, the United States Department of Health and Human Services, the Food and Drug Administration (when appropriate), the Department of Veterans Affairs (when appropriate), and any other sponsoring federal agency. In addition, agrees to accept responsibility for the scientific conduct of the research involving human subjects and to provide information and/or progress reports to the University of Nevada, Reno Institutional Review Board as required.

Item selected: Yes

Please sign completed application.

Signed Sunday, February 10, 2013 2:44:46 AM ET by Lindsey, Sam

By entering your password you are signing this document and verifying the accuracy of document and acceptance of assurance above.
Appendix I: IRB Approval

Certification of Approval for New Protocol: Exempt Research
Exempt Institutional Review Board
FWA00002306

Date: February 13, 2013
To: Sam Lindsey Social Psychology Program

UNR Protocol Number: 2013E089
Protocol Title: Moral Decisions in Online Communities
Type of Review: Exempt Category #2 Minimal risk
Meeting/Review Date: 02/13/2013
Approval Period: February 13, 2013 to February 12, 2016

This approval is for: This study activity will examine the morality-forgiveness link using the theoretical framework of Moral Foundations Theory (MFT). MFT predicts that individuals differ in how they perceive five foundational sets of moral concerns, including concerns related to Harm/Care, Fairness/Reciprocity, In group/Loyalty, Authority/Respect, and Purity/Sanctity. This study will include a demographic questionnaire, a 31-item measure and its purpose is to “gauge individual differences in the range of concerns that people consider morally relevant.”

Approved number of subjects: 1300
Approved documents: Privacy Statement (INV Study Materials), Questionnaire (INV Study Materials), Proposal (INV Study Materials), Information Sheet (INV Consent Materials)

The above referenced protocol was reviewed and approved by one of UNR’s Institutional Review Boards in accordance with the requirements of the Code of Federal Regulations on the Protection of Human Subjects (45 CFR 46 and 21 CFR 50 and 56).

Problems Researchers Must Report to the Research Integrity Office or IRB Staff
(to be reported as soon as possible, but within 10 business days)

New or additional risks: Outcomes that the principal investigator believes are unexpected, related to the research, and suggest the research may place participants or others at greater risk of harm than was previously known or recognized.
Changes to expected harms or benefits: Any report indicating the frequency or magnitude of harms or benefits may be different than initially presented to the IRB.
Privacy: Any invasion of privacy related to an individual’s participation in research.
Confidentiality: Any breach of confidentiality involving research data.
FDA Changes: Any change in FDA labeling or approval for a drug, device or biologic used in a research protocol.
Immediate harm: Any change to the protocol to eliminate an apparent immediate hazard to a research participant, prior to seeking IRB review and approval.
Prisoner: Any incarceration of a participant in a protocol not approved to enroll prisoners.
Sponsor: Any event that requires prompt reporting to the sponsor.
Sponsor: Any sponsor-imposed suspension for risk.
Protocol change: Any accidental or unintentional change to the IRB approved protocol that harmed participants or others, indicates participants or others may be at increased risk of harm, or has the potential to recur.
Device: Any unanticipated adverse device effect
Department of Health: Any non-compliance identified by Department of Health audit or monitoring
Federal agency: Any investigation or report by federal agency related to the research
Medical license or practice changes: Any loss of license or hospital privileges by any researcher on the study
Complaints: Any complaints that suggest participants or others may have been harmed or placed at increased risk of harm

**PI Responsibilities**

- Maintain an accurate and complete protocol file.
- Submit continuing projects for review and approval prior to the expiration date.
- Submit proposed changes for review and approval prior to initiation, except when necessary to eliminate apparent immediate hazards to subjects. Such exceptions must be reported to the IRB at once.
- Report any unanticipated problems which may increase risks to human subjects or unanticipated adverse events to the IRB within 5 days.
- Submit a closure request 10 days after project completion to the IRB.

Reference the protocol number on all related correspondence with the IRB. If you have any questions, please contact Nancy Moody at 775.327.2368.

**For Veteran’s Administration research only**

- VA Research: No
- Flag VA Medical Record: N/A
Appendix J: Problems with Web-Based Surveys (and my Solutions)

Some of the general disadvantages of web surveys are that those who participate may not be representative of the general population of adults because Internet users’ income level, race, and age vary disproportionately to the U.S. adult population (U.S. Census Bureau, 2010). Others have shown that Internet panels can be representatively similar to national samples (Evans & Kelley, 2011). It is also possible to statistically control underrepresentation if variables biasing the representativeness are included in the statistical model, unless the under-representation amounts to exclusion or unless functional form and interactions are complex (Laguilles et al., 2011). For higher education researchers, however, computers are accessible by most all college students such that the low cost of conducting web surveys outweighs the risk of error from low-to-medium response rates (Laguilles et al., 2011).

In more specific terms, there are a number of concerns related to web surveys that limit the generalizability of the mode and design to the general adult population. Concerns that are important to consider include coverage error, sampling error, measurement error, and nonresponse error (Dillman et al., 2009, pp. 338-339). I will discuss each of these in turn below.

**Coverage Error**

Coverage error occurs when every unit of a survey population does not have a known, non-zero chance of being included in the sample, and when those excluded differ from those included (Dillman et al., 2009). Using a web survey results in undercoverage of American adults. According to a February 2012 national survey by the Pew Internet & American Life Project, 80 percent of adults in the U.S. population had access to the
Internet (2012a). The 20 percent of adults who are least likely to have internet access include senior citizens, Spanish speakers, adults with less than a high school education, and individuals living in households which earn less than $30,000 annually (Zickuhr & Smith, 2012); therefore, using the Internet to survey respondents results in undercoverage of these four subgroups.

Despite undercoverage of certain subgroups, the web still is a good mode to use conduct surveys. The “digital divide” between those who have Internet access and those who do not has decreased over time. The percentage of American adults who use the Internet has increased from about 53 percent in 2000-2001, to 62 percent in 2002-2003, to 66 percent in 2004-2005, to 72 percent in 2006-2007, to 75 percent in 2008-2009 (Pew Internet & American Life Project, 2012b), and to 80 percent in 2012.

Subgroups including young adults, minorities, individuals with no college experience, and individuals living in households with low income levels have increasingly gained Internet access over time and were more likely than other groups to indicate that their smartphone was their main internet access source (Zickuhr & Smith, 2012). Furthermore, African Americans and Latinos who speak English are just as likely as Caucasians to own mobile phones, and are more likely than Caucasians to use their cell phones for a diverse range of activities, such as accessing the Internet (Zickuhr & Smith, 2012). This indicates that when designing my web survey, it is important to make the survey accessible to a wide range of mobile devices. I accomplished this by using a fluid-width, cascade-style-sheet (CSS) formatting and by pilot testing the display of the survey across a range of mobile devices.
**Sampling Error**

Sampling error occurs when only a subset of the survey population is surveyed instead of all members of the survey population such that the precision of the survey estimations is reduced (Dillman et al., 2009). Sampling error exists in all sample surveys since every single member of the population is not surveyed (Dillman et al., 2009). The goal is then to reduce (not eliminate) the sampling error as much as possible, and this happens by increasing the number of heterogeneous participants that are surveyed from the population within the budget constraints of the researcher, thereby decreasing the estimates of the margin of error (Dillman et al., 2009). However, because calculating sampling error requires probability sampling, in cases of self-selection or volunteer panels, as in this study, there is no basis for calculating sampling error, unless the panel itself is defined as the population of interest (Dillman et al., 2009).

**Measurement Error**

Measurement error results from inaccurate or imprecise answers to survey questions (Dillman et al., 2009). Measurement error often occurs because of poor question wording, effects of survey mode, or problematic behavior of the respondents (Dillman et al., 2009). Measurement error could have been introduced in my survey since I was not able to be present to answer questions that arise for participants, and since I could not make sure participants were completely devoted to the task because they responded remotely. These possibilities, though, are inherent to any web survey. To reduce measurement error, I instructed participants to focus on the survey and turn off any phones, computer programs, and avoid anything that may distract participants’ attention. I also used robust measures (e.g., Moral Foundations Questionnaire,
Transgression Narrative Test of Forgiveness) that have been tested and retested on
diverse samples, ensuring question wording was as simple and clear as possible.

**Nonresponse Error**

Nonresponse error occurs when individuals who respond to the survey differ from
those who do not respond in ways that are important to the study (Dillman et al., 2009).
In cases of self-selection, nonresponse error increases since self-selected participants may
have traits different from those who did not elect to participate. However, if self-selected
participants are different from those who do not participate in ways that are unimportant
to the study, nonresponse error is not problematic.

Demographic characteristics that were important to this study included sex,
political affiliation, education, income level, age, and religiosity. These demographic
characteristics were relevant to this dissertation because studies have shown women
forgive more than men (Exline & Zell, 2009; see Berry et al., 2001, for an important
exception). Similarly, older adults are more likely than younger adults to forgive (Cheng
& Yim, 2008). Since the Internet audience is generationally younger than U.S. adults
generally, it is likely the demographics of the Internet will offset such a relationship.
Based on Graham et al.’s (2011) study, political liberals were more likely than political
conservatives to seek out Haidt and colleague’s studies involving morality; though this
relationship is likely biased by Haidt recruiting from sources that have an audience
mostly comprised of liberal scholars (e.g., ted.com, edge.org). To reduce nonresponse
error, I statistically controlled for the potential biasing effects of the demographic
variables in this study.
Past studies have shown response rates using Google AdWords to be between 0.1% and 0.3% of potential participants to whom the recruitment ads were displayed (MarketingSherpa, 2005, Richardson, 2006, 2007). To increase the likelihood of potential participants responding and thus reducing nonresponse error, I used a persuasive form of communication in which I encouraged members of the sample frame to check how they ranked in comparison with others on topics that were personally relevant to them (e.g., message display of “Test how forgiving you are” for individuals interested in forgiveness).
Appendix K: Missing Value Replacement

I conducted tests to examine whether patterns existed in the missing data. I accomplished this by creating a dichotomous dummy variable, coded so that one group contained cases with given values on a variable, and the other group with missing values on a variable (Mertler & Vannatta, 2005). I determined that the assumptions of normality and homogeneity of variance were met. I then ran an independent samples t-test to determine whether significant differences existed between the group means.

Eleven people did not indicate their religiosity. I ran an independent-samples t-test to compare the forgiveness scores for people who indicated their religiosity, and people who did not. There was no significant difference in scores for people who indicated their religiosity ($M = 15.93, SD = 4.40$) and people who did not ($M = 15.54, SD = 3.14$; $t (237) = -.286, p = .775$, two-tailed) on the forgiveness dependent variable. The magnitude of the differences in the means (mean difference = $-.38$, 95% CI: $-3.03$ to $2.26$) was very small ($\eta^2 = .004$). Because there was no difference between those who did and did not indicate their religiosity, I can assume the missing data is random (Mertler & Vannatta, 2005).

Twelve people did not indicate their education. I ran an independent-samples t-test to compare the forgiveness scores for people who indicated their education, and people who did not. There was no significant difference in scores for people who indicated their education ($M = 15.97, SD = 4.37$) and people who did not ($M = 14.75, SD = 3.89$; $t (237) = -.950, p = .343$, two-tailed) on the forgiveness dependent variable. The magnitude of the differences in the means (mean difference = $1.22$, 95% CI: $-3.76$ to $1.31$) was very small ($\eta^2 = .0003$). Because there was no difference between those who
did and did not indicate their education, I can assume the missing data is random (Mertler & Vannatta, 2005).

Five participants did not indicate their relative income. I ran an independent-samples t-test to compare the forgiveness scores for people who indicated their relative income, and people who did not. There was no significant difference in scores for people who indicated their relative income ($M = 15.88, SD = 4.33$) and people who did not ($M = 17.20, SD = 5.35$; $t(237) = .669, p = .504$, two-tailed) on the forgiveness dependent variable. The magnitude of the differences in the means (mean difference = 1.31, 95% CI: -2.56 to 5.19) was very small ($\eta^2 = .002$). Because there was no difference between those who did and did not indicate their relative income, I can assume the missing data is random (Mertler & Vannatta, 2005).

After showing no significant difference between the missing and present cases, I chose to replace the data with the group median. Even though the three control variables with missing cases contained no more than 5% missing cases each in which I could have deleted the cases (Mertler & Vannatta, 2005), I chose to keep them because if I deleted all the remaining missing cases, I would only have been left with 200 respondents. Because one of my analyses (SEM) requires at least 232 participants to detect a moderate effect, I needed to keep all cases. I chose to replace missing cases with the group median as opposed to the group mean because the variables with missing values were categorical, and a mean for the variables would not have been logical. To establish groups, I sorted the variables by sex (2), political affiliation (6), education (5), relative income (10), and then by age. Each of the missing cases fell within this 2 X 6 X 5 X 10 grouping. A median was detected from the five cases above and below the missing case, and was
chosen as the value for the missing variable. Median replacement of missing values is more appropriate than replacing with column means in situations involving group comparison analyses, and avoids reducing the variance as much as column mean replacement (Mertler & Vannatta, 2005).