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GOD ON TRIAL: ARE OUR MORAL JUDGMENTS DIFFERENT BASED ON WHETHER WE ARE JUDGING GOD OR HUMANS?

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GOD ON TRIAL: ARE OUR MORAL JUDGMENTS DIFFERENT BASED ON
WHETHER WE ARE JUDGING GOD OR HUMANS?

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy
in the College of Arts and Sciences at the University of Kentucky

By
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Lexington, Kentucky

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2017

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ABSTRACT OF DISSERTATION

GOD ON TRIAL: ARE OUR MORAL JUDGMENTS DIFFERENT BASED ON WHETHER WE ARE JUDGING GOD OR HUMANS?

Past work in moral psychology has demonstrated that individuals' judgments of other humans in hypothetical moral scenarios can be influenced by variables such as intentionality, causality and controllability. However, while empirical studies suggest that individuals similarly hold nonhuman agents such as robots morally accountable for their actions to the extent that they are perceived to possess humanlike attributes important for moral judgments, research is scant when God is introduced as a nonhuman agent. On one hand it is proposed that because people anthropomorphize God, our moral intuitions of humans and God tend to show similar effects. In this case, both humans and God should be morally blamed when they are perceived to have engaged in a moral transgression. On the other hand, opinion polls suggest that the public at large generally agrees that belief in God(s) is necessary for one to be moral. By extension, our moral intuitions of God and humans should diverge significantly. Both perspectives offer different predictions about how people morally judge God and humans. This study attempts to test both perspectives by examining whether moral judgments of God show similar patterns to the moral judgments of a human (anthropomorphic perspective) or if judgments are biased toward God even when an immoral deed has occurred (Divine Command perspective). A 2 (Target: human vs God) x 2 (Morality of scenario: moral vs immoral) x 3 (Scenarios: sexual assault vs robbery vs murder) mixed model design was conducted to examine both hypotheses. Exploratory variables (i.e., Morality Founded on Divine Authority (MFDA) scale, religiosity and gender) were also included to test for potential moderation effects. Initial results suggest that people's moral intuitions of humans and God do diverge, and this effect was moderated only by the MFDA scale. Limitations, implications and possible alternative explanations are discussed.

KEYWORDS: Religion, Morality, Anthropomorphism

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September 20, 2017

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Chapter 1: Introduction

“Is the pious loved by the Gods because it is pious, or is it pious because it is loved by the Gods?”

Plato

The Euthyphro dilemma, a long standing question about the nature of goodness, is a topic of contention pertinent to both the philosophy of religion and morality. The first half of the dilemma (i.e. is the pious loved by the Gods because it is pious) questions whether morally good acts are loved by the Gods because they are, by nature, morally good. This perspective suggests that there are moral standards of right and wrong independent of God’s command. The latter half (i.e. is it pious because it is loved by the Gods) on the other hand, asks whether an act is only morally good because it is commanded by God. Rightness or wrongness here is based only on God’s will. Socrates’s question to Euthyphro led various philosophers to develop numerous criticisms and possible (imperfect) resolutions to each horn of the dilemma (e.g., Alston, 1990; Mawson, 2008). While most of the philosophical work consists of articulating and elaborating on how a conclusion to the dilemma can be reached, a more systematic and empirical examination based on people’s intuitions about the dilemma is usually absent. Sometimes philosophers may be right about people’s intuitions, sometimes they may be wrong. Thus, empirical methods associated with psychology when used rightly, can provide valuable data to inform research on philosophical questions (i.e. experimental philosophy). That in no way discounts

the converse – the contribution of philosophy to psychologically research on human thoughts and behaviors (Gopnik & Schwitzgebel, 1998).

This paper is an examination of people's perception of the dilemma and more specifically, if their moral intuitions and judgments differ based on whether they are judging God or another human. I begin by reviewing empirical research on how people come to a moral judgment. Next, I offer two plausible competing perspectives clarifying how people might intuit about and morally judge God. Each perspective, in a way, represents each side of the Euthyphro dilemma. One perspective proposes that people tend to imbue nonhuman agents such as God with humanlike characteristics (e.g., intentions, emotions). As a result, our moral intuitions of both God and humans should be more or less identical. If a human is judged to be morally blameworthy for causing harm against someone else, God, put in the exact situation, should be judged in a parallel fashion. The alternative perspective proposes that people perceive God differently from humans. God, in this case, is an omnipotent, omniscient and omnibenevolent supernatural agent. This theological depiction suggests that God has sovereignty over what can be considered morally good or bad. Humans however, are bound by God's divine commands. Consequently, our moral intuitions of God will be different from our intuitions of other humans, with the effect that our moral judgments of God and humans should diverge. While a human in this case is judged to morally blameworthy for causing harm against someone else, God will not be morally blamed in the exact situation.

Psychology Of Moral Judgment

Within moral psychology, there are several models trying to explain how moral judgments work. The information model seeks to identify the critical elements of an agent's behavior (e.g., agent's causal role, intent and degree of volition) that guide people's moral judgments, especially in responsibility judgments (e.g., Shaver, 1985; Weiner 1995; Cushman 2008). A subset of the information model is the biased information model which specifies how moral judgments can precede, rather than result from, identification of the components required for moral judgments (e.g., Alicke, 2000). In contrast, the process models place significant emphasis on describing the psychological processes –intuitive and automatic or deliberate and controlled– that give rise to a moral judgment instead of what information people seek in order to make a moral judgment (e.g., Haidt, 2001; Greene, 2007). More recently, an integrative model has been proposed, taking into account both the informational and process components of the moral judgment process (Guglielmo, 2015; Malle, Guglielmo & Monroe, 2014).

According to the integrated model, prior to making a judgment, a perceiver has to first detect that a negative event or outcome has occurred. Detection of a negative event is considered to be an intuitive process. The perceiver then considers all the relevant information that can help to clarify an agent's involvement in the event, either via an intuitive or deliberate process, before judgments of blameworthiness are made. However, the integrated model proposes that the critical components are processed in a hierarchical order while

other models see the informational components as being processed simultaneously (e.g. Alicke, 2000). Instead of debating about which type of processing (i.e., hierarchical vs simultaneous) makes more sense, I will consider the critical components –intentionality, causality and controllability– that are common to most, if not all, the models.

Intentionality

One of the most studied concepts related to attribution of blame and responsibility is intentionality. As accurate judgments of intentionality is important for social interactions (Carpenter, Akhtar & Tomasello, 1998), the ability to correctly infer intentionality develops at a relatively young age (Wellman & Phillips, 2001). *Ceteris paribus*, intentional acts will lead to higher degrees of blame than unintentional ones (e.g., Darley & Shultz, 1990; Young & Saxe, 2009). However, justifiable reasons for the intentional act, such as inflicting harm during acts of self-defense to protect oneself, may attenuate the degree of blame.

Causality

When a negative event has been detected, there is a need to identify who or what caused the event. If the cause is found to be natural (e.g., dying in your sleep), blame is usually not assigned. If an agent is perceived to play a causal role, he/she will be blamed (Shaver, 1985). When assessing causal responsibility, however, it is not always the case that an agent is either the only cause or not the cause at all. There are situations where multiple causes are present or when there is uncertainty as to the exact cause of the event. In cases

whereby multiple agents are involved, moral blame and responsibility will be moderated according to the degree of perceived causality for each agent (Spellman, 1997).

Controllability

The degree of personal control over an outcome is another important aspect of blame ascription (Weiner, 1995). Moral judgments will vary according to how much control the agent has in relation to the negative event, be it to influence an outcome, according to one's desire or the ability to prevent undesirable ones. Moral transgressions due to uncontrollable impulses usually lead to a mitigation of blame (Pizzaro, Uhlmann & Salovey, 2003).

The focus of the moral judgment process on primarily negative events and thus moral blame, does not discount similar influences on positive events and moral praise. However, there has been comparatively less work on the positive side of morality. While individuals are motivated to find an agent(s) to be responsible when a negative event occurs (Alicke, 2000), it is not known whether individuals are similarly motivated to find an agent(s) to praise when a morally positive event is present. For example, when someone embezzles money from a charity organization, we want to be able to identify the person in order to shame, blame and put him/her to jail. Conversely, someone donating the same amount to a charity organization might garner less attention and motivation to ascertain the person's identity in order to praise his/her actions. One plausible explanation for why we pay closer attention to, and processing negative events more rigorously than positive ones, is perhaps the evolutionary advantages one can

gain by reacting better and faster to threats than positive events (Baumeister, Bratslavsky, Finkenauer & Vohs, 2001). A person who discounts a positive outcome will, at the worst, experience significant regret. In contrast, a person who ignores the threat of a negative event may die as a result of his/her disregard. Furthermore, even when the motivation to find agents for positive events is present, there is an asymmetry in how negative and positive events elicit blame and praise respectively. For instance, even though a moral transgression originating from uncontrollable impulses will lead to a mitigation of blame, positive impulsive actions do not diminish moral praise (Pizarro, Uhlmann, & Salovey, 2003). When it comes to intentionality, the intensified evaluation of intentional (vs. unintentional) action is stronger for the blaming of a negative than the praising of a positive action (Ohtsubo, 2007; Malle & Bennett, 2002). In sum, although there are some studies showing how the effects of controllability and intentionality can affect judgments of praise, the amount of evidence pales in comparison to moral blame.

In conclusion, insofar as the perceiver is able to assess an agent based on all or a combination of the critical components reviewed above, a moral judgment can be made about the agent. While models of moral judgment are embedded within the human context, a nonhuman agent who is perceived to possess the requisite components can potentially be judged as if it was a humanlike agent. In the next section, I look at how a nonhuman agent like God can fit into the human context of moral judgment.

God As A Mindful Agent

Mind perception, also known as theory of mind, is an important socio-cognitive competency which entails ascribing mental states to others (Waytz, Gray, Epley & Wegner, 2010). It allows us to better navigate the social world by correctly inferring what others intent to do in a particular situation, or recognize what others know about a situation so that we can react accordingly (e.g., if you know that the person approaching you has the intention to rob you, you can react by running away). Given the importance of theory of mind, it should follow a typical developmental timeline. Consistent with this reasoning, children as young as 18 months are able to reliably differentiate between a goal directed and unintentional action of an adult (Meltzoff, 1995). By about 2 years of age, children begin to describe the actions of others in terms of mental states (he went to the bathroom because he wanted to pee) and are able to comprehend what frustration is when people's desires are stymied (e.g., Bartsch & Wellman, 1995).

A concept closely related to theory of mind is anthropomorphism. The essence of anthropomorphism lies in our tendency to attribute humanlike characteristics such as intentions, desires and emotions to nonhuman agents (Epley, Waytz & Cacioppo, 2007). There are multiple pathways to anthropomorphism. Cognitively, the accessibility of anthropomorphic knowledge is a major determinant. Due to the lack of accessible information about nonhuman agents, general knowledge about humans and the self serves as the basis for generalizing properties of humans to nonhuman agents. This is because while we hold a detailed knowledge of our own conscious experiences

as a human, our access to that of a nonhuman agent is constrained by our limited interactions (Epley et al, 2007). However, as we develop, we become exposed to a wider range of nonhuman agents (e.g., computers, Gods, cars and dogs). As we gain a deeper understanding about them, knowledge about humans or the self will no longer be the only method of making inferences about nonhuman agents. Instead, there will be a shared activation of information about humans and nonhuman agents, both of which will influence the anthropomorphic process. Therefore, the propensity to anthropomorphize should vary across the developmental process, with its likelihood highest at the early stage. In line with this reasoning, studies on 4 year old children across different cultures have shown that children frequently attribute false beliefs to both humans and several nonhuman agents, including God (Lane, Wellman & Evans, 2010; Kiessling & Perner, 2014). By the age of 5, they become less susceptible, attributing greater knowledge to God than to other humans (e.g., Knight Sousa, Barrett & Atran, 2003; Markris & Pnevmatikos, 2007).

Mind perception is a crucial stepping stone toward anthropomorphism because we initially only reason about the minds of other humans (mind perception), before extending it to nonhuman agents (anthropomorphism). Therefore, both concepts should involve the same mental process because they are related to how we think about others, humans and nonhumans. Indeed, making judgments about other humans as well as making anthropomorphic judgments about nonhuman agents involve the same neural system (Castelli, Happe´, Frith, & Frith, 2000). Additionally, autistic people who are shown to have

difficulty attributing mental states to agents (ToM deficits), also showed similar deficits when reasoning about nonhuman agents (Heberlein & Adolphs, 2004).

Together, research on mind perception and anthropomorphism converge to show that humans have a propensity to imbue nonhuman agents like God with humanlike qualities, some of which are the critical components (e.g., intentionality) that shape moral judgments, as described previously. Studies on mind perception reveal that God is rated high on agency, a dimension that involves the capacity to plan, think and act (Gray, Gray & Wegner, 2007). Qualities such as self-control, morality, planning and thought are part of what it means to be agentic. All these qualities are in turn relevant for assigning moral blame to someone. For instance, the lack of self-control can cause someone to impulsively engage in immoral behaviors and be blamed as a result. Perception of agency was also found to be positively and highly correlated ($r=.82$) with deserving of punishment for wrongdoing (Gray et al, 2007). Therefore, the more agency one is perceived to have, the more likely they will be blamed for a moral transgression.

Studies on human-nonhuman interaction show similar results. For example, when computers are credited with some form of agency, a computer error resulted in participants blaming the computer system itself for the error (Friedman, 1995). Likewise, when a robot named Robovie was thought to have caused a minor moral infraction, Robovie was held partially accountable for its actions, but significantly less so than when a human was the cause (Kahn et al, 2012). However, to the extent that a robot looks humanlike (mechanical robot vs

humanoid robot), judgment of blame shifted closer to that of a human (Malle, Scheutz, Forlizzi & Voiklis, 2016). This is because humanoid robots are perceived to have greater agency based on them looking more like humans, corroborating research on human-nonhuman interactions, and so robots are blamed less than humans for their comparative lack of agency.

In the dehumanization literature, people also differentially attribute uniquely human qualities (e.g., civility, rationality), a concept closely related to agency, based on group membership. Attribution of uniquely human qualities to different groups was found to be positively correlated with judgments of blame for mildly immoral behaviors (e.g., making a promise and not keeping it) (Bastian, Laham, Wilson, Haslam & Kovel, 2011). Experimentally manipulating the level of uniquely human qualities in a target showed similar results. The target described with more uniquely human qualities received more blame for an immoral act than a target having less uniquely human qualities. The results are, however inconsistent with studies on race. In a study looking at the mental association between Blacks and ape, both White and Non-White participants primed with Black faces were quicker to identify ape images. Furthermore, priming ape images led to participants believing that the beating a Black suspect received was justified (Goff, Eberhardt, Williams & Jackson, 2005). Outside of laboratory experiments, data from actual criminal sentencing records in Pennsylvania for 1989-1992 showed that young black males are sentenced more harshly than other groups (Steffensmeier, Ulmer & Kramer, 1998). While being perceived as apelike should be associated with less agency and hence less moral blame and

punishment, the opposite occurred when looking at actual sentencing records. What could account for this discrepancy?

One issue with the paper by Bastian and colleagues (2011) is the type of social groups presented in the correlational study and the targets used in the experimental study. In the correlational study, groups low on unique human traits included the mentally ill and disabled. In the experimental study, the targets were all given names more common for Whites (e.g., Benjamin, Andrew). Both studies did not specifically include Blacks as a comparison group. A plausible explanation for the difference in moral blame and punishment despite Blacks, the mentally ill and the disabled all being categorized as lower in uniquely human qualities is the threat they are perceived to pose. For Blacks, they are often viewed as a threat to physical safety, with the result that feelings of fear are triggered (Cottrell & Neuberg, 2005). Possibly, the increase in levels of punishment and blame can serve as a form of deterrence, which concurrently assuages their fear. The mentally ill and disabled on the other hand, are probably not seen as a threat because of their warmth, but lack of competency, inducing feelings of pity and sympathy (Fiske, Cuddy, Glick & Xu, 2002). In turn, level of blame and punishment are reduced for these groups. While the agency-blame relationship is generally robust, Blacks may be an exception rather than the norm.

In sum, by anthropomorphizing God, we intuitively perceive God and humans as more alike physically, mentally and perhaps even morally. Under this perspective, both humans and God trigger similar moral intuitions when put in

identical moral situations. Therefore, if humans can be morally blamed through the moral judgment process for their moral actions, to the extent that God is seen as humanlike, the same moral judgment process should extend to God for the same actions.

Divine Command Theory & Motivated Reasoning

“We read the Ten Commandments, and I pointed out how slavery is condoned, and we read Judges 19, a particularly heinous story about the gang rape of a woman...For one female African American student in the class...she blurted out, “This is the Word of God. If it says slavery is okay, it is okay. If it says rape is okay, rape it okay.”

(Anderson, 2009, pg. 3).

Divine Command Theory (DCT), generally speaking, is the meta-ethical theory contending that so long as we trust God’s wisdom to be perfect and His character perfectly just, we are morally obligated to follow His commands. From this perspective, if God forbids theft for example, no situation would justify stealing, even if it meant saving someone from hunger. And as the incident recounted by a Professor of the Old Testament suggests, the student’s notion of absolute biblical authority is quintessential of DCT. How and where do people, and religious believers more specifically, come to believe in DCT?

Underlying the acquisition of DCT beliefs, just like another other beliefs, is social learning – defined as the learning that is influenced by our observation of and/or interaction with another individual or individuals. There are multiple social learning strategies a person can take advantage of in order to obtain valuable

information important for the self (Rendell, Forgarty, Hoppitt, Morgan, Webster & Laland, 2011). For example, people adopt the beliefs of their immediate family (kin-based learning) because it takes fewer resources to do so as family members are frequently within the immediate vicinity (Henrich & Henrich, 2010). Another strategy is learning from an individual based on how successful or prestigious he/she is, in order to increase one's chances of success in an activity (Henrich & Gil-White, 2001).

Therefore, people most likely learn to endorse DCT based on their early exposure to a religious environment (e.g., family and church) that emphasizes God's omnipotence, omniscience and omnibenevolence. Even though there is no direct evidence on how DCT beliefs can be passed on from one individual to another, empirical evidence is readily available on the type of learning strategies that can facilitate the transmission of religious beliefs. From there, we can infer that the strategies important for transmitting religious beliefs should also extend to DCT beliefs. After all, it is not a far cry to suggest that only a small step is required for one to move from believing in God to believing that God's words are the ultimate truth.

One important strategy is kin based learning as mentioned previously. Studies have shown how family background can influence one's religious development and orientation (e.g., Flor & Knapp, 2001; Hunsberger & Brown, 1984; Milevsky, Szuchman & Milevsky, 2008). The study by Flor & Knapp (2001) for example, found that parents' religious behavior was a significant predictor of both adolescents' religious behavior and the importance of religion to them. One

can interpret the results as suggesting that for children, parents are important role models for the internalization of their religious beliefs and behaviors. Another learning strategy for belief acquisition is credibility enhancing displays (CREDs) of one's religious beliefs (Henrich, 2009). CREDs proposes that people have a motivation to avoid being deceived by others. Instead, we are biased toward adopting the beliefs of individuals who back up their talk with action. For example, an individual is more credible if he/she backs up his/her religious belief by attending religious services regularly or performing religious rituals integral to that religion. Insofar as people within one's religious environment (e.g., parents, religious leaders and members) practice what they preach, one is more likely to adopt those beliefs. Consistent with CREDs as a learning strategy, exposure to credible religious displays predicted the acquisition of religious beliefs (Lanman, 2012; Lanman & Buhrmester, 2017). With respect to DCT beliefs, if people within one's religious environment, and especially religious leaders, can credibly display any form of behavior in line DCT beliefs (e.g., Never lying because God says it is wrong), one is more likely to also endorse that belief and live by it.

Once people start adopting DCT beliefs, additional psychological benefits may follow. God's divine commands provide a prescriptive roadmap of the moral rules to follow in order to lead a moral life (Silberman, 2005). With unambiguous moral rules people can better master their surroundings, making them feel in control. Consistent with this reasoning, research has shown that religious belief is associated with a sense of control and order (e.g., Inzlicht, McGregor, Hirsh & Nash, 2009; Kay, Gaucher, Napier, Callan & Laurin, 2008). This personal sense

of control has a positive impact on our wellbeing, both physical and psychological (Janoff-Bulman, 1992). Thus, people may obtain positive benefits by endorsing DCT as a moral worldview that empowers them with feelings of control.

However, when their DCT belief is threatened by conflicting information, people may start engaging in motivated reasoning in order to restore control. Motivated reasoning describes how individuals have a tendency to converge on their assessment of relevant information about an event, or person, in order to reach a preferred and predetermined conclusion (Kunda, 1990; Ditto, Pizzaro & Tannenbaum, 2009). When the conclusion is germane to morality (e.g., God is perfectly morally good and so are His commands), information and beliefs relevant to moral judgments may be differentially processed, reinterpreted and justified in order to support this preferred and predetermined moral conclusion about God. For instance, presenting people with information that God should be blamed for causing a negative event, will trigger a motivation to generate moral arguments in defense of God and their DCT belief.

Suppose one is provided with information that God allowed an avalanche that subsequently killed a person. Following from the criteria for judgments of blame, God should be responsible because 1) the avalanche was intentionally allowed to take place 2) God was the agent indirectly causing it and 3) the all-powerful God could have easily prevented the avalanche but failed to do so. However, because this scenario conflicts with our desired conclusion of God and DCT, motivated reasoning is activated. Here, I consider two plausible arguments in defense of God's morality and DCT 1) "*God intended for this avalanche to*

happen in order to prevent a greater harm from happening’ – greater good hypothesis. The conclusion is protected because God’s intentions and actions are interpreted to be inherently good. This form of justification has an added psychological advantage of being unfalsifiable (i.e. we cannot test the greater good hypothesis), allowing believers to maintain or even strength their DCT beliefs (Friesen, Campbell & Kay, 2014). 2) “*The person who died must have died for a reason. He must have done something wrong to deserve it*”. This argument is similar to the idea of victim blaming in rape cases. People blame the victim because innocent victims are a threat to our just world beliefs (Lerner & Miller, 1978). Likewise, blaming the victim here protects believers’ DCT beliefs by arguing that it is only right to punish those who deserve it.

In sum, this perspective proposes that when our DCT belief is threatened, people will be motivated to protect their desired and predetermined conclusion about God. As a result, people become more flexible in reassessing and justifying the disconfirming information that may be indicative of God’s immorality. Eventually, moral judgments of God will adhere to DCT with the effect that God’s moral goodness is upheld.

Overview Of Both Perspectives

The distinction made between each account about people’s moral intuitions of God will lead to divergent predictions; for people who anthropomorphize God, their moral intuitions of God and humans are highly identical. As a result, the critical elements that shape moral judgments for humans (i.e., intentionality, causality and control) will be assessed equally for

God. Consequently, judgments of moral blame and responsibility for God will converge with judgments for other humans in the event of a moral transgression. For people with a belief in DCT, their moral intuitions of God and humans will bifurcate. Thus, the moral judgment process will remain relevant for humans, but it should not apply to God. Instead, moral judgments will be based on a predetermined version of a morally perfect God. Accordingly, God will be absolved of blame for a moral transgression, but humans will assume moral responsibility based on evaluation of their intentionality, causality and controllability. There should not be any difference in moral judgments for both accounts when the event is morally good.

Pilot Study

A pilot study was conducted as an initial investigation of the two competing accounts and their predictions. Three hundred and ninety students from the University of Kentucky participated in this study. Research in moral psychology uses the trolley problem as a moral dilemma to investigate how moral judgments work. In the typical trolley problem, participants are told that a train is approaching a footbridge out of control with 5 people on the track. A heavy weight can be dropped onto the track to stop the train and as it happens, there is a large man on the bridge. In the utilitarian condition, the target decides to push the large man over to stop the train, killing him in order to save 5 lives. In the deontological condition, the target refrained from pushing the large, letting the 5 die. Research has shown that a majority of the participants rated the target as less moral in the utilitarian condition compared to the deontological condition. In

the pilot study, the human target was swapped for God, keeping everything else the same.

Results using Bayesian analyses are consistent with the DCT account. When asked to rate the morality of God's actions in the trolley problem in which five lives can be saved by pushing one man in front of a speeding trolley -an action typically seen as less moral than simply letting the trolley run its course- participants rated God as equally moral regardless of whether or not He sacrificed one life to save five.

Using the trolley problem as a stimulus to examine moral judgments is not without problems. One of the most glaring methodological issues pertains to external validity. External validity refers to how well the effect found in a study can be generalized to other situations and the population of interest. Arguments with regards to low external validity stems from empirical studies showing that the trolley problem 1) is perceived as being non serious or even humorous rather than sobering. When a situation contains elements of humor, the decision making process associated with judgments of morality may be altered (Rozin & Royzman, 2001) 2) is unrealistic with respect to the moral situations one might encounter in real life (Bennis, Medin & Bartels, 2010). For example, participants may be suspicious of how the large man is actually able to stop the train and 3) because of the unrealistic nature, the trolley problem may not activate the same psychological processes as a more realistic moral situation (Bauman, McGraw, Bartels, Warren, 2014). Due to issues of external validity arising from the trolley problem, I attempted to create more realistic moral scenarios in the current study

in order to allow us to increase the generalizability of the findings. Additionally, although the pilot study was a comparison of the push and not push scenarios, a human target was not included. This means that the pilot study is restricted to only testing patterns of moral judgment across the moral and immoral scenarios for God. By including a human target in the current study, a comparison between God and the human target can be more explicitly made in order to examine if the patterns of moral judgments differ not just according to the morality of the scenario but also between both agents.

Current Study And Predictions

Confirmatory Analyses

The current study is a 2 (Target: human vs God) x 2 (Morality of scenario: moral vs immoral) x 3 (Scenarios: sexual assault vs robbery vs murder) mixed model design. From the anthropomorphic God perspective, patterns of judgment for the human and God targets will be similar for both the moral and immoral conditions. That is, moral judgments of humans and God will be equally high in the moral condition across scenarios but equally low in the immoral condition. In this case, only the main effect of the morality variable will be significant. For the DCT perspective, moral judgments of humans and God will be also be equally high in the moral condition. However, there will be a significant interaction effect between target and morality, such that God will be rated as highly moral in the immoral condition but humans will be rated as highly immoral. Since the pilot study provided initial evidence for the DCT perspective, I hypothesize that there

will be a significant interaction effect between target and morality. However, I am agnostic about whether moral judgments will vary across the moral scenarios.

Exploratory Analyses

The main reason why all other analyses are exploratory other than the main interaction effect is the sample size of the study. According to Simonsohn's (2014, blogpost), if an initial study has a total of 100 participants for a simple two cell design ($n=50$ per cell), then study two which typical is a 2×2 design requires at least $50 \times 2 \times 4 = 400$ participants. With a three way interaction, a minimum of 1600 participants are needed. Based on this mathematical derived logic, I initially intended to collect data for 400 participants in order to examine the 2×2 design that I proposed. Only one moderator (i.e., morality founded on divine authority) was added, and additionally as an exploratory, instead of confirmatory, variable due to the immense number of participants needed. Even with just one moderator variable, the already smaller than expected sample size (expected 400 vs actual 280) makes any moderation analysis less than ideal. As it happens, even if power is just 20%, 1 out of 5 studies will work (Simonsohn, 2014) but the results will not be meaningful. Although the committee members suggested that an anthropomorphism scale be added, after careful consideration, I decided against it because small studies with multiple variables have higher chances of obtaining type 1 error (Ioannidis, 2005).

Morality Founded on Divine Authority Scale

An exploratory analysis looking at participants' belief that morality is founded on divine authority (Piazza & Landy, 2013) will be included as a

moderator. This scale measures how much participants believe that God's commands are divine, morally true and to be followed. MFDA beliefs should moderate the interaction effects such that participants who are +1SD in MFDA beliefs will rate God as more moral than humans in the immoral condition but there will be no effect for people who are -1SD in MFDA beliefs. At this moment, only one paper has validated the measure, so there is limited evidence examining its convergent and divergent validity. Therefore, the scale was included as an exploratory variable because, at this stage, there is insufficient evidence to propose that the moderation analysis be confirmatory.

Religiosity

To the extent that religiosity is correlated with MFDA beliefs, we should also expect that religiosity should moderate the interaction effect such that participants who are +1SD in religiosity will rate God as more moral than humans in the immoral condition but there will be effect for people who are -1SD in religiosity.

Gender Differences

All analyses looking at gender differences will be considered exploratory because there were no a priori hypotheses about gender differences in this study. Gender differences as a moderator was added primarily due to the skewed gender ratio.

Chapter 2: Methods

Data Collection

My initial aim was to collect four hundred participants for the study to ensure that there will be at least one hundred participants per condition for the main 2 x 2 design analysis. Data collection started in February and ended the first week of April. However, due to the fact that the subject pool tends to be smaller during the spring semester, I was unable to achieve my target of four hundred participants.

Participants

Initial Profile

A total of two hundred and eighty students from the University of Kentucky initially participated in the study for course credit. Sixty three were males, two hundred and sixteen were females and 1 participant did not indicate the gender. Participants ranged from 18 to 25 years old ($M = 19.08$, $SD = 1.11$). The religious composition is as follows; 81.1% Christians, 1.1% Hindu, 2.9% Muslim, 6.8% none, 2.9% Atheist, 5% Agnostic and 0.4% did not indicate a religion.

Oddness Check

At the end of the survey, participants were asked in general terms “Did anything seem odd about this study?”. This was meant as an oddness check for the moral scenarios. Despite my best efforts to ensure that the moral scenarios are as realistic as possible, reservations about their realism would undoubtedly be raised by some participants. The potential problem with explicitly stated reservations from participants is whether it might affect their moral judgment

process. Granted, it is also possible that other participants had the same thoughts but did not state them in the check question. However, having college students explicitly state their reservations about the scenarios for an online psychology survey probably meant that some minimum threshold of realism has been violated. With that in mind, if participants explicitly stated, one way or another, that they found the scenarios to be sufficiently odd or unrealistic, they were removed from the analyses. For instance, one participant who was excluded wrote that “The scenarios seemed odd”. Based on my subjective judgment, a total of seven participants were removed from the analyses.

Furthermore, after going through the oddness check question, I decided to also remove participants from analyses if they thought the study might be defending/attacking atheism, God or religion. This might potentially result in a contrast effect whereby participants either intensify or diminish their moral judgment ratings to defend their stand on the issue. For example, if religious participants felt that the scenarios were an attack on God, they might defend God by rating God even more moral than they normally would. Based on my subjective judgment, 2 participants were removed from the analyses.

At the end of the survey, a suspicion question “Please speculate what you think this study was about” was included to examine whether participants were able to correctly infer the study’s hypothesis. Going through the suspicion question, a majority of the participants were at least able to say that the study is about God/religion and morality. Some participants’ speculations were more precise, stating that “this study was about whether or not God provides humans

with moral laws or if they are naturally just a part of us". However, even if participants were able to accurately infer the research hypothesis, issues associated with demand characteristics should be unlikely. It seems unlikely that participants –theists or atheists– would modify their personal moral judgments based on the purpose of the study. Therefore, participants who correctly inferred the purpose of the research study were not removed from the analyses.

Nonbelievers

Nonbelievers in this sample were participants who indicated as either none or atheist in the demographic question on their religion. A total of only twenty seven participants fell into this category because students in the University of Kentucky are more likely to be religious than not. During the recruitment process, there was no explicit intention to filter out nonbelievers because the study is interested in people's moral judgments, not just believers'. Additionally, because the proportion of nonbelievers in the University of Kentucky is relatively small, actively recruiting nonbelievers for the purpose of statistical comparison is going to take a lot of resources. However, even if a comparison is not feasible, including nonbelievers will give the study the full range of religiosity to work with. By including nonbelievers, any moderation effects due to religiosity can be explored more appropriately. This can give us some clue, however little, as to how a variation in religiosity might be associated with moral judgments of God. Hence, nonbelievers were not removed from the final the analyses.

Final Profile

A total of nine participants were removed from the sample, leaving two hundred and seventy one participants for analyses. Sixty one were males, two hundred and nine were females and 1 participant did not indicate the gender. Participants ranged from 18 to 25 years old ($M = 19.07$, $SD = 1.12$). The religious composition is as follows; 81.5% Christians, 0.7% Hindu, 3.0% Muslim, 6.6% none, 2.6% Atheist, 5.2% Agnostic and 0.4% did not indicate a religion.

Skewed Gender Ratio

As noted above, only sixty one or 22.5% of the participants were males. This is likely because the subject pool consists mainly of students from the psychology department and a large proportion of the students in psychology are females. Therefore, the results of the study may be more generalizable to females than males. With the skewed gender ratio, additional analyses by gender will be conducted to check for any potential gender differences.

Procedure

Participants who signed up for the online study were given an online link which they could use to complete the survey at any time. At the start of the survey, participants were randomly assigned to one of the four conditions. For each condition, participants read 3 scenarios, randomly ordered, and then answered a four item scale used as the dependent measure. Participants then completed a 20 item scale measuring their belief that morality is founded on divine authority (MFDA). The survey ended with basic demographic information and a suspicion check question.

Manipulations

Moral Scenarios

3 different moral scenarios were created for the purpose of this study. In order to increase external validity that the pilot study lacked, I attempted to create scenarios that sounded more realistic and had a higher chance of occurring in real life than the trolley problem. The scenarios I decided on were related to sexual assault, robbery and murder. All of the scenarios are situations that people can and do face in real life, making them potentially more relatable when having to make moral judgments about them. Even if participants have not personally experienced any of the moral situations, they are common news in the media, thereby increasing their mundane realism compared to the trolley problem. Furthermore, each scenario is associated with a different moral transgression so that effects can be better generalized to other situations and not limited to a specific moral transgression. Lastly, the moral scenarios are some of the most unambiguous in terms of their moral wrongness, hence they are more salient and harder to ignore when making a moral judgment, compared to the trolley problem.

Due to the complex nature of the study, tradeoffs had to be made in the process of creating the moral scenarios. One of the difficulties in this study was how the scenarios must not only be as realistic as possible but remain so even when both the humans and God targets are substituted with each other. However, a God target intervening in human specific events will invariably tend to be harder to imagine for participants. For that reason, my starting point was to

focus on generating moral scenarios that a human target can behave both morally and immorally in, before ensuring that it will still sound sufficiently acceptable when replaced with a God target. Furthermore, it is likely that describing an action in the scenarios can induce participants to think of God in an anthropomorphic way. Therefore, instead of describing how the pedestrian/God acted morally or immorally (e.g., hit the man with a metal rod), I simply described the target as intervening or not in the vignette to minimize the chances that participants will think about God in anthropomorphic terms. In the case of an avalanche killing someone, the major problem was in the moral human condition. Given the potential catastrophic effects of an avalanche, it is hard to imagine how a single person could have the ability to act morally to save someone from dying in an avalanche. Even if it was possible to describe how “the victim was dug out of the snow” after the fact, using that description would increase the chances of triggering an anthropomorphic version of God in participants. Similarly, replacing the above description “with intervening to save the victim in the avalanche” for the human condition, sounds less plausible than intervening to save the victim of a sexual assault, robbery or murder. There are more ways to imagine how a person can save a potential victim of sexual assault than a person caught in an avalanche. Therefore, with the human target as my starting point for creation of the scenarios, as well as with minimizing thoughts of anthropomorphic God in participants as the priority, the avalanche scenario was not used. The wording for each scenario is described below:

Sexual Assault

“A young woman was walking through a dark alley late one night when a man suddenly stopped her in her footsteps. He first offered her cash in return for some sexual favors. When she refused, he attempted to sexually assault her.”

Robbery

“A woman was opening the door to her house when suddenly a man jumped out behind the bushes. He held the knife by her throat and ordered her to surrender her purse.”

Murder

“A man was driving home from work late one night through a bad neighborhood. He pulled his car into an alley where nobody would see it. He got out of the car and walked over to where a homeless woman was sleeping. He pulled out his knife in an attempt to stab the woman.”

Following the general description, in the moral conditions, the target (God or human) decided to intervene; *“God decided to intervene”* or *“A pedestrian was passing by and decided to intervene.”* In the immoral conditions, the target decided not to do anything; *“God could have intervened but did not do so.”* or *“A pedestrian was nearby and could have intervened but did not do so”*.

In the moral conditions, intervention always led to a good outcome such as *“The woman was saved from being sexually assaulted by the man.”* In the immoral conditions, inaction always led to a bad outcome such as *“The man stabbed the woman the death.”*

Measures

Dependent Variable

After reading each scenario, participants rated on 1 (Not at all) to 7 (To a very large extent) Likert scale a 4 item scale measuring the morality of the target. The items are 1) To what extent is God/the pedestrian moral 2) To what extent is it morally permissible for God to act this way 3) To what extent should God be morally blamed (reversed coded) and 4) To what extent does God have good moral standards. The Cronbach's Alpha for the sexual assault, robbery and murder scenarios were .861, .822 and .842 respectively. Reliability was high and so no items were removed before analyses. The table of means and standard deviations can be found in Appendix A for the moral scenarios.

Religious Belief

Participants were asked on a scale of 0-100 how strongly they believe in God or Gods. They were told to indicate a 0 if they are certain that God or Gods does not exist and a 100 if they are certain that God or Gods does exist.

Morality Founded On Divine Authority (MFDA)

The MFDA is a 20 item scale adopted from Piazza and Landy (2013). This scale is used as a measure of the extent to which participants believed that moral truths are dependent on God. Examples of items in the scale include "The truth about morality is revealed only by God", "The way to live a moral life is revealed to us by God through Holy Scripture" and "Acts that are immoral are immoral because God forbids them." For the MFDA scale, $\alpha = .962$. Reliability was high

and so no items were removed before analyses. Refer to Appendix B for the full scale.

Chapter 3: Results

Main Analyses

A 2 (Target: human vs God) x 2 (Morality of scenario: moral vs immoral) x 3 (Scenario: sexual assault vs robbery vs murder), mixed model ANOVA with target and morality as between subjects and scenario as within subjects revealed that there were no significant differences across scenarios. Therefore, the three scenarios were collapsed into a 2 x 2 between subjects ANOVA analysis.

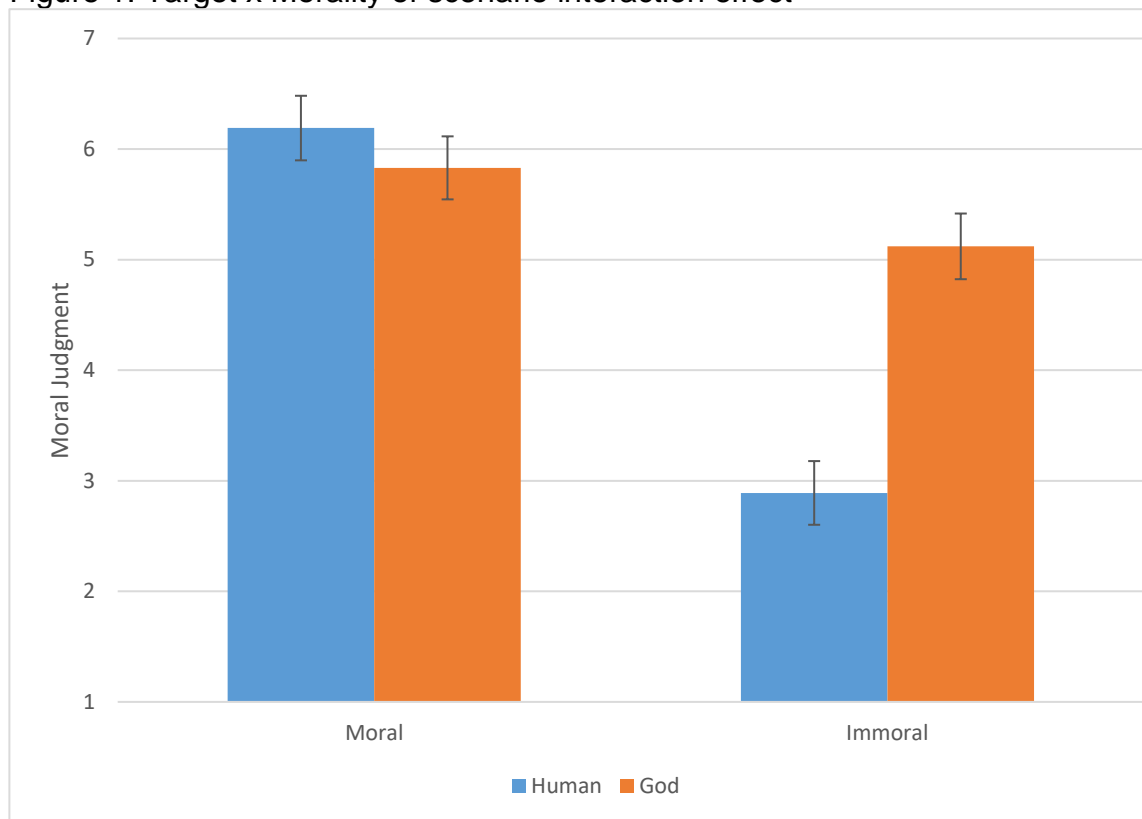
A 2 (Target: human vs God) x 2 (Morality of scenario: moral vs immoral) ANOVA was conducted to examine the effects of target and morality of scenario on moral judgment. Results suggested a main effect for target, $F(1, 267) = 39.795, p < .001, \eta^2 = .130, M_{human} = 4.52, SD_{human} = 1.94, M_{God} = 5.49, SD_{God} = 1.43$ and morality of scenario, $F(1, 267) = 184.915, p < .001, \eta^2 = .409, M_{moral} = 6.01, SD_{moral} = 1.08, M_{immoral} = 3.97, SD_{immoral} = 1.74$ on moral judgments. Both the main effects were however qualified by a significant target by morality of scenario interaction effect, $F(1, 267) = 79.585, p < .001, \eta^2 = .223$. The table of means for the interaction can be found in Appendix C.

In order to clarify the interaction effects, a simple main effects analysis was conducted. Results showed that for the condition where scenarios are moral, we cannot reject the null hypothesis that there was no difference in moral judgments for the human and God target, $F(1, 267) = 3.020, p = .083$. However in the condition where scenarios are immoral, moral judgment of God was

significantly higher than for the human target $F(1, 267) = 112.140, p < .001$.

Therefore, participants are more likely to judge God to be more moral than a human target even when both targets did not intervene when the scenarios are immoral.

Figure 1. Target x Morality of scenario interaction effect



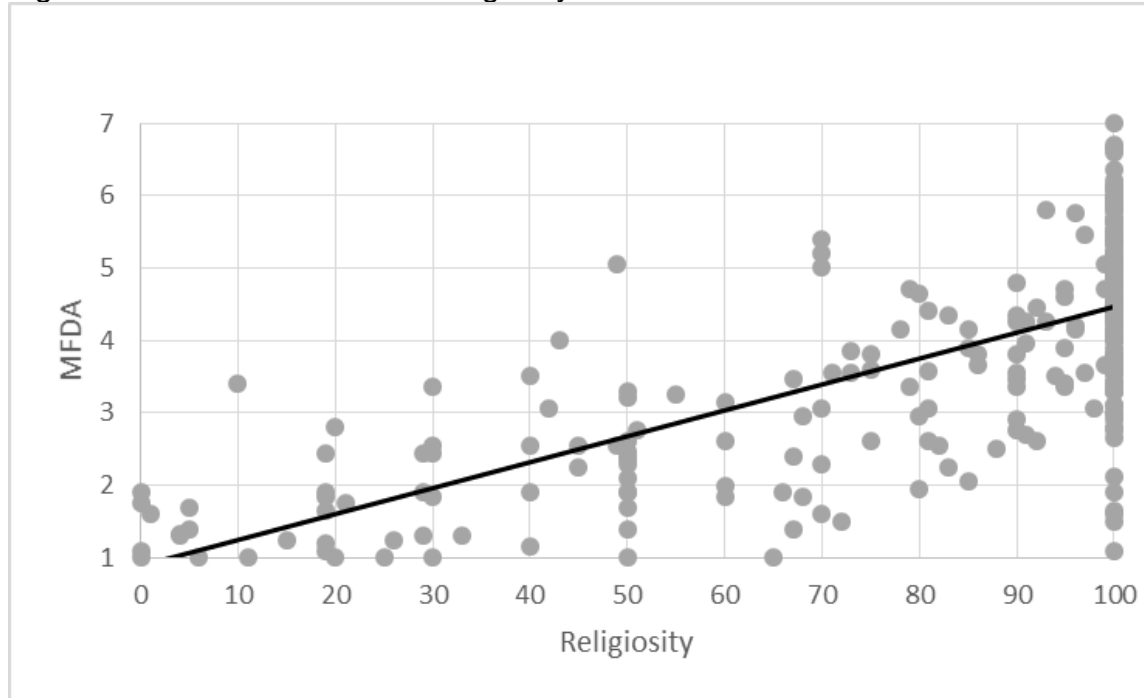
Bar graph represents the target by morality of scenario interaction effect. Error bars represent CIs

Correlations

A Pearson product-moment correlation coefficient was computed to assess the relationship between MFDA and religiosity. Results showed that there was a positive correlation, $r = 0.703, n = 270, p < 0.01$. Participants higher in MFDA beliefs tend to also be higher in religiosity. Point-biserial correlations were ran to determine the relationship between gender and religiosity as well as gender and MFDA beliefs. No significant relationships were found for gender and

religiosity ($r_{pb} = .019$, $n = 268$, $p = .753$) or gender and MFDA beliefs ($r_{pb} = .047$, $n = 270$, $p = .442$).

Figure 2. Correlation between religiosity and MFDA scale



Exploratory MFDA Moderation Analysis

Using PROCESS SPSS Model 3 with a bootstrapping sample of 10000 (Hayes, 2012), I conducted a test for the main effects of target, morality of scenario and MFDA (mean-centered), as well the interaction effects between target, morality of scenario and MFDA on moral judgment.

There was significant main effect of target on moral judgment, $b = .833$, 95% CI [.562, 1.105], $SE = .138$, $t = 6.045$, $p < .001$. The main effects of both morality of scenario, $b = -2.063$, 95% CI [-2.335, -1.791], $SE = .138$, $t = -14.926$, $p < .001$ and MFDA, $b = .275$, 95% CI [.184, .365], $SE = .046$, $t = 5.960$, $p < .001$ on moral judgment were also significant. However, this was qualified by a

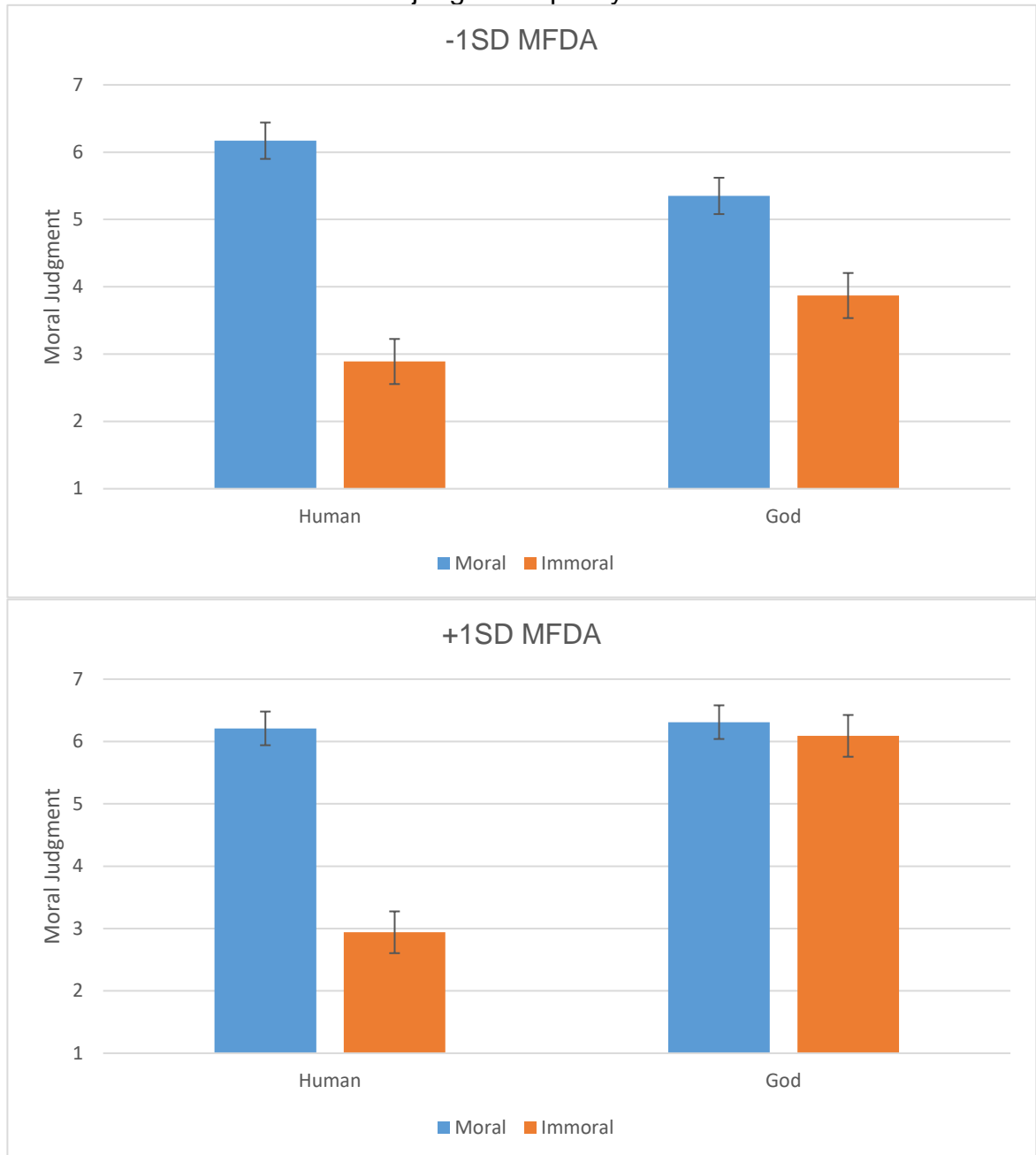
significant three way interaction of target, morality of scenario and MFDA on moral judgment, $b = .419$, 95% CI [.054, .783], $SE = .185$, $t = 2.263$, $p = .024$.

To further interpret the significant moderating effect, several different analytical procedures were carried out (Aiken & West, 1991). I first tested the significance of the effect of target (0 = human, 1 = God) on moral judgment at different combinations of high (1 SD above the mean) and low (1 SD below the mean) MFDA and morality (0 = moral, 1 = immoral). When MFDA was at -1 SD, there was a significant conditional effect of target in the moral scenarios, $b = -.823$, 95% CI [-1.356, -.291], $SE = .270$, $t = -3.045$, $p = .003$, as well as a significant conditional effect of target in the immoral scenarios, $b = .986$, 95% CI [.325, 1.646], $SE = .335$, $t = 2.940$, $p = .004$). When MFDA was at +1 SD, there was no significant conditional effect of target in the moral scenarios, $b = .098$, $p = .635$, but there was a significant conditional effect of target in the immoral scenarios, $b = 3.145$, 95% CI [2.609, 3.681], $SE = .272$, $t = 11.551$, $p < .001$. Second, I tested the significance of conditional effects of the interaction between target and morality of scenario at both +/-1 SD of the MFDA. Results indicated that there were significant conditional interaction effects at both -1SD, $b = 1.809$, 95% CI [.961, 2.657], $SE = .431$, $t = 4.200$, $p < .001$, and +1SD, $b = 3.046$, 95% CI [2.376, 3.720], $SE = .342$, $t = 8.915$, $p < .001$, of the MFDA. The table of means for the interaction can be found in Appendix C.

Regardless of whether participants were high or low in MFDA, they rated God higher in morality than humans for the immoral scenarios. However, the effect was weaker when MFDA was low (-1 SD) but stronger when MFDA was

high (+1 SD), as can be seen by the steeper slope coefficient when MFDA was high ($b = 3.145$) compared to low ($b = .986$).

Figure 3. Three way interaction effect between target, morality of scenario and MFDA as a moderator on moral judgment split by +/-1SD of the MFDA scale.



Error bars represent standard error.

Exploratory Religious Belief Moderation Analysis

Using PROCESS SPSS Model 3 with a bootstrapping sample of 10000, I again conducted another test for the main effects of target, morality of scenario and religiosity (mean-centered), as well the interaction effects between target, morality scenario and religiosity on moral judgment.

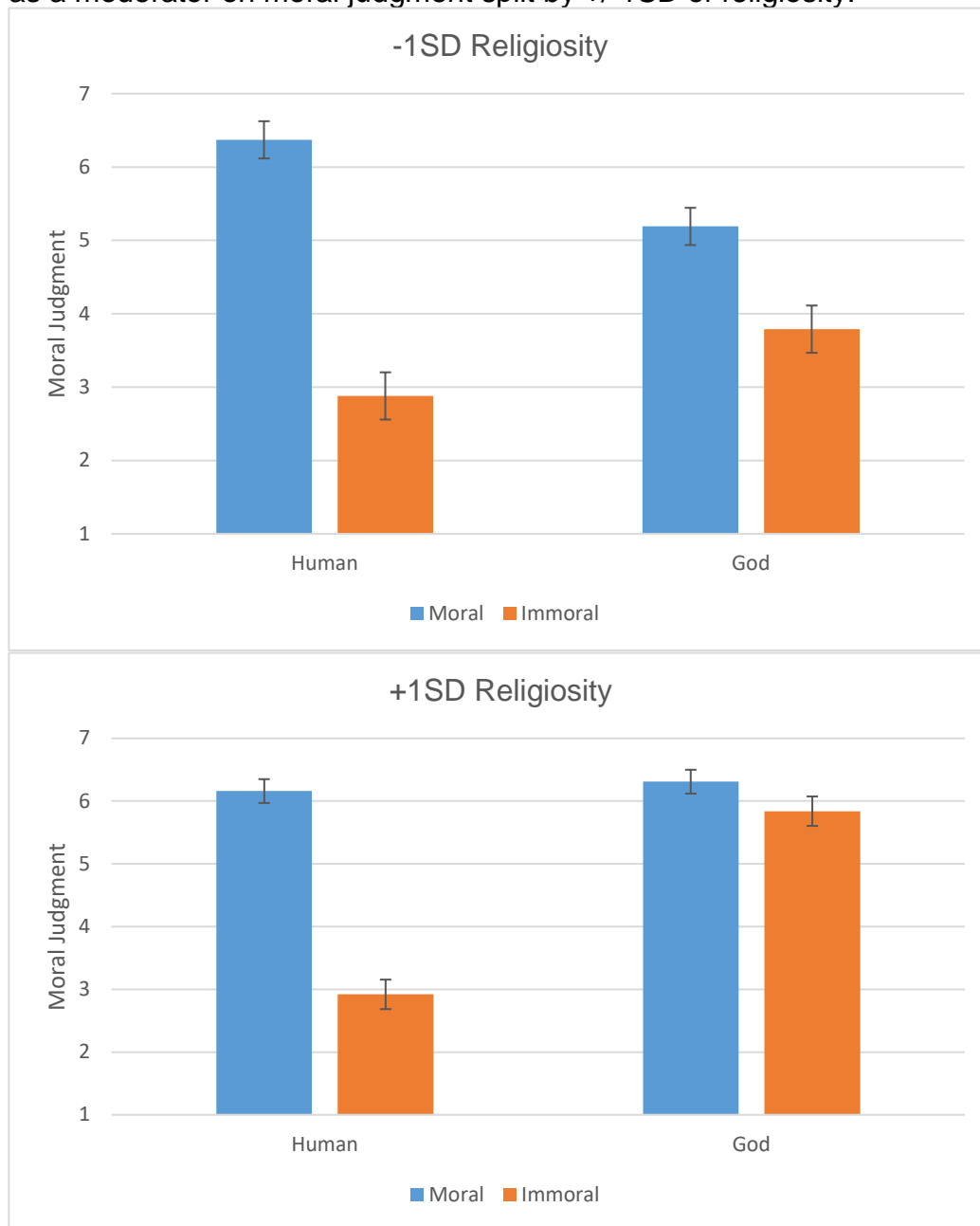
There was significant main effect of target on moral judgment, $b = .838$, 95% CI [.583, 1.092], $SE = .129$, $t = 6.479$, $p < .001$. The main effects of both morality of scenario, $b = -2.085$, 95% CI [-2.341, -1.830], $SE = .130$, $t = -16.067$, $p < .001$ and religiosity, $b = .015$, 95% CI [.011, .020], $SE = .002$, $t = 6.230$, $p < .001$ on moral judgment were also significant. However, the three way interaction of target, morality of scenario and religiosity on moral judgment was not significant, $b = .014$, 95% CI [-.005, .033], $SE = .010$, $t = 1.418$, $p = .157$.

Even though the three way interaction was not significant, I further tested the conditional effects in order to gain some insights. I first tested the significance of the effect of target (0 = human, 1 = God) on moral judgment at different combinations of high (1 SD above the mean) and low (1 SD below the mean) religiosity and morality of scenario (0 = moral, 1 = immoral). When religiosity was at -1 SD, there was a significant conditional effect of target in the moral scenarios, $b = -1.182$, 95% CI [-1.683, -.681], $SE = .254$, $t = -4.648$, $p < .001$, as well as a significant conditional effect of target in the immoral scenarios, $b = .914$, 95% CI [.279, 1.549], $SE = .322$, $t = 2.834$, $p = .005$. When religiosity was at +1 SD, there was no significant conditional effect of target in the moral scenarios, $b = .149$, $p = .433$, but there was a significant conditional effect of target in the

immoral scenarios, $b = 2.924$, 95% CI [2.462, 3.386], $SE = .235$, $t = 12.464$, $p < .001$. The table of means for the interaction can be found in Appendix C.

Regardless of whether participants were high or low in religiosity, they rated God higher in morality than humans in the immoral scenarios. However, the effect was weaker when religiosity was low (-1 SD) but stronger when religiosity was high (+1 SD), as can be seen by the steeper slope coefficient when religiosity was high ($b = 2.924$) compared to low ($b = .914$). This pattern of results closely mirrored the moderation results for MFDA beliefs even though the three way interaction in this case was not significant. The small sample size could have led to power issues to detect the effect. Further, even though the correlation between MFDA beliefs and religiosity was significant, the strength of association was only moderately strong. To the extent that MFDA beliefs do not map fully onto religiosity, the moderation effect of religiosity may be smaller, further compounded by power issues, leading to non-significant findings.

Figure 4. Three way interaction effect between target, morality and religiosity as a moderator on moral judgment split by +/-1SD of religiosity.



Error bars represent standard error.

Exploratory Gender Differences Moderation Analysis

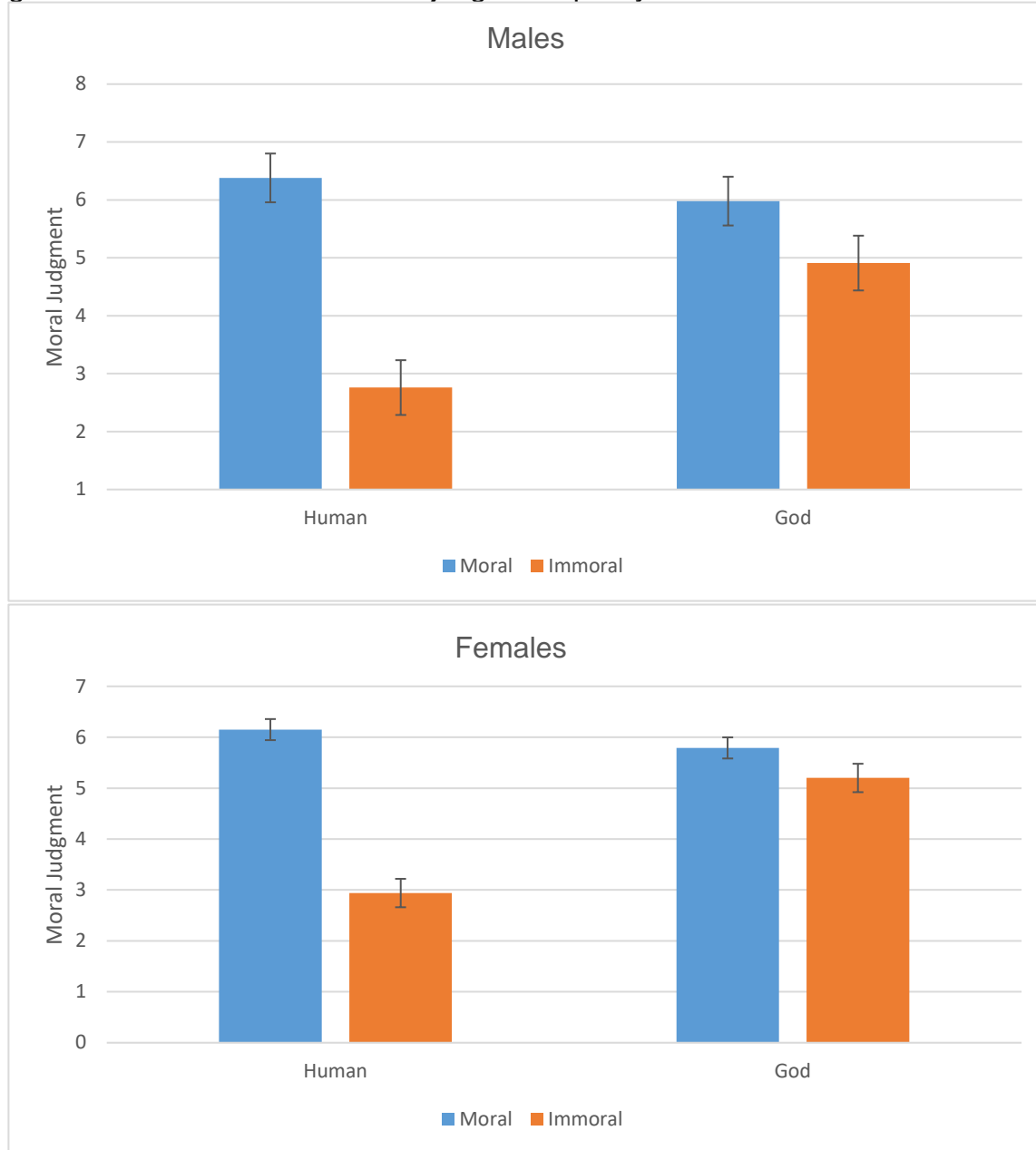
Using PROCESS SPSS Model 3 with a bootstrapping sample of 10000, I conducted another test for the main effects of target, morality of scenario and

gender, as well the interaction effects between target, morality of scenario and gender on moral judgment.

There was significant main effect of target on moral judgment, $b = .915$, 95% CI [.616, 1.213], $SE = .152$, $t = 6.031$, $p < .001$. Although main effect of morality of scenario on moral judgment was significant, $b = -1.999$, 95% CI [-2.299, -1.700], $SE = .152$, $t = -13.134$, $p < .001$, gender was not, $b = .006$, $p = .975$. The three way interaction of target, morality of scenario and gender on moral judgment was also not significant, $b = .074$, $p = .918$.

Even though the three way interaction was not significant, I further tested the conditional effects in order to gain some insights. I first tested the significance of the effect of target (0 = human, 1 = God) on moral judgment at different combinations of high (1 SD above the mean) and low (1 SD below the mean) morality of scenario and gender (1 = male, 2 = female). For males, although there was no conditional effect of target in the moral scenarios, $b = -.397$, $p = .347$, there was a significant conditional effect of target in the immoral scenarios, $b = 2.145$, 95% CI [1.214, 3.076], $SE = .473$, $t = 4.526$, $p < .001$. For females, there was no significant conditional effect of target in the moral scenarios, $b = -.356$, $p = .086$, but there was a significant conditional effect of target in the immoral scenarios, $b = 2.259$, 95% CI [1.710, 2.809], $SE = .279$, $t = 8.10$, $p < .001$. Overall, both males and females showed similar patterns of moral judgment across target and morality of scenario. The table of means for the interaction can be found in Appendix C.

Figure 5. Three way interaction effect between target, morality of scenario and gender as a moderator on moral judgment split by males and females.



Error bars represent standard error

Chapter 4: General Discussion

The goal of this research study was to examine people's intuitions about the Euthyphro dilemma, and more specifically, testing two competing hypotheses as they relate to each horn of the dilemma. The first hypothesis suggests that

because people tend to anthropomorphize God, their moral intuitions of humans and God will overlap such that patterns of moral judgments of both targets will be similar. The second hypothesis suggests that because people believe in God's divine commands, when faced with conflicting information about God's morality, people will generate arguments in order to protect their predetermined version of God as morally good. Consequently, patterns of moral judgment will differ when judging human versus judging God. Results of the main confirmatory interaction effect supported the latter hypothesis.

When the target was God, moral judgments were significantly more positive compared to a human target when the scenarios presented were immoral. There was no difference in moral judgment when the scenarios presented were moral. Results are consistent with the pilot study, providing further support that our moral intuition and hence judgment of God is different when compared to moral judgment of a human target.

Furthermore, the exploratory MFDA variable also moderated this effect, with participants +1SD in their MFDA score rating God's morality higher than the human target when presented with immoral scenarios. This effect however, was attenuated but still significant for people -1SD in their MFDA score. Both exploratory analyses of religiosity and gender did not reveal any significant moderation effects.

Limitations And Future Directions

External validity is an important component of psychological inquiry because it allows us to generalize the findings of our study to other groups of

participants and settings not present in the current experiment. While efforts have been made to ensure that the moral scenarios constructed in the current study are more realistic than the trolley problem, the scenarios are imperfect and this not immune from threats to external validity. As mentioned previously, even though participants who explicitly questioned the realism of the scenarios in the check question were removed from analyses, this does not necessarily mean that the rest of the participants do not have similar concerns. In the sexual assault scenario for example, participants could be unsure as to why a young woman would walk through the dark alley by herself. Similarly, participants may be confused as to why a man who was driving home from work would suddenly pull up his car and attempt to stab someone for no apparent reason. Even though sexual assault and murder are events that do happen in real life, the way they are described in the current study may not have made as much sense to the participants. Therefore, at least two of the scenarios may have lacked external validity due to low mundane realism - the extent to which the experimental events resemble situations people are likely to encounter outside of the laboratory (Aronson, Wilson & Brewer, 1998). One way of overcoming this issue in the future is to have either a group of research assistants or a small pool of participants pre-rate a set of moral scenarios (just like how pictures are pre-rated for their attractiveness in some studies) for their realism and coherence. The moral scenarios can then be filtered and chosen according to their ratings. This way, one of the threats to external validity can be minimized.

Other than mundane realism, there is also the potential issue of generalizability, across both context and people. The omission bias, whereby harm caused by action is morally worse than equivalent harm caused by omission, is a well-established finding in moral psychology (e.g., Spranca, Minsk & Baron, 1991; Young, Cushman & Hauser, 2006). For the immoral scenarios in the study, they were phrased in a way that only described how the targets failed to offer any form of help to the victim. Reading about how the target omitted help could be psychologically different from reading about a target actively engaging in a misdeed. Therefore, the current study is limited by the fact that we are unable to generalize the findings to other immoral scenarios whereby both targets are trying to harm someone, instead of merely refraining from helping the victims. Additionally, our study used only a convenient student sample from the University of Kentucky instead of sampling from a larger community of older participants outside of the University. While convenience sampling is cheap and easy to manage, it can lead to an under representation of certain groups in the sample. This puts a limit on our ability to generalize the findings because the sample is not representative of the population being studied.

A recent approach in moral psychology has conceptualized morality within a framework of five basic domains of moral concern: harm/care, fairness, authority, ingroup loyalty, and purity – moral foundations theory (Haidt & Joseph, 2007; Shweder, Mahapatra & Miller, 1997). The domain of harm/care as the name implies, is concerned with protecting others because of our dislike of pain. Fairness is related to ideas of justice, rights and autonomy based in reciprocity.

Authority is our deference to legitimate authority, shaped by the hierarchical nature of our social interaction. Loyalty refers to us standing by our ingroup (e.g., ethnicity, religion, nation etc). Lastly, purity is concerned with things, actions or food that are disgusting. While the moral scenarios in the study involved different types of moral transgressions (i.e., sexual assault, robbery and murder), it is limited by its emphasis on only harm based stimuli. Relying only on stimuli that share similar characteristics (i.e., harm based) can limit external validity because we cannot determine whether or how common aspects of the stimuli might influence the findings of the study (Campbell & Fiske, 1959). Some of the moral domains within the moral foundations framework may trigger moral cognitions different from the harm based scenarios found in the study while others may share similar patterns.

Other than the fact that the moral scenarios were all harm based, they were also impersonal, such that participants read the vignettes from a third party perspective without any form of personal involvement in the moral scenarios. Recently, a series of studies conducted by Exline, Park, Smyth & Carey (2011) instead had participants think about and write down a negative event from their lives where they or someone close to them experienced some form of harm or unfairness. In addition, only a negative event that led spontaneously to attribution of responsibility to God can be included. Results generally showed that participants reported both anger and positive emotions toward God for the negative event, although more positive emotions were reported than anger. Furthermore, in study 3, path model analysis revealed that belief in divine

intervention predicted attribution of responsibility to God. The severity of the harm from the negative event also predicted attribution of responsibility to God. In study 4, the negative event was in the context of bereavement. In that particular study, the most common causes of death reported by participants was cancer (36%), heart disease (11%) and accidents (9%). In all these cases where finding a human perpetrator to blame for their loss would be difficult, the next best alternative is to blame God because God is the entity that has ability to shoulder all responsibilities when none can be found (Gray & Wegner, 2010). In the current studies however, participants were not personally involved in the moral scenarios and there was a human agent (the perpetrator) in the scenario they could blame. Hence, it is possible that the omission of these variables could have influenced their moral judgments of God.

Another limitation is how the present study did not assess the justifications of the participants for their moral judgments. This is especially important for the DCT perspective because the central argument is that people are motivated to justify God's actions in order to preserve God's moral goodness. Theoretically, it is this justification motivation for God that is lacking for the human target during moral judgments that immunizes God from moral blame. As the current study only measured the final outcome of participant's moral judgment, motivated reasoning is inferred based on their moral judgment results. In order to provide stronger evidence that motivated reasoning played a role in the moral judgment process, the study design could have employed measures that asks participants to provide justifications for their answers.

Having sufficient power is important to detect an effect. When power is low however, the negative consequences can be dire (e.g., Cohen, 1962). For example, low power makes it harder for researchers to detect an effect when it exists (e.g., Cohen, 1992) and inflate Type I error (e.g., Ioannidis, 2005). As noted previously, my initial desired sample size was at least four hundred participants for a 2 by 2 factorial design. That makes one hundred participants per condition, which is much larger than the usual sample size in social psychology (approx. 25), giving us sufficient power to detect even small effects. However, the spring semester tends to have a smaller subject pool, resulting in a final sample of only two hundred and seventy one participants. Therefore, even though I found the hypothesized interaction effect and a moderation effect, the small sample size could have inflated Type I error, meaning that one or both effects could be false positives.

Last but not least, the current study only used self-report measures to examine participant's moral judgment. Self-report measures can be highly inaccurate because, oftentimes, we may not have the introspective ability to provide an accurate answer to the question, despite our best efforts to be honest. Additionally, there is the issue of socially desirable responding. Participants may give moral ratings that are in line with their religious beliefs in order to present and maintain a certain image of themselves to others. One way of overcoming the limits of self-report measures is to employ implicit measures to get at participant's moral judgment ratings. However, current implicit paradigms such as the Implication Association Test (Greenwald, McGhee & Schwartz, 1988) and the

Affect Misattribution Procedure (Payne, Cheng, Govorun, & Stewart, 2005) do not measure moral judgments, but rather the speed of associations and proportion of pleasant/unpleasant judgments respectively. Nonetheless, Cameron and colleagues (2016) recently developed a new approach to implicitly measure people's evaluation of the wrongness of actions or people. This new approach can potentially be used in future studies to corroborate with current self-report measures of participants' moral judgment ratings.

Alternative Explanations

Fear of God

While Divine Command Theory fits as an explanation for why participants judged the morality of a human target and God different, particularly in the immoral scenarios, the current study is unable to rule out an alternative explanation – fear of punishment from God. This perspective stems from an adaptationist approach to religious belief whereby religion is viewed as an adaption for navigating the challenges associated with group cooperation. To be successful at living and cooperating as a group is an evolutionary challenge because of the costly investments required from group members. Free-riders are especially dangerous because they can leech the benefits without contributing resources to the group (Sober & Wilson, 1999). However, believing in a supernatural agent (i.e. God) that has the ability to monitor and punish free-riders can effectively facilitate cooperation and reduce cheating (Bering & Johnson, 2005; Johnson & Kruger, 2004). While fear of punishment from God can serve to discourage humans from engaging in bad behaviors, it may not be limited to a

just deterrence effect. Transposing this belief onto the current study, participants could have given God a high moral rating out of fear that they will be punished in the future for questioning His moral goodness. In this case, it is not that God's commands are divine and infinitely right but rather a fear of punishment from God that led to the results in the current study.

Can God Be Anthropomorphic And Morally Perfect?

Additionally, although preliminary results suggest that participants think about humans and God in different ways, the anthropomorphic perspective stated at the outset cannot be completely ruled out. Common sense tells us that an individual cannot believe that God is the source of moral truths without first believing that God exists. And recent studies on the cognitive foundations of religious beliefs are converging to show that belief in God(s) is at least partly supported by some of our core cognitive faculties that evolved for other functions (e.g. Atran & Norenzayan, 2004). One relevant cognitive faculty -theory of mind- which allows us to understand the mind of other humans also facilitates our mental representation of God. A deficit in theory of mind is thus associated with a reduced belief in God, likely due to the inability to represent God's mind (Norenzayan, Gervais & Trzesniewski, 2012). As theory of mind and anthropomorphism of God are closely related mental processes, the corollary is that both processes necessarily underlie our belief that God's commands are divine and morally good. In this respect, the DCT perspective is contingent on God being anthropomorphic to a certain degree, which seems to imply that participants may, psychologically, hold both perspectives to be valid at the same time.

This alternative raises an interesting point for discussion because, in philosophy, some have argued that the Euthyphro dilemma is logically fallacious – falling under the category of a false dilemma. In order to better understand this issue, I turn to philosophical discussions of the Euthyphro dilemma as a false dilemma and speculate on how it can be applied to the current study. According to some philosophers, the Euthyphro dilemma can be construed as a false dilemma because it only provides two options to an argument while other possible alternatives have not been exhausted (Yandell, 2012). Generally speaking, a dilemma is a false dilemma if there are one or more viable alternatives outside of what the dilemma in question offers. So what is a potential alternative? Baggett and Walls (2011) succinctly laid out the third argument made by philosopher Plantinga as follows (bolded for emphasis);

“Consider the proposition that it is bad to torture sentient creatures for the fun of it. Such a proposition is plausibly taken as necessarily true. On Plantinga’s creative anti-realist view, **God believes such a proposition because it is true, rather than its being true because God believes it.** Consistent with Plantinga’s rejection of universal possibilism, **not even God could alter the truth value of the proposition...**His version ...is not, however, a pure divine independence theory...**for the proposition expressing such a truth exists due to God’s thinking it, which he always had and always will. So the proposition expressing such a necessary truth depends on God,** even though God does not and cannot alter its contents. Of course God has not the slightest intention to alter it, for there’s perfect resonance between his nature and will.”

The above statement makes the argument that 1) Since God endorses moral truths because they are true, God does not command what is good based only on His arbitrary will (i.e., as captured by, “God believes such a proposition because it is true, rather than its being true because God believes it...not even God could alter the truth value of the proposition”), however, 2) Moral truths cannot

exist independently without God conceiving them, because God's thoughts are naturally immutable and eternal. And because God's nature is good, immutable and everlasting, His own nature determines the moral goodness of moral truths (i.e., as captured by, "the proposition expressing such a truth exists due to God's thinking it, which He always had and always will"). This argument "resolves" the dilemma by proposing that moral truths are partly dependent and partly independent of God. Other philosophers have made similar arguments, by appealing to "God's good character or nature" as being sufficient for grounding morality under God's commands (Copan, 2008).

If there is a philosophical alternative to the Euthyphro dilemma as suggested above, perhaps there is an equivalently viable alternative for psychology in understanding how people think about God and morality. Of course, people do not normally invoke philosophical arguments to support their stand. But if philosophers are able to generate an argument that "resolves" the dilemma in a way that both contradictory statements can coexist (at least for theists), I speculate that people might also be able to do so psychologically. I propose, albeit highly speculatively, that people can simultaneously hold contradictory beliefs that psychologically conceptualizes an anthropomorphic God (theologically incorrect) as well as perceive God to be morally perfect (theologically correct).

Humans are filled with contradictory thoughts and beliefs. Within the realm of religious beliefs, the Bible has many instances of contradictory statements. For example, there are statements about how killing is wrong –thou shalt not kill– but also statements of the opposite; "kill every male among the little ones, and kill

every woman that hath known man by lying with him” (Numbers 31:17). Similarly, “thou shalt not kill” is inconsistent with God commanding the Israelites to plunder the Egyptians in Exodus 11:2. In psychological research on conspiracy theories, the more participants believed the theory that Princess Diana faked her own death, the more they believed that she was murdered (study 1). In study 2, the more participants believed that Osama Bin Laden was already dead when U.S Special Forces raided his compound, the more they believed he is still alive (Wood, Douglas & Sutton, 2012). In both studies, both statements are contradictory to each other, yet they are positively associated.

Anthropomorphism is potentially a useful heuristic for understanding other nonhuman agents (Heiphetz, Lane, Waytz & Young, 2015). By using the human mind as a starting point for reasoning about the minds of nonhuman agents, people can save on cognitive resources by having a familiar schema to work with. Perhaps then, people intuitively anthropomorphize God in order to understand him as a person, but explicitly adjust their beliefs about His moral authority to be in line with their theological understanding of God. As a result, people hold contradictory beliefs about God, as a person, and His morality, as a divine being, just like how some philosophers argue that morality is both dependent and independent of God.

Implications

Science vs. Religion As The Moral Authority

“The Great Chain of Being: A study of the history of an idea” is the seminal work of Lovejoy (1936) that is rooted in the philosophy of Plato and Aristotle. The Chain holds that all of creation exists within a universal hierarchy that starts from

God at the top, to inanimate creatures at the bottom. Entities higher on the Chain possess greater intellect, mobility, and capability than those lower on the Chain. Accordingly, the higher entities had more authority over the lower matters, with God have authority over everything. The ranking of beings under the Chain has been used as a theoretical framework for understanding people's moral intuitions about social targets, because our sense of the moral world is also vertically situated (Brandt & Reyna, 2013). Different cultures across generations have commonly associated "up" with the divine and "down" with evil (Russell, 1988).

The current study on moral judgments of God and humans points to the idea that people with a strong DCT belief are especially likely to use a moral heuristic akin to the Chain that ranks social targets according to a moral hierarchy, with God at the top. As God is at the top, His divine attributes (e.g., immortality, omniscience and perfect moral being) mean that He has sovereignty over moral truths. Although humans are placed above animals, they are lower in rank than God, and so are capable of sinning. Therefore, any other entity that tries to wrestle moral authority away from God should be view negatively because only God can be morally perfect.

Some have advocated for a view that science and God should be non-overlapping in their areas of inquiry (Gould, 1997). However, the entry of science into the fray of providing ultimate answers to the big questions in life (e.g., origins of the universe) has created a tension between science and religion because their explanations are often incompatible (Preston & Epley, 2009). The tension is especially strong when public discourse centers on how science, instead of

religion, should be the moral authority for moral issues (Harris, 2010). This proposition is in direct contrast to the view that only God can be the source of moral truths. Since DCT believers strongly value God as their moral authority, they may automatically devalue science as a source of morality for fear that it will threaten their religious belief system. Consistent with this reasoning, people who endorse a literal interpretation of the Bible are less likely to support public policies that are scientifically informed (Gauchat, 2015). Additionally, this negative association between religious belief and perceptions of science is growing over time, possibly due to how science is increasingly used to answer issues that are moral in nature (Evans, 2013).

By extension, scientists, or even just people who are perceived to have an association with science in any way, may be negatively morally evaluated compared to even just an average person on the streets. Indeed, empirical studies found that scientists are consistently perceived to be more capable of behaving immorally in domains of betrayal, disrespect for authority and particularly purity compared to an average person. (Rutjens & Heine, 2016). Scientists were however not more likely to behave immoral in domains of harm or unfairness than an average person.

Prejudice

For people who believe that God plays an unequivocal role in shaping our moral thoughts and behaviors, atheists are often perceived as moral deviants because their source of morality does not originate from God's divine commands. In turn, prejudice against atheists could be partly due to the perception that they

are a threat to DCT beliefs (Simpson, Piazza & Rios, 2016). Additionally, prejudice should not be limited to atheists but any group whose values or beliefs are against DCT. For example, a person who reads the verse “If a man lies with a male as with a woman, both of them have committed an abomination; they shall surely be put to death; their blood is upon them” (Leviticus 20:13) might take it to mean that homosexuality is morally wrong according to God’s divine commands. Furthermore, people will be likely to perceive evidence that challenge their desired conclusion (e.g. atheists are immoral) as less compelling (Munro & Ditto, 1997); they will demand more conclusion incompatible evidence and put them under more careful examination (Ditto & Lopez, 1992) or engage in confirmation bias by selectively choosing evidence that conform with their initial conclusion (Nickerson, 1988), all of which reinforces their prejudicial attitudes.

Moral Judgment Process

As mentioned previously in the introduction, several models are proposed by researchers to account for how moral judgment works. Generally speaking, the information models begin with the identification of the elements (e.g., intentionality, causality) of an agent’s behavior prior to a moral judgment. The information models work well in situations when the target is a human agent. Consistent with the current findings, when a human target is shown to be responsible for a moral transgression, participants rated the target low in morality. However, when the target is God, moral ratings were high even in the immoral condition. The differential findings for God suggest that perhaps, the biased information

processing models are more accurate when describing the pathway to a moral judgment.

The biased information models hold that although elements such as intentionality may shape judgments of blame, these elements are more directly influenced by implicit judgments about the badness of an agent (Alicke, 2000). Hence, the biased models reverse the order such that moral judgments precede, rather than follow from a careful consideration of the elements involved. This is consistent with the motivated reasoning perspective, because a desired conclusion about the agent is already made before features such as intentionality are considered. Therefore, it is possible that different agents may trigger different moral judgment processes as captured by the different processing models in the literature.

Conclusion

Regrettably, this current study is unable to provide answers to the limitations, future directions and alternative explanations. However, it also implies that there are more avenues for research on this topic. Furthermore, the Euthyphro dilemma is not the only philosophical question related our intuitions of God and morality. The problem of evil (i.e., If an omnipotent, omniscient, and omnibenevolent god exists, then evil does not. However, there is evil in the world. Therefore, an omnipotent, omniscient, and omnibenevolent God does not exist), and the problem of error, formally known as Descartes' fourth meditation (i.e., If we accept that our faculty of judgment comes from God, and that God is a perfect non-deceiver, then one would arrive at the conclusion that it would be

impossible for our faculty of judgment to ever go wrong, but they do), are but just some of the questions that can similarly employ the methods of psychology to understand people's intuitions about these philosophical questions. How do people think about evil and its relationship to God? How can free will account for human error? It is my hope that the present work not only contributes, however little, to the existing research on religion and moral psychology, but also opens up new avenues of research using experimental methods to answer questions in religious and moral philosophy

Appendix A

Descriptive statistics for murder scenario

<i>Items</i>	<i>M</i>	<i>SD</i>
1. To what extent is God/the pedestrian moral?	5.00	2.30
2. To what extent is it morally permissible for God/the pedestrian to act this way?	4.65	2.36
3. To what extent should God/the pedestrian be morally blamed? (R)	5.25	2.07
4. To what extent does the pedestrian have good moral standards?	4.90	2.32

Descriptive statistics for robbery scenario

<i>Items</i>	<i>M</i>	<i>SD</i>
1. To what extent is God/the pedestrian moral?	5.02	2.18
2. To what extent is it morally permissible for God/the pedestrian to act this way?	4.77	2.20
3. To what extent should God/the pedestrian be morally blamed? (R)	5.35	1.97
4. To what extent does the pedestrian have good moral standards?	5.03	2.32

Descriptive statistics for murder scenario

<i>Items</i>	<i>M</i>	<i>SD</i>
1. To what extent is God/the pedestrian moral?	5.03	2.24
2. To what extent is it morally permissible for God/the pedestrian to act this way?	4.79	2.23
3. To what extent should God/the pedestrian be morally blamed? (R)	5.29	2.06
4. To what extent does the pedestrian have good moral standards?	4.95	2.24

Appendix B

Morality Founded on Divine Authority Scale

Items

1. Everything we need to know about living a moral life God has revealed to us.
2. The truth about morality is revealed only by God.
3. Moral truths are revealed to us by God and God alone.
4. What is morally good and right is what God says is good and right.
5. Making the right moral choice depends on having knowledge of God's laws.
6. The way to live a moral life is revealed to us by God through Holy Scripture.
7. If you want to know how to live a moral life you should look to God.
8. There are a set of moral truths that God has revealed to us to guide our thoughts and actions.
9. Acts that are immoral are immoral because God forbids them.
10. We don't need to try to figure out what is right and wrong, the answers have already been given to us by God.
11. The way to live a moral life is to follow the example that God has set for us.
12. I trust that God understands what is morally right better than I do.
13. Right and wrong can never be explained with human logic, they can only come from God's commands.
14. Without God's revelation, people would have no way to know right from wrong.
15. Without God's help, our sinful nature prevents us from knowing right from wrong.

16. Just because there is a religious rule against doing something, that does not automatically make it morally wrong. (R)
17. It is possible to live a righteous life without knowledge of God's laws. (R)
18. An atheist can still understand what is morally right and wrong. (R)
19. Without God, humans still have a way to distinguish right from wrong. (R)
20. It is possible to know right from wrong without God's help. (R)
-

Appendix C

Table of means for 2 x 2 factorial design

Condition/Target	Human	God
Moral	6.19	5.83
Immoral	2.89	5.12

Table of means for all 3 way interactions

MFDA Scale

-1SD

Condition/Target	Human	God
Moral	6.17	5.35
Immoral	2.89	3.87

+1SD

Condition/Target	Human	God
Moral	6.21	6.31
Immoral	2.94	6.09

Religiosity

-1SD

Condition/Target	Human	God
Moral	6.37	5.19
Immoral	2.88	3.79

+1SD

Condition/Target	Human	God
Moral	6.16	6.31
Immoral	2.92	5.84

Gender

Males

Condition/Target	Human	God
Moral	6.38	5.98
Immoral	2.76	4.91

Females

Condition/Target	Human	God
Moral	6.15	5.79
Immoral	2.94	5.20

Appendix D

Example of all four conditions for the sexual assault scenario

God x Moral scenario

A young woman was walking through a dark alley late one night when a man suddenly stopped her in her footsteps. He first offered her cash in return for some sexual favors. When she refused, he attempted to sexually assault her. God decided to intervene. The woman was saved from being sexually assaulted by the man.

God x Immoral scenario

A young woman was walking through a dark alley late one night when a man suddenly stopped her in her footsteps. He first offered her cash in return for some sexual favors. When she refused, he attempted to sexually assault her. God could have intervened but did not do so. The woman ended up being sexually assaulted by the man.

Human x Moral scenario

A young woman was walking through a dark alley late one night when a man suddenly stopped her in her footsteps. He first offered her cash in return for some sexual favors. When she refused, he attempted to sexually assault her. A pedestrian was nearby and decided to intervene. The woman was saved from being sexually assaulted by the man.

Human x Immoral scenario

A young woman was walking through a dark alley late one night when a man suddenly stopped her in her footsteps. He first offered her cash in return for some sexual favors. When she refused, he attempted to sexually assault her. A pedestrian was nearby and could have intervened but did not do so. The woman ended up being sexually assaulted by the man.

Appendix E

Example of how the survey for a participant in the God x Moral scenario looks.

Instructions: Please read the scenarios carefully before answering the questions

Sexual Assault

A young woman was walking through a dark alley late one night when a man suddenly stopped her in her footsteps. He first offered her cash in return for some sexual favors. When she refused, he attempted to sexually assault her. God decided to intervene. The woman was saved from being sexually assaulted by the man.

1. To what extent is God moral

Not at all						To a great extent
1	2	3	4	5	6	7

2. To what extent is it morally permissible for God to act this way

Not at all						To a great extent
1	2	3	4	6	6	7

3. To what extent should God be morally blamed

Not at all						To a great extent
1	2	3	4	5	6	7

4. To what extent does God have good moral standards

Not at all						To a great extent
1	2	3	4	5	6	7

Robbery

A woman was opening the door to her house when suddenly a man jumped out behind the bushes. He held the knife by her throat and ordered her to surrender her purse. God decided to intervene. The man was stopped from running away with the purse.

15. Without God's help, our sinful nature prevents us from knowing right from wrong.

Strongly Disagree Strongly Agree
1 2 3 4 5 6 7

16. Just because there is a religious rule against doing something, that does not automatically make it morally wrong.

Strongly Disagree Strongly Agree
1 2 3 4 5 6 7

17. It is possible to live a righteous life without knowledge of God's laws.

Strongly Disagree Strongly Agree
1 2 3 4 5 6 7

18. An atheist can still understand what is morally right and wrong.

Strongly Disagree Strongly Agree
1 2 3 4 5 6 7

19. Without God, humans still have a way to distinguish right from wrong.

Strongly Disagree Strongly Agree
1 2 3 4 5 6 7

20. It is possible to know right from wrong without God's help. (R)

Strongly Disagree Strongly Agree
1 2 3 4 5 6 7

Age:

What is your sex/gender?

- 1. Male
- 2. Female
- 3. Other

How would you describe your race/ethnicity?

- 1. White/Caucasian
- 2. African-American
- 3. Hispanic
- 4. Native American
- 5. Asian

6. Mixed
7. Others

What is your current religion?

1. Christian (Catholic)
2. Christian (Baptist)
3. Christian (Other)
4. Hindu
5. Buddhist
6. Muslim
7. Jewish
8. Sikh
9. None
10. Atheist
11. Agnostic
12. Other

How strongly do you believe in God or Gods

Slide scale from 0-100

We are curious about your impressions of the study. Feel free to leave any feedback on these two questions, if you would like to.

1. Did anything seem odd about this study?
2. Please speculate what you think this study was about.

References

- Alicke, M. D. (2000). Culpable control and the psychology of blame. *Psychological bulletin*, 126(4), 556.
- Alston, William. 1990. "Some Suggestions for Divine Command Theorists." In *Christian Theism and the Problems of Philosophy*. Edited by Michael Beaty. Notre Dame, Ind.: University of Notre Dame Press: 303-326.
- Anderson, C. (2009). *Ancient laws and contemporary controversies: The need for inclusive biblical interpretation*. Oxford University Press.
- Aronson, E., Wilson, T. D., & Brewer, M. B. (1998). Experimentation in social psychology. In G. Lindsay & E. Aronson (Eds.), *The handbook of social psychology* (4th ed., Vol.1, pp. 99-142). Boston, MA: McGraw-Hill.
- Atran, S., & Norenzayan, A. (2004). Religion's evolutionary landscape: Counterintuition, commitment, compassion, communion. *Behavioral and brain sciences*, 27(06), 713-730.
- Baggett, D., & Walls, J. L. (2011). *Good God: The theistic foundations of morality*. Oxford, UK: Oxford University Press.
- Bartsch, K., & Wellman, H. M. (1995). *Children talk about the mind*. Oxford university press.
- Bauman, C. W., McGraw, A. P., Bartels, D. M., & Warren, C. (2014). Revisiting external validity: Concerns about trolley problems and other sacrificial dilemmas in moral psychology. *Social and Personality Psychology Compass*, 8(9), 536-554.

- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of general psychology*, 5(4), 323.
- Bastian, B., Laham, S. M., Wilson, S., Haslam, N., & Koval, P. (2011). Blaming, praising, and protecting our humanity: The implications of everyday dehumanization for judgments of moral status. *British Journal of Social Psychology*, 50(3), 469-483.
- Bennis, W. M., Medin, D. L., & Bartels, D. M. (2010). The costs and benefits of calculation and moral rules. *Perspectives on Psychological Science*, 5, 187-202.
- Bering, J. M., & Johnson, D. D. (2005). "O Lord... You Perceive my Thoughts from Afar": Recursiveness and the Evolution of Supernatural Agency. *Journal of Cognition and Culture*, 5(1), 118-142.
- Brandt, M. J., & Reyna, C. (2011). The chain of being: A hierarchy of morality. *Perspectives on Psychological Science*, 6(5), 428-446.
- Campbell, D. T., & Fiske, D. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81-105.
- Carpenter, M., Akhtar, N., & Tomasello, M. (1998). Fourteen-through 18-month-old infants differentially imitate intentional and accidental actions. *Infant behavior and development*, 21(2), 315-330.
- Castelli, F., Happé, F., Frith, U., & Frith, C. (2000). Movement and mind: a functional imaging study of perception and interpretation of complex intentional movement patterns. *Neuroimage*, 12(3), 314-325.

- Cohen, J. (1962). The statistical power of abnormal-social psychological research: A review. *Journal of Abnormal and Social Psychology*, 65, 145–153.
- Cohen, J. (1992a). A power primer. *Psychological Bulletin*, 112, 155.
- Copan, P. (2008). God, Naturalism, and the Foundations of Morality. *The Future of Atheism: Alister McGrath & Daniel Dennett in Dialogue*, 141-161.
- Cottrell, C. A., & Neuberg, S. L. (2005). Different emotional reactions to different groups: a sociofunctional threat-based approach to "prejudice". *Journal of personality and social psychology*, 88(5), 770.
- Cushman, F. (2008). Crime and punishment: Distinguishing the roles of causal and intentional analyses in moral judgment. *Cognition*, 108(2), 353-380.
- Cushman, F., Young, L., & Hauser, M. (2006). The role of conscious reasoning and intuition in moral judgment: Testing three principles of harm. *Psychological science*, 17(12), 1082-1089.
- Darley, J. M., & Shultz, T. R. (1990). Moral rules: Their content and acquisition. *Annual review of psychology*, 41(1), 525-556.
- Ditto, P. H., & Lopez, D. F. (1992). Motivated skepticism: Use of differential decision criteria for preferred and nonpreferred conclusions. *Journal of Personality and Social Psychology*, 63(4), 568.
- Ditto, P. H., Pizarro, D. A., & Tannenbaum, D. (2009). Motivated moral reasoning. *Psychology of learning and motivation*, 50, 307-338.
- Epley, N., Waytz, A., & Cacioppo, J. T. (2007). On seeing human: a three-factor theory of anthropomorphism. *Psychological review*, 114(4), 864.

- Evans, J. H. (2013). The growing social and moral conflict between conservative Protestantism and science. *Journal for the Scientific Study of Religion*, 52(2), 368-385.
- Exline, J. J., Park, C. L., Smyth, J. M., & Carey, M. P. (2011). Anger toward God: social-cognitive predictors, prevalence, and links with adjustment to bereavement and cancer. *Journal of personality and social psychology*, 100(1), 129.
- Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: competence and warmth respectively follow from perceived status and competition. *Journal of personality and social psychology*, 82(6), 878.
- Flor, D. L., & Knapp, N. F. (2001). Transmission and transaction: predicting adolescents' internalization of parental religious values. *Journal of Family Psychology*, 15(4), 627.
- Friedman, B. (1995, May). "It's the computer's fault": reasoning about computers as moral agents. In *Conference companion on Human factors in computing systems* (pp. 226-227). ACM.
- Friesen, J. P., Campbell, T. H., & Kay, A. C. (2015). The psychological advantage of unfalsifiability: The appeal of untestable religious and political ideologies. *Journal of personality and social psychology*, 108(3), 515.

- Gauchat, G. (2015). The political context of science in the United States: Public acceptance of evidence-based policy and science funding. *Social Forces*, sov040.
- Giménez-Dasí, M., Guerrero, S., & Harris, P. L. (2005). Intimations of immortality and omniscience in early childhood. *European Journal of Developmental Psychology*, 2(3), 285-297.
- Goff, P. A., Eberhardt, J. L., Williams, M. J., & Jackson, M. C. (2008). Not yet human: implicit knowledge, historical dehumanization, and contemporary consequences. *Journal of personality and social psychology*, 94(2), 292.
- Gopnik, A., & Schwitzgebel, E. (1998). Whose concepts are they, anyway? The role of philosophical intuition in empirical psychology. *Rethinking intuition*, 75-91.
- Gould, S. J. (1999). Non-overlapping magisteria. *Skeptical Inquirer*, 23, 55-61.
- Gray, H. M., Gray, K., & Wegner, D. M. (2007). Dimensions of mind perception. *Science*, 315(5812), 619-619.
- Gray, K., & Wegner, D. M. (2010). Blaming God for our pain: Human suffering and the divine mind. *Personality and Social Psychology Review*, 14(1), 7-16.
- Greene, J. D. (2007). The secret joke of Kant's soul. *Moral psychology: Historical and contemporary readings*, 359-372.
- Guglielmo, S. (2015). Moral judgment as information processing: an integrative review. *Frontiers in psychology*, 6.

- Haidt, J. (2001). The emotional dog and its rational tail: a social intuitionist approach to moral judgment. *Psychological review*, 108(4), 814.
- Haidt, J., & Joseph, C. (2007). The moral mind: How five sets of innate intuitions guide the development of many culture-specific virtues, and perhaps even modules. *The innate mind*, 3, 367-391.
- Harris, S. (2011). *The moral landscape: How science can determine human values*. Simon and Schuster.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>
- Heberlein, A. S., & Adolphs, R. (2004). Impaired spontaneous anthropomorphizing despite intact perception and social knowledge. *Proceedings of the National Academy of Sciences of the United States of America*, 101(19), 7487-7491.
- Heiphetz, L., Lane, J. D., Waytz, A., & Young, L. L. (2016). How children and adults represent God's mind. *Cognitive science*, 40(1), 121-144.
- Henrich, J. (2009). The evolution of costly displays, cooperation and religion: Credibility enhancing displays and their implications for cultural evolution. *Evolution and Human Behavior*, 30(4), 244-260.
- Henrich, J., & Gil-White, F. J. (2001). The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and human behavior*, 22(3), 165-196.

- Henrich, J., & Henrich, N. (2010). The evolution of cultural adaptations: Fijian food taboos protect against dangerous marine toxins. *Proceedings of the Royal Society of London B: Biological Sciences*, 277(1701), 3715-3724.
- Hunsberger, B., & Brown, L. B. (1984). Religious socialization, apostasy, and the impact of family background. *Journal for the Scientific Study of Religion*, 239-251.
- Inzlicht, M., McGregor, I., Hirsh, J. B., & Nash, K. (2009). Neural markers of religious conviction. *Psychological Science*, 20(3), 385-392.
- Ioannidis, J. P. (2005). Why most published research findings are false. *PLoS med*, 2(8), e124.
- Janoff-Bulman, R. (1992). *Shattered Assumptions: Towards a New Psychology of Trauma*. NY: Free Press.
- Johnson, D., & Krüger, O. (2004). The good of wrath: Supernatural punishment and the evolution of cooperation. *Political theology*, 5(2), 159-176.
- Kahn Jr, P. H., Kanda, T., Ishiguro, H., Gill, B. T., Ruckert, J. H., Shen, S., ... & Severson, R. L. (2012, March). Do people hold a humanoid robot morally accountable for the harm it causes? In *Proceedings of the seventh annual ACM/IEEE international conference on Human-Robot Interaction* (pp. 33-40). ACM.
- Kay, A. C., Gaucher, D., Napier, J. L., Callan, M. J., & Laurin, K. (2008). God and the government: testing a compensatory control mechanism for the support of external systems. *Journal of personality and social psychology*, 95(1), 18.

- Kiessling, F., & Perner, J. (2014). God–Mother–Baby: What Children Think They Know. *Child development*, 85(4), 1601-1616.
- Knight, N., Sousa, P., Barrett, J. L., & Atran, S. (2004). Children's attributions of beliefs to humans and God: Cross-cultural evidence. *Cognitive Science*, 28(1), 117-126.
- Knobe, J., Buckwalter, W., Nichols, S., Robbins, P., Sarkissian, H., & Sommers, T. (2012). Experimental philosophy. *Annual review of psychology*, 63, 81-99.
- Kunda, Z. (1990). The case for motivated reasoning. *Psychological bulletin*, 108(3), 480.
- Lane, J. D., Wellman, H. M., & Evans, E. M. (2010). Children's understanding of ordinary and extraordinary minds. *Child development*, 81(5), 1475-1489.
- Lanman, J. A. (2012). The importance of religious displays for belief acquisition and secularization. *Journal of Contemporary Religion*, 27(1), 49-65.
- Lanman, J. A., & Buhrmester, M. D. (2017). Religious actions speak louder than words: Exposure to credibility-enhancing displays predicts theism. *Religion, Brain & Behavior*, 7(1), 3-16.
- Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological bulletin*, 85(5), 1030.
- Lovejoy, A. O. 1936. *The great chain of being: a study of the history of an idea*. Cambridge, MA: Harvard University Press.
- Malle, B. F., & Bennett, R. E. (2002). *People's praise and blame for intentions and actions: Implications of the folk concept of intentionality*. Institute of Cognitive and Decision Sciences, University of Oregon.

- Malle, B. F., Guglielmo, S., & Monroe, A. E. (2014). A theory of blame. *Psychological Inquiry*, 25(2), 147-186.
- Malle, B. F., Scheutz, M., Forlizzi, J., & Voiklis, J. (2016, March). Which Robot Am I Thinking About? The Impact of Action and Appearance on People's Evaluations of a Moral Robot. In *The Eleventh ACM/IEEE International Conference on Human Robot Interaction* (pp. 125-132). IEEE Press.
- Makris, N., & Pnevmatikos, D. (2007). Children's understanding of human and super-natural mind. *Cognitive Development*, 22(3), 365-375.
- Mawson, T. J. (2008). "The Euthyphro Dilemma". *Think*. 7 (20): 25–33
- Meltzoff, A. N. (1995). Understanding the intentions of others: Re-enactment of intended acts by 18-month-old children. *Developmental psychology*, 31(5), 838.
- Milevsky, I. M., Szuchman, L., & Milevsky, A. (2008). Transmission of religious beliefs in college students. *Mental Health, Religion and Culture*, 11(4), 423-434.
- Munro, G. D., & Ditto, P. H. (1997). Biased assimilation, attitude polarization, and affect in reactions to stereotype-relevant scientific information. *Personality and Social Psychology Bulletin*, 23(6), 636-653.
- Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of general psychology*, 2(2), 175.
- Norenzayan, A., Gervais, W. M., & Trzesniewski, K. H. (2012). Mentalizing deficits constrain belief in a personal God. *PloS one*, 7(5), e36880.

- Ohtsubo, Y. (2007). Perceived intentionality intensifies blameworthiness of negative behaviors: Blame-praise asymmetry in intensification effect. *Japanese Psychological Research*, 49(2), 100-110.
- Piazza, J., & Landy, J. F. (2013). "Lean not on your own understanding": Belief that morality is founded on divine authority and non-utilitarian moral judgments. *Judgment and Decision Making*, 8(6), 639.
- Pizarro, D., Uhlmann, E., & Salovey, P. (2003). Asymmetry in judgments of moral blame and praise the role of perceived metadesires. *Psychological Science*, 14(3), 267-272.
- Preston, J., & Epley, N. (2009). Science and God: An automatic opposition between ultimate explanations. *Journal of Experimental Social Psychology*, 45(1), 238-241.
- Rendell, L., Fogarty, L., Hoppitt, W. J., Morgan, T. J., Webster, M. M., & Laland, K. N. (2011). Cognitive culture: theoretical and empirical insights into social learning strategies. *Trends in cognitive sciences*, 15(2), 68-76.
- Rozin, P., & Royzman, E. (2001). Negativity Bias, Negativity Dominance, and Contagion. *Personality and Social Psychology Review*, 5, 296-320.
- Russell, J. B. (1988). *The prince of darkness: Radical evil and the power of good in history*. Ithaca, NY: Cornell University Press.
- Rutjens, B. T., & Heine, S. J. (2016). The immoral landscape? Scientists are associated with violations of morality. *PloS one*, 11(4), e0152798.
- Shaver, K. G. (1985). *The attribution of blame: Causality, responsibility, and blameworthiness*. New York, NY: Springer Verlag.

- Shweder, R. A., Mahapatra, M., & Miller, J. G. (1997). Culture and moral development. In J. Kagan (Ed.), *The emergence of morality in young children*. Chicago, IL: University of Chicago Press.
- Silberman, I. (2005). Religion as a meaning system: Implications for the new millennium. *Journal of social issues*, 61(4), 641-663.
- Simonsohn (2014). No-way Interactions. <http://datacolada.org/17> DOI: 10.15200/winn.142559.90552
- Simpson, A., Piazza, J., & Rios, K. (2016). Belief in divine moral authority: Validation of a shortened scale with implications for social attitudes and moral cognition. *Personality and Individual Differences*, 94, 256-265.
- Sober, E., & Wilson, D. S. (1999). *Unto others: The evolution and psychology of unselfish behavior* (No. 218). Harvard University Press.
- Spellman, B. A. (1997). Crediting causality. *Journal of Experimental Psychology: General*, 126(4), 323.
- Spranca, M., Minsk, E., & Baron, J. (1991). Omission and commission in judgment and choice. *Journal of experimental social psychology*, 27(1), 76-105.
- Steffensmeier, D., Ulmer, J., & Kramer, J. (1998). The interaction of race, gender, and age in criminal sentencing: The punishment cost of being young, black, and male. *Criminology*, 36(4), 763-798.
- Waytz, A., Gray, K., Epley, N., & Wegner, D. M. (2010). Causes and consequences of mind perception. *Trends in cognitive sciences*, 14(8), 383-388.

- Weiner, B. (1995). *Judgments of responsibility: A foundation for a theory of social conduct*. Guilford Press.
- Wellman, H. M., & Phillips, A. T. (2001). Developing intentional understandings. Intentions and intentionality: *Foundations of social cognition*, 125-148.
- Wood, M. J., Douglas, K. M., & Sutton, R. M. (2012). Dead and alive: Beliefs in contradictory conspiracy theories. *Social Psychological and Personality Science*, 3(6), 767-773.
- Yandell, K. (2012). Moral Essentialism.”. *God and Morality: Four Views*, ed. R. Keith Loftin. Downers Grove, IL: InterVarsity Press: 97-116.
- Young, L., & Saxe, R. (2009). An fMRI investigation of spontaneous mental state inference for moral judgment. *Journal of cognitive neuroscience*, 21(7), 1396- 1405.

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- Lund, E. M., Najle, M. B., **Ng, B. K. L.,** & Gervais, W. M. (2014). No global kumbayah implied: Religious prosociality as an inherently parochial phenomenon. *Journal for the Cognitive Science of Religion.* (Commentary).
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