Claremont Colleges
Scholarship @ Claremont

CMC Senior Theses   CMC Student Scholarship

2014

Situational Context, Philosophical Belief, and Moral Constructs: The Multifaceted Nature of Moral Judgment

Jessie Huang
Claremont McKenna College

Recommended Citation

Situational Context, Philosophical Belief, and Moral Constructs:

The Multifaceted Nature of Moral Judgment

Jessie C. Huang and Catherine L. Reed

Claremont McKenna College

Author Note

Correspondence concerning this article should be addressed to Jessie Huang, Claremont

McKenna College, 742 N. Amherst Ave., Claremont CA 91711. Email: Jhuang14@cmc.edu

Abstract

Recent studies have shown that different free will beliefs affect moral behavior. The purpose of the current study was to investigate whether different free will beliefs also influence moral judgment. College students ($N = 56$) were randomly assigned to one of three framing manipulations: free will, determinism, or neutral. They then read three morally questionable scenarios that differed by situational context. Following each scenario, participants completed a moral judgment questionnaire that measured four moral constructs: moral evaluation, moral responsibility, justification, and punishment. Finally, participants completed a Free Will & Determinism Questionnaire (FWD-Q) that measured their lay beliefs in free will and determinism. For analysis, we grouped participants according to their reported FWD-Q scores into one of three groups: free will, determinism, or compatibilism. We found that different free will beliefs influenced moral judgment to a small degree, but not in the ways that we predicted. Our results show that situational context affects moral judgment much more than lay philosophical beliefs regarding free will. Future studies should examine whether this still holds true for older adults with more developed worldviews.

Situational Context, Philosophical Belief, and Moral Constructs: The Multifaceted Nature of

Moral Judgment

Overview

Evaluating the behaviors of others is a crucial aspect of human nature that is conducive to

an orderly society. For example, one of the ways we are able to effectively operate as a society is

by praising "right" behaviors and punishing "wrong" behaviors. This can take place formally,

such as a courtroom case, or informally, such as a child being chastised by her parents for unfair

behavior. "Right" behaviors refer to actions that one's society deems permissible and that stem

from good intentions, whereas "wrong" behaviors are deemed impermissible by one's society

and often stem from malicious intent. The kinds of deportment individuals within a society take

to be moral or immoral play a key role in determining whether certain behaviors in question will

ultimately be assessed as permissible or impermissible.

Morality, the differentiation between behavior that is "fair" or "unfair," "good" or "bad,"

is a long standing topic of interest in psychological research. It is an ambiguous topic due to its

abstract and inexact nature. Thus, the morality of many behaviors are open to interpretation and

debate (e.g., whether it is moral to kill one person to save two lives). Given the imprecise nature

of morality, psychologists who study morality are particularly interested in factors that influence

individuals' judgments in different situations that require an ethical assessment. In the literature,

the term "moral judgment" refers to these types of ethical assessments. More specifically, moral

judgment refers to an individual's evaluation and perception of whether a certain behavior in

question is right or wrong.

In the field of psychology, moral judgment is usually studied by presenting participants

with a scenario(s) involving some sort of moral violation, moral transgression, or moral dilemma.

Moral judgment is usually measured by way of surveys that contain questions such as "How wrong was X's behavior?" or "How morally responsible was X?" (Ma-Kellams & Blascovich, 2013). Researchers often shape their questions to measure evaluations of moral responsibility and assignments of punishment (Kane et al., 1977; Green et al., 2001; Woolfolk et al., 2006). This is because in the real world, moral transgressions are often followed by some sort of punishment, and punishment is generally allocated on the assumption that the transgressor was morally responsible for her transgression. Otherwise, punishing someone for a crime they aren't morally responsible for just doesn't make sense.

A number of studies have linked perceived decision freedom to attributions of moral responsibility and assignments of punishment (Kane et al., 1977; Woolfolk, et al., 2006). In these studies, perceived freedom was conceptualized as the ability to fulfill a desired choice on one's own accord without the interference of external restrictions, such as situational constraints and coercion from other parties. This is closely related to the philosophical concept of free will, which we conceptualize in this study as the capacity to behave and make choices that are not necessarily determined by antecedent events and external factors such as laws of nature.

If researchers have uncovered a relationship between perceived decision freedom and attributions of moral responsibility and assignments of punishment, and if moral responsibility and punishment play important roles in moral judgment, then it seems that different free will beliefs may be a significant factor in influencing moral judgment. This is the question we aim to investigate in the present study.

Background

Moral judgment factors. Among many other factors, anger and disgust (Ugazio, Lamm, & Singer, 2012), as well as affective context (Valdesolo & Desteno, 2006), and even thoughts

about science (Ma-Kellams & Blascovich, 2013) have been shown to significantly affect the way individuals morally judge the behaviors of others. Anger and disgust as emotional primes have been specifically identified to have significant effects on individuals' moral judgments (Ugazio, Lamm, & Singer, 2012); interestingly, these researchers also found that other emotional primes, such as happiness and sadness, did not yield any significant effects on their subjects' moral judgments. Ugazio, Lamm, and Singer (2010) induced disgust in their participants via "fart sprays." They induced anger by instructing their participants to write essays and giving negative feedback in return. To measure moral judgment, they presented participants with 40 moral scenarios and had participants answer questions such as, "Is it morally permissible for the protagonist to do x?" (Ugazio, Lamm, & Singer, 2012, p. 582). They found that anger caused moral judgments to be more permissible and disgust caused judgments to be less permissible. Such studies show that in relation to one's moral judgment, the type of emotion one experiences is very important in determining whether it will influence one's moral judgment.

One's affective state, or overall mood within a certain context, also plays an important factor in shaping moral judgment. In their research study, Valdesolo and Desteno (2006) induced either positive affects or neutral affects in their subjects and subsequently presented them with the well-known footbridge dilemma. This sort of moral dilemma allows subjects to either choose a utilitarian response (i.e., pushing a large man off the footbridge to prevent the loss of five lives) or a non-utilitarian response (i.e., leaving the large man alone and letting the runaway trolley kill five people). When presented with this dilemma, the researchers noted that a vast majority of people believed the utilitarian response to be wrong, or immoral. Valdesolo and Desteno found in their study that participants induced to be in a heightened positive affective state were more likely than participants in the neutral state to choose the utilitarian response. That is, participants

inducted to be in the context of a positive environment showed a significant shift in judging the

utilitarian response as the right, or moral, response to the footbridge dilemma. Studies like these

strongly suggest that individuals can be influenced and shaped by the emotional and

environmental contexts they are in during moral evaluation.

　　　　Priming subjects with scientific concepts have also been shown to significantly affect

individuals' moral judgment. Ma-Kellams and Blascovich (2013) found in their study that when

presented with a rape vignette to evaluate, subjects primed to think about lay notions of science

(e.g., rationality, impartiality, technological progress, fairness) exhibited endorsement of stricter

moral ideals and judged the transgression to be significantly more immoral than participants in

the neutral prime condition. In this study, the researchers operationally defined "moral judgment"

as a wide range of evaluations of behaviors that include judgments such as wrongness and

appropriateness. Ma-Kellams and Blascovich argued that their results suggest and provide

support for the notion that the study of science in and of itself holds normative implications and

leads to certain moral outcomes. Psychologists are not only interested in the factors that

influence moral judgment, but are also interested in the factors that influence moral behavior.

　　　　Moral judgment and behavior. Existing literature related to morality have shown that

individuals' moral behaviors are very susceptible to certain primes. In one study, priming

individuals with God concepts using target words such as "spirit," "divine," "God," and "sacred"

led them to exhibit significantly more prosocial, or moral, behavior in a game of anonymous

money-giving compared to individuals primed with neutral concepts (Sharrif & Norensayan,

2007). The researchers in this study designed their anonymous economic game as such:

participants were given ten one-dollar coins and were told they could keep as many of the coins

as they would like, and that the coins they left would anonymously be given to a "receiver

subject." Sharrif and Norensayan found that a higher proportion of participants behaved fairly/morally (i.e., taking and leaving exactly $5) in the religious-prime condition in comparison to the control condition, $t(48)=3.69$, $p<.001$. Specifically, 52% of those in the religious-prime condition displayed moral behavior in the anonymous economic game, whereas only 12% of those in the control condition displayed the same moral behavior of equally splitting the coins. In line with Ma-Kellams and Blascovich's (2013) argument, Sharrif and Norensayan (2007) proposed that religious or supernatural concepts, when activated, may cause individuals to implicitly associate these concepts with prosocial and fair acts, thus causing them to exhibit more moral behavior.

Studies on perceived decision-freedom and morality. A number of studies have been conducted on the relation between perceived freedom and moral judgment. Kane, Joseph, and Tedeschi (1977) investigated whether differences in decision freedom of a depicted transgressor would affect participants' attributions of responsibility and assignments of punishment. They presented subjects with a scenario involving a Mr. X who embezzles $50,000 from his corporation and then asked them to make judgments about the morality of the action. The researchers tested and measured moral judgment by asking subjects (on a scale) questions pertaining to how much responsibility they would attribute to Mr. X's transgressions and the amount of punishment they would assign, if any. Perceived freedom was manipulated by varying the degrees of constraints and justifications operating on Mr. X preceding his decision to embezzle the money. For example, in one scenario Mr. X was under no constraint when he decided to embezzle (hereafter, "scenario A"), whereas another scenario Mr. X was under the constraint that his wife and daughter were kidnapped for a ransom of $50,000, and the threatener demanded that Mr. X acquire the ransom by embezzling from his corporation (hereafter,

"scenario B"). Subjects reported perceiving Mr. X as more free when presented with scenarios that involved less situational constraints such as scenario A, and less free when presented with scenarios that involved certain constraints and external coercion such as scenario B.

As a result, Kane et al. (1977) found this general correlation: when subjects perceived Mr. X as more free, they attributed more moral responsibility for his embezzlement. The researchers proposed that perceived degree of freedom regarding an agent's choice correlates with the amount and magnitude of dispositional attributions and responsibility assigned towards the agent. Dispositional attribution refers to the act of attributing internal characteristics (e.g., aggressiveness, exploitive, trustworthy) to an individual's behavior instead of external influences.

Woolfork, Doris, and Darley (2006) found similar results in a study where they not only varied the degree of freedom in an agent's decision to commit homicide, but also varied the degree to which the agent accepted ownership, or identified, with his decision. Again, degree of agent's freedom of choice positively correlated with participants' attributions of moral responsibility. With respect to agent identification, the researchers found a positive correlation between agent's endorsement and accepted ownership of his decision and participants' attributions of moral responsibility, even if the agent was under extremely powerful constraints.

In their studies, Kane et al. (1977) and Woolfolk et al. (2006) examined moral judgment, as measured by attributions of moral responsibility and punishment, in relation to decision freedom, which they conceptualized as the extent to which an agent was able to decide freely to perform a particular act, given different degrees of constraints and coercion from external factors. In the current study, we take a different approach by examining moral judgment as a function of different free will beliefs. This approach is motivated both by the findings of Kane et al. (1977)

and Woolfolk et al. (2006), and also by longstanding philosophical debates concerning the

intuitive relationship between free will and moral responsibility.

Philosophical Background

        The problem of free will. The ancient philosophical problem of whether or not we as

human agents have free will in a world that appears to be governed by set laws of nature still

remains to be one of the most deadlocked topics of debate in Western philosophy (Nichols &

Knobe, 2007). At the very basic level, this philosophical problem begins with the question of

whether our world is deterministic or indeterministic. "Determinism" is the view that "every

event [including human behavior and decision-making] is an inevitable consequence of the prior

conditions and the natural laws [of our world]" (Nichols & Knobe, 2007, p. 663). That is,

determinism is the view that we have no free will because our choices and actions are necessarily

caused by antecedent states of affairs. "Indeterminism" (hereafter, "free will") is the opposite

view—that is, it is the view that we have free will and that events, as well as human behavior and

decision-making, are not causally determined by prior conditions, antecedent events, and natural

laws. The present study uses these definitions to operationally define the concepts that subjects

will be primed to believe in, depending if they are in the "determinism" condition or the "free

will" condition. Free will and determinism, however, are not necessarily mutually exclusive. A

major philosophical school of thought is "compatibilism," which holds that free will and

determinism can co-exist (Nahmias, 2006). This view is directly connected to "moral

compatibilism," which is discussed in the following section.

        Free will and moral responsibility. Closely tied to "the problem of free will" debate is

the question of moral responsibility—more specifically, whether agents can be morally

responsible for their actions if it turns out to be true that we live in a deterministic world. Again,

at the basic level, there are two overarching views: "moral compatibilism" and "moral incompatibilism" (Nichols & Knobe, 2007). Proponents of moral incompatibilism hold the view that if determinism is true, people are not fully morally responsible for their behaviors, whereas proponents of moral compatibilism maintain the view that our moral responsibility is not undermined in the slightest even if determinism is true (Nichols & Knobe, 2007). While studies on free will and moral judgment are scarce in the current literature, some studies have focused purely on perceptions of free will and moral responsibility. A recent study by Ogletree and Oberle (2008) found a positive correlation between perceptions of moral responsibility and belief in free will, which is what the current study hopes to find. Furthermore, studies examining the effects of free will belief on moral behavior provide further support for this expectation.

Studies on free will belief and moral behavior. Research in the area of free will and moral behavior is scarce, but growing rapidly. These studies have rendered strong theoretical, societal, and practical implications that result from endorsing deterministic worldviews as opposed to free will worldviews, and vice versa. Vohs and Schooler (2008) found that belief in no free will increased the immoral behavior of cheating in their participants. In their study, Vohs and Schooler operationally defined belief in no free will as determinism. They manipulated participants' beliefs about the existence of free will by giving each participant a booklet of fifteen statements and instructing them to think about and internalize each statement for one minute before turning the page. The statements each participant received differed depending on whether they were assigned to the free will condition (e.g., I am able to override the genetic and environmental factors that sometimes influence my behavior), the determinism condition (e.g., A belief in free will contradicts the known fact that the universe is governed by lawful principles of science), or the neutral condition (e.g., Sugar cane are grown in 112 countries). The researchers

found this manipulation to be effective in altering participants' free will beliefs according to their assigned conditions. Participants were then asked to take a fifteen problem GRE practice test. In order to orchestrate an opportunity to cheat, the experimenter overlooking the participants feigned a sudden realization that she was late to a meeting and instructed the participants to self-grade and self-pay themselves for the number of questions they answered correctly before rushing off to her "meeting". As a result, those in the determinism condition paid themselves significantly more money than those in the free will and neutral condition. Vohs and Schooler proposed the theories that endorsing a deterministic worldview may undermine an individual's sense of self-agency, may lead an individual to accept a 'why bother' mentality, or that such an outlook would provide the ultimate excuse for an individual to behave however she pleases.

Research on free will and moral behavior has also rendered practical implications pertaining to the job force, an important realm of American society. Studies have found that differences in beliefs about free will affect individual's career outlooks and job performances. In undergraduates, belief in free will was found to function as a strong predictor of positive expected job performance. In current employees, belief in free will was positively correlated with overall job performance—that is, employees who endorsed a free will outlook received significantly better assessments of workplace performance by their supervisors as opposed to their determinism-endorsing counterparts (Stillman et al., 2010). Stillman et al. proposed that belief in free will may enhance one's executive function, which refers to the aspect of the self that is responsible for one's actions by regulating one's cognitive functions. This seems to be a viable theory, as an enhanced executive function could cause more self-regulation and self-control and certainly account for enhanced job performance. On the other hand, along the same lines as Vohs and Schooler's (2008) propositions, Stillman et al. (2010) suggested that belief in

determinism may undermine one's motivation to perform well at their jobs and deplete one's ability to self-regulate, and encourage laziness in the work force. In other words, a deterministic outlook may encourage unfair and immoral behavior.

In a study that sought to replicate and extend Vohs and Schooler's (2008) study on cheating and to also test the effects of different free will beliefs on helping behavior and aggression, researchers found that participants in the determinism condition were less likely to report that they would offer help to people depicted in hypothetical scenarios that were in need of assistance. Participants in the determinism condition also showed significantly increased aggressive behavior in comparison to the free will and neutral conditions (Baumeister, Masicampo, DeWall, 2009). Essentially, Baumeister et al.'s study showed that endorsing a free will outlook may provide prosocial benefits to society. They argued that endorsing a free will worldview may promote moral behaviors such as helpfulness and reduced aggression by fostering a sense of thoughtful reflection and willingness to exert energy. On the other hand, the researchers argued that their results support the theory that endorsing a deterministic outlook may serve as a subtle prime for an individual to displace her self-control and cause her behavior to rely on selfish, automatic impulses, which in general are antisocial and immoral behaviors.

Present Study

Despite the long history of research in moral judgment and in free will separately, few studies have examined the effects of different free will beliefs on individual's judgments regarding the morality of other's behaviors. The studies in the previous section have identified free will beliefs as a strong factor that may play a part in shaping society's moral norms and individuals' moral behaviors. If differences in free will belief have such a striking influential effect, it is then important to further examine the extent and scope of other possible constructs,

such as moral judgment, that may be significantly influenced by free will beliefs. Like concepts

of "science" and "God" (Ma-Kellams & Blascovich, 2013; Shariff & Norenzayan, 2007), free

will and determinism as concepts may in and of themselves hold certain moral implications. In

line with Ugazio et al.'s (2012) study that identified anger and disgust as significant emotions

that influence moral judgment, a belief in free will or determinism may also elicit emotions that

significantly affect individuals' moral judgment. Studies related to those conducted by Kane et al.

(1977) and Woolfork et al. (2006) that identified strong correlations between perceived decision-

freedom and moral judgments serve as strong evidence to suggest that similar correlational

outcomes should result from the present study. The purpose of the present study is to investigate

whether differences in free will belief will influence individuals' moral judgment in different

ways.

Like Vohs and Schooler (2008), the present study will have three conditions: free will

frame, determinism frame, and neutral frame. Participants will be randomly assigned to each

condition and their beliefs will be manipulated using the same statement internalization method

as Vohs and Schooler. A manipulation check will take place before the experiment, as well as

after the experiment. These two manipulation checks will be designed using a modified version

of Paulhus and Carey's (2011) Free will and Determinism scale (FAD-Plus). Subsequently,

participants will be presented with three morally questionable scenarios differing by context and

will be asked to morally judge the agent in question from each scenario. Moral judgment will be

measured through four moral constructs: moral evaluation, moral responsibility, justification,

and punishment. We are unsure whether there will be an effect of scenario context and moral

construct type. Moral judgment may vary across scenario and moral construct types, but overall

we predict that (1) determinism participants will judge the agents less harshly overall than free

will participants, (2) determinism participants will attribute less moral responsibility to the

agents in question compared to free will participants, and (3) free will participants will attribute

more responsibility to the agents in question compared to neutral participants.

Method

Participants

A convenience sample of 56 undergraduates from the Claremont Colleges (34 females,

22 males) between the ages of 17 to 22 (m=19.72) was selected for this study. They were

recruited through the Claremont Colleges Sona Systems. For compensation, participants received

course credit.

Materials

The present study adapted its experimental manipulation from Vohs and Schooler's

(2008) statement internalization method, which has been shown to be an effective manipulation

in a number of other studies related to free will (Stillman et al., 2010; Baumeister et al., 2009).

This manipulation involved presenting each participant with 15 statements in support of either

free will, determinism, or neither (see Appendix A). Hereafter, we will refer to these conditions

as the free will frame, the determinism frame, and the neutral frame. Three morally questionable

scenarios were constructed for all participants to read. These scenarios differed by context (see

Appendix B). The first scenario concerned the politically controversial topic of euthanasia. The

second scenario concerned a college student cheating, and the third scenario involved

embezzlement, or stealing. We developed a moral judgment questionnaire to measure

participants' moral judgments (see Appendix B). These questions measured four different moral

constructs: moral evaluation, moral responsibility attribution, perceived justification, and

assignment of punishment. Participants answered each question on a 1 to 6 scale, where higher

ratings indicated harsher judgment. The four moral constructs each corresponded with two

questions from the moral judgment questionnaire. For a post-test manipulation check, a Free

Will & Determinism Questionnaire (FWD-Q) was constructed using questions from Paulhus and

Carey's (2011) FAD-Plus scale (see Appendix C). The FWD-Q measured participants' lay

beliefs in free will and determinism. Participants rated 18 statements on a 1 – 5 scale with higher

ratings indicating greater endorsement. Of the 18 statements, six measured belief in free will and

another six measured belief in determinism.

Procedure

Participants were randomly assigned to the free will, determinism, or neutral frame. They

were run in Claremont McKenna College's Cognitive Neuroscience laboratory and Kravis

computer lab. Participants were asked to sit at a computer and were given written instructions to

follow. Every aspect of the experiment took place on the computer; participants read the

scenarios and answered moral judgment questions on E-Prime 2.0 software, and they completed

the FWD-Q on Google Docs at the end of the session.

To manipulate individual's perceptions of free will, participants were presented with 15

statements that appeared one at a time on the computer screen. Each statement was set to appear

for 20 seconds until the computer emitted a bell sound to indicate that the next statement was

about to appear, and to ensure proper attention. Participants were instructed to think deeply about

each statement for the duration that each statement remained on the screen. In the determinism

frame, subjects read sentences in support of determinism such as, "Science has demonstrated that

free will is an illusion." Those in the free will frame read sentences in support of free will such as,

"Our actions and thoughts are not simply the result of prior experiences." The neutral frame

group read worldly trivia facts that supported neither free will nor determinism such as,

"Monarch butterflies fly slowly but have been sighted hundreds of miles at sea."

Following the experimental manipulation, participants read three short scenarios,

differing by context. After reading each scenario, participants rated questions from the moral

judgment questionnaire on the computer (Appendix B). Higher ratings on the scale indicated

harsher moral judgment while lower ratings indicated lighter moral judgment. Examples of

questions from the moral judgment questionnaire include, "How morally responsible was Dr.

Jefferson for his behavior?" and "How right was Dr. Jefferson's behavior?" The final question,

which measured attribution of punishment, offered participants 6 possible punishments to choose

from to assign to the alleged perpetrator from each scenario. The way this final question was

scored was consistent with the rest of the questionnaire—i.e., the severity of possible

punishments ranged from less harsh to very harsh. For example, the possible punishments

available for the first scenario started with "No prison time" and ended with "9-10 years prison

time." The options offered in between gradually increased in severity from start to end. Overall,

the structure of and the type of questions included in the moral judgment questionnaire were

consistent across scenarios, save for the names that were changed to match the different

individuals in question and the final question of each type of questionnaire. This yielded three

types of moral judgment questionnaires, one per scenario. The final question for each type of

moral judgment questionnaire was slightly altered for each scenario so that the punishments to

choose from realistically reflected the particular behavior in question. Importantly though, the

order of the possible punishments offered and the scoring were consistent across scenarios.

Following the moral scenario and moral judgment phase of the study, participants were

instructed to complete the FWD-Q, which served as a post-test manipulation check (Appendix C).

This questionnaire was untitled and began with the instructions: "For each statement below,

choose a number from 1 (*Totally Disagree*) to 5 (*Totally Agree*) to indicate how much you agree

or disagree." Each statement measured a concept of free will, determinism, or randomness. For

the purposes of our study, we were only interested in the free will and determinism statements.

Statements representative of free will included ones such as, "People are always at fault for their

bad behavior" and "Strength of mind can always overcome the body's desires." Statements

representative of determinism included ones such as, "As with other animals, human behavior

always follows the laws of nature" and "Your genes determine your future." After completing

the FWD-Q, participants were debriefed and given course credit.

Results and Discussion

Was the framing manipulation effective? Manipulation check.

Previous studies have shown that free will frame leads to higher free will scores, and that

determinism frame leads to weaker free will scores (Vohs & Schooler, 2008; Baumeister et al.,

2009). In these studies, the researchers grouped participants by frame, since their framing

manipulation caused significant differences in reported free will beliefs. To assess whether we

had similar effects, we conducted a one-way MANOVA with frame as a factor on free will and

determinism scores from the FWD-Q. We observed no significant effect of frame on FWD-Q

free will scores, $F(4, 106) = .79$, $p = .537$, $\eta_p^2 = .029$. Participants from the free will frame did not

report stronger free will scores ($M = 20.74$, $SD = .82$) than participants from the determinism

frame ($M = 22.0$, $SD = .86$), nor did they report significantly different scores than participants

from the neutral frame ($M = 21.0$, $SD = .80$), $F(2, 53) = .62$, $p = .540$, $\eta_p^2 = .023$. There was also

no significant effect of frame on determinism scores, $F(2, 53) = .99$, $p = .378$, $\eta_p^2 = .036$.

Participants from the determinism frame did not report stronger determinism scores ($M = 13.12$,

SD =.84) than participants from the free will frame (M = 13.16, SD =.80) or neutral frame (M =

14.50, SD =.78). Because our framing manipulation was ineffective, we grouped participants

according to their FWD-Q ratings, which reflected their actual lay beliefs.[1] Similar methods have

been adopted in previous studies (Stillman et al., 2010).

Individual difference measure scores. To classify participants as endorsing free will or

determinism, we calculated post-test disposition FWD-Q measures as per Paulhus and Carey's

(2011) instructions. We calculated separate free will and determinism scores for each participant

by summing their six individual ratings from the free will and the deterministic statements,

respectively. On average, participants rated higher than the minimum score of 6 for both free will

scores (M = 21.21, SD = 3.53) and determinism scores (M = 13.63, SD = 3.47)

To create a grouping variable that took into account participants' beliefs about both free

will and determinism, we performed median splits on the sample's scores. First, we performed a

median split on free will scores (Mdn = 22) and created a categorical variable to distinguish

participants who believe more and less strongly in free will concepts. Participants who scored

above the median of 22 were grouped as Free Will (FW) (n = 35), and those who scored lower

than 22 were grouped as Non Free Will (NFW) (n = 21). Second, we performed a median split

on determinism scores (Mdn = 13.5). Participants who scored above the median of 13.5 were

grouped as the Deterministic, indicating greater belief in deterministic concepts (D, n =32), and

those who scored lower than 13.5 were grouped as the Non-deterministic (ND, n= 24),

indicating less belief in deterministic concepts. The combination of these two variables yielded

four belief categories. According to their group placements, participants fell under one of four

categories: Deterministic and Free Will (D-FW), Deterministic and Non Free Will (D-NFW),

---

[1] Pre- and post-test manipulation checks showed that participants' free will beliefs at the beginning and end of the experiment did not significantly differ, z = 1.80, p = .072.

Non-deterministic and Free Will (ND-FW), or Non-deterministic and Non Free Will (ND-NFW).

Of particular interest were the D-NFW participants and the ND-FW participants, as the former

combination indicates a strong endorsement of determinism and the latter indicates a strong

endorsement of free will. The D-FW participants were also of particular interest, as such a

combination of beliefs represents compatibilism. The ND-NFW group was not of particular

interest, for lack of belief in both determinism and free will is not an established or popular

world belief, nor was it within the scope of interest for the present study. There were also too few

participants who identified as ND-NFW ($n = 9$) relative to the other groups. Thus, we did not

include ND-NFW participants in our categorical variable of "group belief" for our analysis.

      Rating scores. Mean moral judgment ratings were calculated for each scenario and moral

construct for each participant. The questionnaire for each scenario type contained eight relevant

moral judgment questions that measured the four individual moral constructs: moral evaluation,

moral responsibility, justification, and punishement; i.e., two questions per construct. For every

participant, we averaged the two ratings from the moral judgment questions that corresponded

with each construct. Thus, given three scenarios and four constructs, each participant yielded

twelve mean moral judgment ratings.

Moral Judgment Data

      To determine if free will belief, and deterministic belief affected moral judgments

differently for different scenarios and constructs, we conducted a mixed-model MANOVA with

two between subjects factors of group belief (3: D-NFW, ND-FW, D-FW) and frame (3: free

will, determinism, and neutral) and two within-subject factors of scenario (3: euthanasia,

cheating, and stealing), and construct (4: moral evaluation, moral judgment, justification, and

punishment) on moral judgment ratings. The factors scenario and construct yielded significant

main effects. For the scenario effect, $F(2, 37) = 2.14$, $p < .001$, $\eta_p^2 = .843$, the cheating scenario

consistently received the highest (and thus harshest) overall judgment ratings ($M = 4.83$, SD

$= .09$), and the euthanasia scenario consistently received the lowest ratings ($M = 2.92$, $SD = .13$),

with the stealing scenario falling somewhere in between ($M = 4.04$, $SD = .11$). Post-hoc pairwise

comparisons revealed that all three scenario types significantly differed from each other, $t(110) =$

83.14, $p < .001$; $t(110) = 35.50$, $p < .000$; $t(110) = 47.80$, $p < .001$. This pattern suggests that

situational context influences robustly the severity of our moral judgment of other individual's

morally questionable behavior.

The significant construct type effect, $F(3, 36) = 2.14$, $p < .001$, $\eta_p^2 = .922$, indicated that

moral responsibility was rated the highest by participants ($M = 5.25$, $SD = .13$), followed by

moral evaluation ($M = 4.15$, $SD = .09$) and punishment ($M = 3.29$, $SD = .09$), and ending with

justification ($M = 3.05$, $SD = .13$). Pairwise comparisons revealed that all four moral construct

types significantly differed from one another. However, a scenario x construct interaction

indicated that different scenarios emphasized different constructs, $F(6, 33) = 28.42$, $p < .001$, η_p^2

$= .838$ (Figure 1).

There was no significant effect of group belief, $F(2, 38) = .34$, $p = .711$, $\eta_p^2 = .018$. Mean

judgment ratings did not differ between D-NFW participants ($M = 3.97$, $SD = .13$), ND-FW

participants ($M = 3.84$, $SD = .14$), and D-FW participants ($M = 4.00$, $SD = .15$).

However, we found a significant group belief x scenario x construct interaction showing

that judgment ratings for the individual constructs did indeed differ between group belief types,

depending on scenario type, $F(12, 68) = 1.97$, $p = .040$, $\eta_p^2 = .258$ (Figure 2). D-FW

(compatibilist) participants showed the most stable ratings for constructs moral evaluation and

moral responsibility across all scenario types, but particularly for the cheating and stealing

scenarios. D-NFW (determinism) participants rated moral evaluation and moral responsibility

the highest for all scenarios except euthanasia. Across scenario types, D-NFW participants

showed the lowest punishment ratings while D-FW participants showed the highest. ND-FW

(free will) participants did not exhibit any ratings that were consistently higher or lower

compared to D-NFW and D-FW participants.

Lastly, it is important to note that there was no main effect of frame, $F(2, 38) = 2.01$, p

$= .148$, $\eta_p^2 = .096$. Furthermore, frame did not interact with scenario, $F(4, 76) = .60$, $p = .667$, η_p^2

$= .030$, construct, $F(6, 74) = 1.32$, $p = .246$, $\eta_p^2 = .099$, or group belief, $F(4, 38) = .57$, $p = .683$,

$\eta_p^2 = .057$.

General Discussion

In this study, we investigated how philosophical beliefs about the world might influence

moral judgment. Specifically, we investigated whether different free will and deterministic

beliefs, as well as different situational contexts, affected moral judgment. Another question of

focus was whether severity of judgments would vary by moral construct type. Our experiment

attempted to manipulate free will beliefs by priming participants with statements in support of

free will or determinism. Participants then read three scenarios that differed by situational

context, each followed by a moral judgment questionnaire that measured four moral constructs.

At the end of each session, participants completed the FWD-Q that measured their lay beliefs in

free will and determinism. We grouped participants by combined free will and deterministic

belief based on their FWD-Q ratings. Our results showed no effects of frame. However, several

of our research questions were addressed. We found that situational context had a significant

effect on participants' moral judgments. Furthermore, we observed that judgment ratings differed

depending on the moral construct being measured. The relative reliance of these construct ratings

depended on situational context. Lastly, different free will beliefs did influence moral judgment, but only to a small degree relative to situational context. Overall, these results emphasize the complex and multifaceted nature of moral judgment.

Our scenario effect demonstrates the importance of situational context in determining moral judgment. Participants' judgment ratings were not consistent across scenario types, showing that moral judgments vary depending on the situation in question. In our experiment, higher ratings implied harsher judgment. The cheating scenario, which depicted an intelligent and otherwise virtuous college student, received the harshest overall judgment ratings. The euthanasia scenario, which depicted the mercy killing of a terminally ill patient at the end of her life, received the least harsh judgment ratings. Because our sample population comprised college students from top-ranked liberal arts colleges, these results suggest that moral judgments vary as a function of personal relevance.

Our finding that judgment ratings significantly differed by moral construct type shows that moral judgment is multidimensional. That is, the idea of moral judgment cannot be characterized as a single concept; rather, it is an amalgamation of different but related elements, which the current study measured through different moral constructs. Our significant construct effect suggests that moral judgments are not formed on the basis of a single consideration. Of the four constructs, moral responsibility received the highest ratings with a mean of 5.25 ($SD= .13$). Since the scale ranged from 1 to 6, this result implies that participants considered the agents in question as almost entirely responsible for their morally questionable transgressions, regardless of the situational context. Perceived justification received the lowest ratings ($M= 3.05$, $SD= .13$), indicating that some moral judgment considerations load more than others.

The interaction of construct and scenario showed that situational context influenced construct ratings overall. Our results suggest that situational context robustly influences evaluations of morality, perceived justification, and assignments of punishment, but affects attributions of moral responsibility the least. These data suggest that some moral judgment constructs are easily influenced by situational context (e.g., moral evaluation), while others are less affected by a large degree, like moral responsibility (Figure 1a). Regardless, situational context still predicted the harshness of judgment ratings across construct types. In other words, we observed the same scenario effect pattern for all four construct types—the cheating and euthanasia scenarios consistently received the harshest and lowest judgment ratings, respectively. This constant pattern further emphasizes the crucial role that situational context plays in moral judgment, and lends more support to our theory that severity of moral judgment depends on personal relevance.

Our results show that longer standing philosophical beliefs about free will and determinism influenced moral judgments more than free will and deterministic primes, since we found no frame effects. FWD-Q mean free will and determinism scores indicate that overall, participants endorsed free will notions more than deterministic notions.

Different philosophical beliefs slightly influenced moral judgment. For sake of clarity, "ND-FW," "D-NFW," and "ND-FW" will hereafter be used interchangeably with "free will," "determinism," and "compatibilism," respectively. Our group belief x scenario x construct interaction showed that compatibilism participants rated moral evaluation and responsibility most consistently across scenario types, but particularly for cheating and stealing. This suggests that compatibilist participants' moral judgment was least influenced by situational context.

Of the three belief types, determinism participants rated the euthanasia scenario the lowest for all constructs. However, they had the highest overall moral evaluation and responsibility ratings for the cheating and stealing scenarios compared to free will and compatibilist participants. Together these results suggest that deterministic belief only influences moral judgment under certain situational contexts (i.e, euthanasia). On the other hand, free will belief did not seem to noticeably influence moral judgment at all, since ND-FW participants did not show any ratings that were consistently higher or lower than D-NFW and D-FW participants. Lastly, determinism participants selected the least amount of punishment for the agents in question for all scenario types. Broadly, these results demonstrate that different philosophical beliefs, particularly deterministic and compatibilist belief interact with situational context in different ways to affect moral judgment.

Our first prediction was that determinism participants would judge the agents in question less harshly overall compared to free will participants. We cannot conclude that our results validate this hypothesis, since deterministic judgment ratings were inconsistent across scenarios and construct type. However, determinism participants did judge the agents in question less harshly in terms of punishment assignment compared to free will participants. Since the concept of determinism implies complete lack of decision freedom, this effect fits well with Kane et al.'s (1977) finding that subjects' selected amount of punishment for an agent in question correlated with the amount of decision freedom they perceived the agent to have.

Our second prediction was that determinism participants would attribute less moral responsibility to the agents in question compared to free will participants. Again, we cannot conclude that our results support this prediction. While determinism participants attributed less

moral responsibility for the euthanasia scenario compared to the free will participants, we did not observe the same effect for the cheating and stealing scenario.

Finally, our third prediction that free will participants would attribute more responsibility to the agents in question compared to neutral participants was nullified due to our lack of frame manipulation effect.

To date, there exist very few studies in the moral psychology literature that look at the effects of different free will beliefs on moral judgment. The current study adds to this growing area of interest with some notable findings. First, our results are in opposition to recent studies that have found positive correlations between perceptions of moral responsibility and belief in free will (Ogletree & Oberle, 2008). One possible explanation for this may be that the questions used by Ogletree and Oberle to assess moral responsibility did not provide background context. In their study, the researchers measured moral responsibility by asking the question, "People who commit crimes or hurt someone are morally responsible for their behavior and should expect to receive appropriate consequences for their actions." (p. 104.) Ogletree and Oberle also compounded moral responsibility and punishment together into one measure, whereas the measures in our study did not. Second, we show that differences in philosophical beliefs do not robustly influence moral judgment in the same way that different beliefs have been shown to affect moral behavior. Instead, we identify situational context as a stronger overriding factor in determining moral judgment. Finally, our findings align with a recent study that is forthcoming in *Psychological Science*, which found that reduced belief in free will led to lighter assignments of punishment (Shariff et al., forthcoming).

Our convenience sample of college students presents a limitation to our study. It may be possible that lay philosophical beliefs about free will may be more developed in older adults,

which may yield stronger effects on moral judgment. It may be of interest for future studies to

explore this possibility. Furthermore, similar longitudinal studies may help to test our theory that

personal relevance plays a role in determining how situational context affects moral judgment.

References

Baumeister, R. F., Masicampo, E. J., DeWall, C. N. (2009). Prosocial benefits of feeling free:

Disbelief in free will increases aggression and reduces helpfulness. *Personality and

Social Psychology Bulletin, 35*(2), 260-268.

Baumeister, R. F. (2008). Free will in scientific psychology. *Perspectives on Psychological

Science, 3*(1), 14-19.

Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., Cohen, J. D. (2001). An fMRI

investigation of emotional engagement in moral judgment. *Science, 293*(5537), 2105-

2108.

Kane, T.R., Joseph, J. M., & Tedeschi, J. T. (1977). Perceived freedom, aggression, and

responsibility, and the assignment of punishment. *The Journal of Social Psychology,

103*(2), 257-263.

Ma-Kellams, C., & Blascovich, J. (2013). Does "science" make you moral? The effects of

science on moral judgments and behavior. *PLOS ONE, 8*(3) 1-4.

Nahmias, E. (2006). Folk fears about freedom and responsibility: Determinism vs. Reductionism.

Journal of Cognition and Culture, 6(1-2), 215-237.

Nichols, S., & Knobe, J. (2007). Moral responsibility and determinism: The cognitive science of

folk intuitions. *NOUS, 42*(4), 663-685.

Nichols, S. (2006). Folk intuitions on free will. *Journal of Cognition and Culture, 6*(1-2), 57-86.

Ogletree, S. M., & Oberle C. D. (2008). The nature, common usage, and implications of free will

and determinism. *Behavior and Philosophy,* (26), 97-111.

Paulhus, D. L., & Carey, J. M. (2011). The FAD-Plus: Measuring lay beliefs regarding free will

and related constructs. *Journal of Personality Assessment, 93*(1), 96-104.

Schulz, E., Cokely, E. T., Feltz, A. (2011). Persistent bas in expert judgments about free will and

      moral responsibility: A test of the expertise defense. *Consciousness and Cognition,* 1722-

      1731.

Shariff, A. et al. (n.d.). Free will and punishment: A mechanistic view of human nature

      reduces retribution. Forthcoming in *Psychological Science.*

Shariff, A., F., & Norensayan, A. (2007). God is watching you: Priming God concepts increases

      prosocial behavior in an anonymous economic game. *Psychological Science, 18*(9), 803-

      809.

Shepherd, J. (2012). Free will and consciousness: Experimental studies. *Consciousness and*

      Cognition: An International Journal, 21(2), 915-927.

Stillman, T. F., Baumeister, R. F., Vohs, K. D., Lambert, N. M., Fincham, F. D., & Brewer, L. E.

      (2010). Personal philosophy and personnal achievement: Belief in free will predicts better

      job performance. *Social Psychological and Personality Science, 1*(1), 43-50.

Ugazio, G., Lamm, C., & Singer, T. (2012). The role of emotions for moral judgments depends

      on the type of emotion and moral scenario. *Emotion, 12*(3), 579-590.

Valdesolo, P., & Desteno, D. (2006). Manipulations of emotional context shape moral judgment.

      Psychological Science, 17(6), 476-477

Vohs, K. D., & Schooler, J. W. (2008). The value of believing in free will: Encouraging a belief

      in determinism increases cheating. *Psychological Science, 19*(1), 49-54.

Woolfork, R. L., Doris, J. M., & Darley, J. M. (2006) Identification, situational constraint, and

      social cognition: Studies in the attribution of moral responsibility. *Cognition, 100*(2),
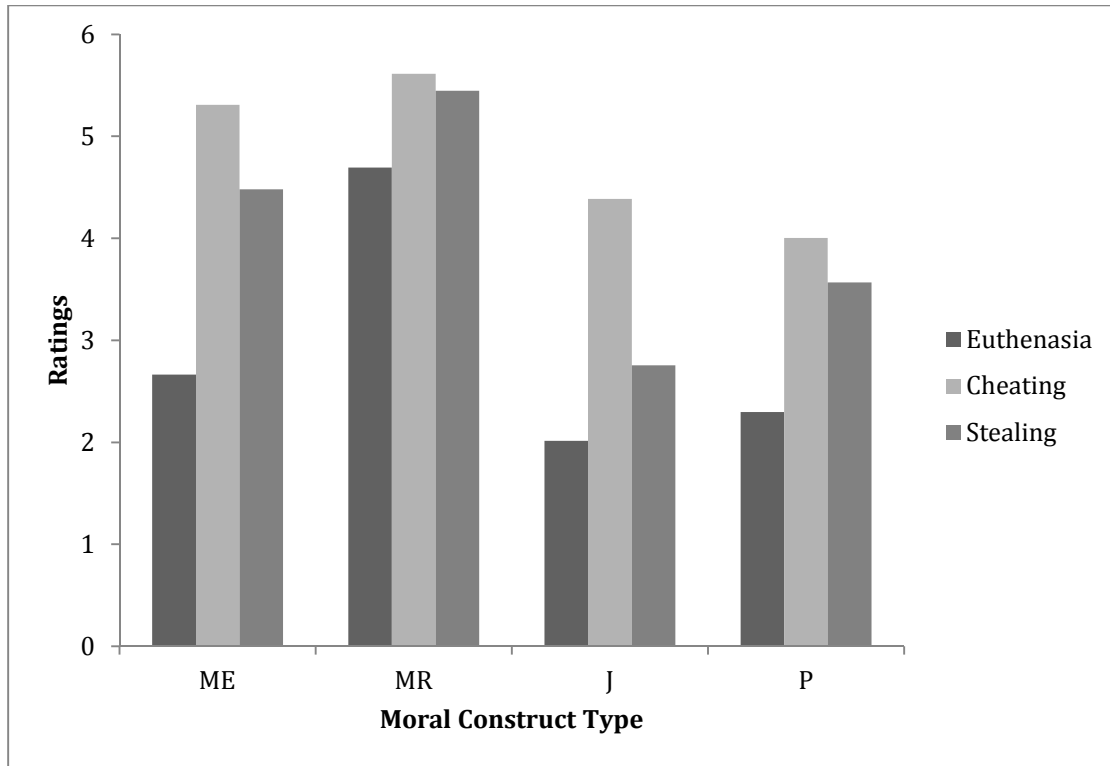
      283-301.

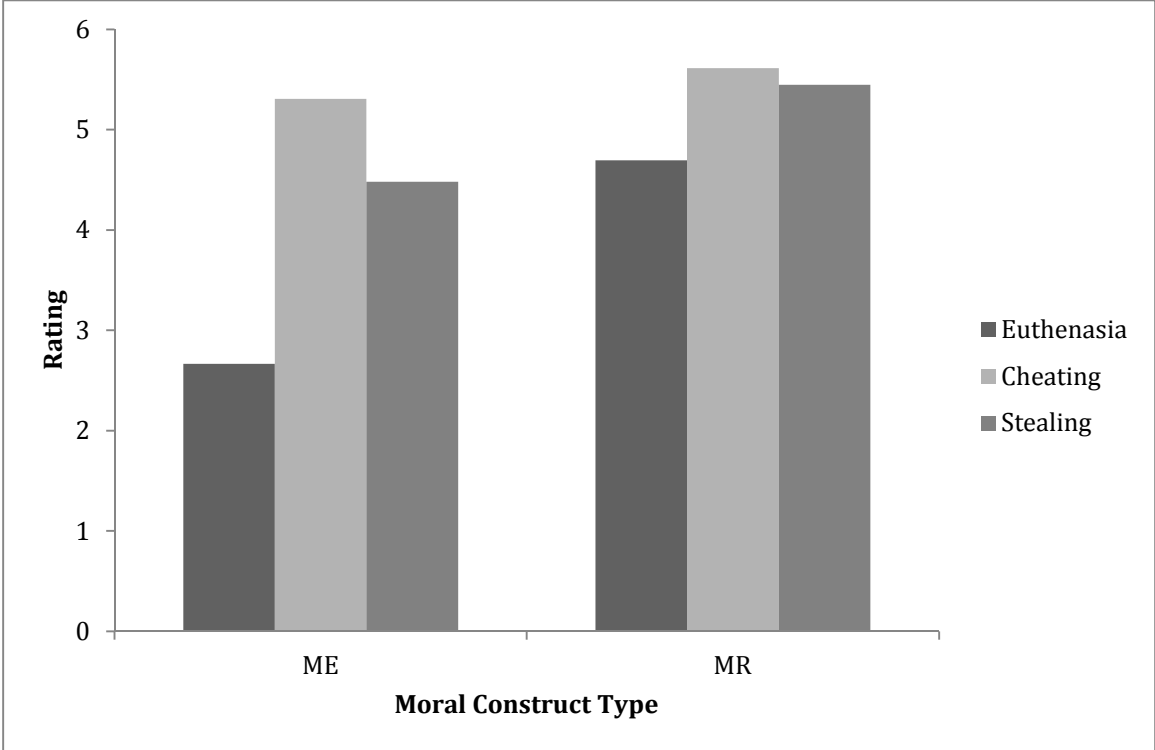*Figure 1.* Interaction effect of scenario and moral construct type on judgment ratings

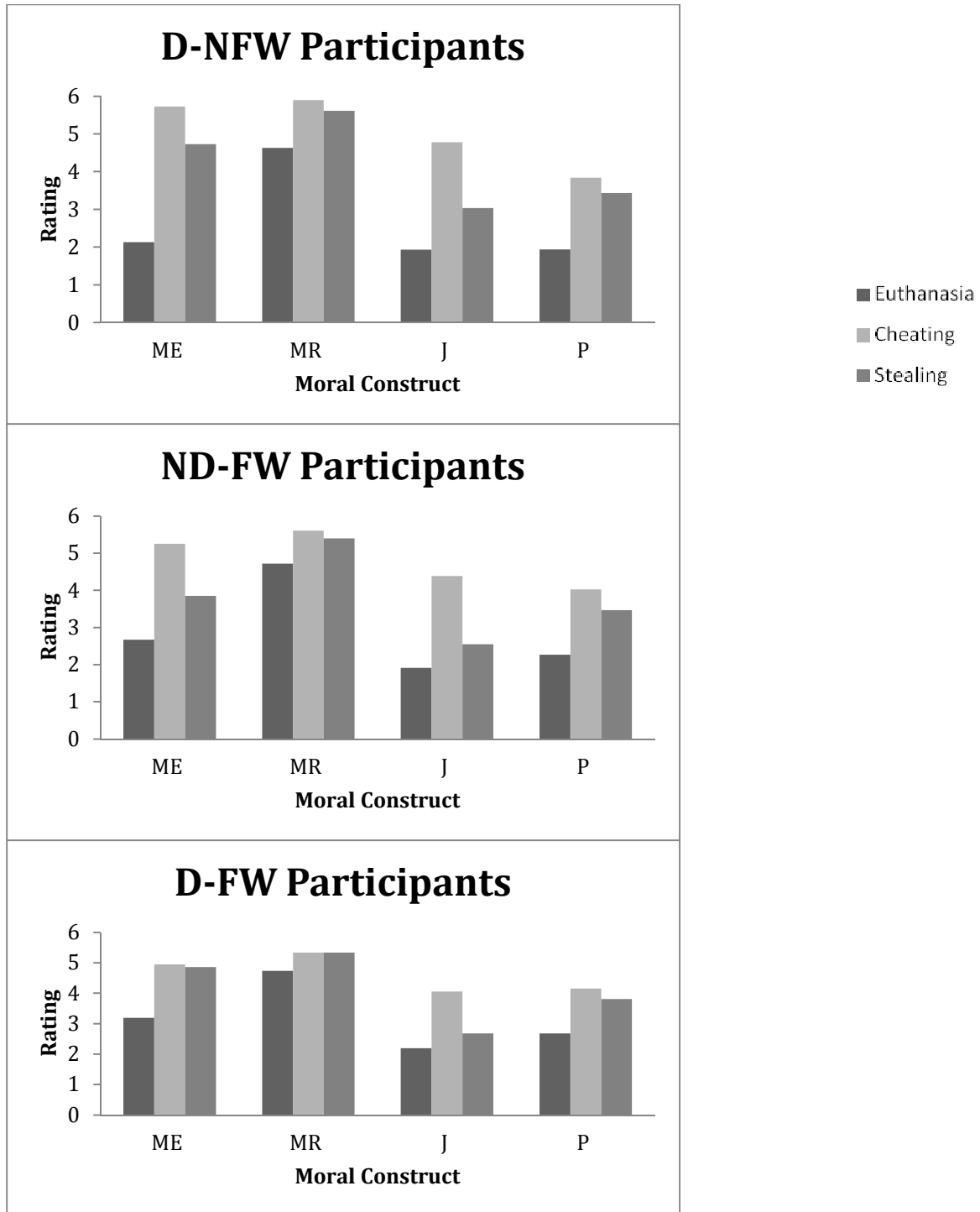*Figure 1a.* Moral evaluation ratings vs. moral responsibility ratings across scenario types

Figure 2. Scenario x Construct x Group belief interaction

Appendix A

Free Will Manipulation: Neutral Statements

1. Oceans cover 71% of the earth's surface.

2. Alkaline power cells generally work longer than ordinary batteries.

3. Monarch butterflies fly slowly but have been sighted hundreds of miles at sea.

4. The Olympics are held every four years.

5. Half a day's boat ride away from Athens lies the isle of Mykonos.

6. Sugar cane and sugar beets are grown in 112 countries.

7. Many of the mountain peaks in the Rockies are over 14,000 feet high.

8. The Appalachian Highlands are worn down mountains and plateaus stretching from the northern Alabama to the St. Lawrence River in Canada.

9. The greatest distance the earth is from the sun is 94,452,000 miles.

10. The Nile River in Africa is the world's longest river.

11. The Los Angeles metropolitan area is known for its complex system of highways.

12. Most appliances are guaranteed for a full year against defects.

13. Pocket calculators became common items only after 1970.

14. Inventories are most frequently taken either at the beginning or at the end of the month.

15. Organically grown foods are more popular in recent decades.

Free Will Manipulation: Deterministic Statements

1. Ultimately, we are biological computers - designed by evolution, built through genetics, and programmed by the environment.

2. The brain is a complex machine capable of carrying out extremely sophisticated behaviors.

3. Science has demonstrated that free will is an illusion.

4. It is likely that scientists will eventually understand how the feeling of personal experience results from neurons firing in the brain.

5. Everything a person does is a direct consequence of their environment and genetic makeup.

6. Once scientists understand enough about the physical principles underlying behavior, they should be able to precisely predict a person's future actions based solely on that person's genetics and prior experiences.

7. Our actions are determined by what we have experienced in the past combined with the specific genetic predispositions that we have.

8. Like everything else in the universe, all human actions follow from prior events and ultimately can be understood in terms of the movement of molecules.

9. A belief in free will contradicts the known fact that the universe is governed by lawful principles of science.

10. Our mental activities are exclusively the product of physical processes.

11. Every action that a person takes is caused by a specific pattern of neural firings in the brain.

12. All behavior is determined by brain activity, which in turn is determined by a combination of environmental and genetic factors.

13. People often claim that they have free will, but all they really have is the experience of making choices.

14. Just as science has shown that physical movement is merely forces of gravity combined with muscular force, scientists are now realizing that personal thoughts, feelings, and beliefs are similarly controlled by basic physical processes.

15. Even if some behaviors are not actually pre-determined, this does not mean there is free will, as random actions are no more under our control than are those caused by prior events.

Free Will Manipulation: Free Will Statements

1. I demonstrate my free will everyday when I make decisions.

2. I am able to override the genetic and environmental factors that sometimes influence my behavior.

3. I have feelings of regret when I make bad decisions because I know that ultimately I am responsible for my actions.

4. I take personal pride in good decisions I have made in the past because I know that, at the time, I had the freedom to and could have made a bad decision.

5. Avoiding temptation requires that I exert my free will.

6. Ultimately people cannot blame their own actions on anything other than themselves.

7. I have free will to control my actions and, ultimately, to control my destiny in life.

8. I am more than a robot that has been programmed by genetics and the environment, no matter what a few scientists claim.

9. People are responsible for their behaviors because they have free will to control their actions.

10. Our actions and thoughts are not simply the result of prior experiences.

11. By exerting their free will, people can and do overcome the negative effects of a dysfunctional environment.

12. It has been shown that mental experience cannot be completely reduced to physical causes.

13. There are many things that science still cannot explain, so it does not trouble me that science cannot offer an explanation for free will.

14. Given that I have had personal experiences that science cannot explain, I also know that I have free will even if science cannot explain it.

15. By exerting my will, I overcome the physical factors that influence my behavior and experience true freedom.

Appendix B

Moral Scenarios and Moral Judgment Questionnaires

Choose the Outcome (Dr. Jefferson)

Please read the following scenario and answer the questions below IN ORDER:

There was a woman who had very bad cancer, and there was no treatment known to medicine that would save her. Her doctor, Dr. Jefferson, knew that she had only about six months to live. She was in terrible pain, but she was so weak that a good dose of a painkiller like ether or morphine would make her die sooner. She was delirious and almost crazy with pain, and in her calm periods she would ask Dr. Jefferson to give her enough ether to kill her. She said she couldn't stand the pain and she was going to die in a few months anyway. Although he knows that mercy killing is against the law, the doctor ultimate decides to grant her request.

1. How right was Dr. Jefferson's behavior?

   1   2   3   4   5   6

   Very Right   Very Wrong

2. How moral was Dr. Jefferson's behavior?

   1   2   3   4   5   6

   Very Moral   Very Immoral

3. How responsible was Dr. Jefferson for his behavior?

   1   2   3   4   5   6

   Not at all responsible   Entirely Responsible

4. How ethical was Dr. Jefferson's behavior?

   1   2   3   4   5   6

   Very ethical   Very unethical

5. How justified was Dr. Jefferson's action?

   1   2   3   4   5   6

   Entirely Justified   Not at all justified

6. How rational was Dr. Jefferson's behavior?

   1   2   3   4   5   6

Very rational   Very irrational

7. To what extent did Dr. Jefferson have good reasons for his behavior?

        1   2   3   4   5   6

Very good reasons   No good reasons at all

8. Do you think Dr. Jefferson should be held legally responsible for his actions?

      Yes   No   Not Sure

9. How guilty is Dr. Jefferson?

        1   2   3   4   5   6

Not guilty at all   Very guilty

10. The scenario you were presented with occurred in Georgia. According to Georgia law, assisted suicide is punishable by 1 to 10 years imprisonment. If you were on the jury and had to assign one of the following options for Dr. Jefferson, which would you choose? Please mark one choice.

_____ No prison time

_____ 1-2 years prison time

_____ 3-4 years prison time

_____ 5-6 years prison time

_____ 7-8 years prison time

_____ 9-10 years prison time

Choose the Outcome (Mary)

Please read the following scenario and answer the questions below IN ORDER:

Mary is a 3rd-year college student in good standing. All through her academic years, she has obtained straight A's, has made the Dean's List multiple times, has many friends, and has never been disciplined by any school authority. However, near the end of her 3rd year, she fell ill with the flu and fell way behind in her schoolwork. She missed three weeks of class, which resulted in her having to rush a report that would be worth 40% of her English grade. She was so desperate about the report that she went online and passed off a report she found on that subject as her own. Her English professor caught her and referred her to the college's Academic Standards Committee.

1. How right was Mary's behavior?

        1   2   3   4   5   6

        Very Right   Very Wrong

2. How moral was Mary's behavior?

        1   2   3   4   5   6

        Very moral   Very immoral

3. How responsible was Mary for her behavior?

        1   2   3   4   5   6

        Not at all responeible   Entirely Responsible

4. How ethical was Mary's behavior?

        1   2   3   4   5   6

        Very ethical   Very unethical

5. How justified was Mary's behavior?

        1   2   3   4   5   6

        Entirely justified   Not justified at all

6. How rational was Mary's behavior?

        1   2   3   4   5   6

        Very irrational   Very rational

7. To what extent did Mary have good reasons for her behavior?

        1   2   3   4   5   6

Very good reasons   No good reasons at all

8. Do you think Mary should be held legally responsible for her actions?

        Yes   No   Not Sure

9. How guilty is Mary?

        1   2   3   4   5   6

Not guilty at all   Very guilty

10. According to her college's Academic Standards Committee, there are a number of possible punishments for plagiarism. If you had to choose from one of the following options to assign to Mary, which would you assign?

_____ No punishment

_____ Disciplinary probation

_____ Assignment to an Academic Integrity Seminar and $75 fee

_____ 1 semester suspension

_____ 2 semester suspension

_____ Expulsion from college

Choose the Outcome (Jim)

Please read the following scenario and answer the questions below IN ORDER:

Jim works for a very corrupt company that is worth billions of dollars. Jim earns minimum wage, even though he has been a loyal employee for decades and deserves to earn more money. He is also very aware that his company is very corrupt. As a loving father, Jim wants more than anything for his children to be able to attend college after they graduate high school, but the reality is he cannot afford to. His oldest daughter has recently graduated high school as valedictorian of her class and has been accepted into several Ivy League schools including Harvard and Yale. Desperate to give his daughter the future she deserves, Jim embezzles $20,000 from his company.

1. How right was Jim's behavior?

    1   2   3   4   5   6

    Very Right   Very Wrong

2. How moral was Jim's behavior?

    1   2   3   4   5   6

    Very Moral   Very Immoral

3. How responsible was Jim for his behavior?

    1   2   3   4   5   6

    Not at all responsible   Entirely responsible

4. How ethical was Jim's behavior?

    1   2   3   4   5   6

    Very ethical   Very Unethical

5. How justified was Jim's action?

    1   2   3   4   5   6

    Entirely justified   Not justified at all

6. How rational was Jim's behavior?

    1   2   3   4   5   6

    Very rational   Very irrational

7. To what extent did Jim have good reasons for his behavior?

<div style="text-align:center">

1   2   3   4   5   6

</div>

Very good reasons   No good reasons at all

8. Do you think Jim should be held legally responsible for his actions?

<div style="text-align:center">

Yes   No   Not Sure

</div>

9. How guilty is Jim?

<div style="text-align:center">

1   2   3   4   5   6

</div>

Not guilty at all   Very guilty

10. The scenario you were presented with occurred in Hawaii. According to Hawaii law, embezzlement of this sort is punishable by 1 to 10 years imprisonment. If you were on the jury and had to assign one of the following options to Jim, which would you assign?

_____ No prison time

_____ 1-2 years prison time

_____ 3-4 years prison time

_____ 5-6 years prison time

_____ 7-8 years prison time

_____ 9-10 years prison time

Appendix C

Free Will and Determinism Questionnaire

For each statement below, choose a number from 1 (*Totally Disagree*) to 5 (*Totally Agree*) to

indicate how much you agree or disagree.

1. I believe that the future has already been determined by fate. _____

2. As with other animals, human behavior always follows the laws of nature. _____

3. People have complete control over the decisions they make. _____

4. Chance events seem to be the major cause of human history. _____

5. People must take full responsibility for any bad choices they make. _____

6. No one can predict what will happen in this world. _____

7. Your genes determine your future. _____

8. People can overcome any obstacles if they truly want to. _____

9. Life is hard to predict because it is almost totally random. _____

10. Whatever will be, will be—there's not much you can do about it. _____

11. Life seems unpredictable—just like throwing dice or flipping a coin. _____

12. Criminals are entirely responsible for the bad things they do. _____

13. Luck plays a big role in people's lives. _____

14. No matter how hard you try, you can't change your destiny. _____

15. People are always at fault for their bad behavior. _____

16. Strength of mind can always overcome the body's desires. _____

17. We should avoid punishing people because many of them can't help doing what they do.

    _____

18. What happens to people is a matter of chance. _____