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Moral Transgressions & Aggression: Investigating the I in Imperative

by

Justin T. Aoki

A Thesis

Presented to the Graduate and Research Committee

Of Lehigh University

In Candidacy for the Degree of

Master of Science

in

Psychology

Lehigh University

September 2012

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Thesis is accepted and approved in partial fulfillment of the requirements for the Master of Science in Psychology.

Moral Transgressions & Aggression: Investigating the I in Imperative
Justin Aoki

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Abstract

While past research makes the assumption that moralized issues and beliefs are characterized by a sense of imperativeness or obligation, direct evidence for this assumption is lacking. In the current thesis, I provide direct tests of moral imperativeness, and find tentative support for a more nuanced model of moral processes whereby moralized attitudes are only treated as imperatives to the extent that they are linked to (e.g., co-activated with) a person's self-concept. Using a cooperation (dictator) game paradigm, Study 1 found that punishment of both moralized and non-moralized transgressions was reduced/deterred by high (vs. low) costs, suggesting that imperativeness may not be an inherent quality of moralized issues. Using the same paradigm, Study 2 demonstrated that eliciting a self-focus (vs. control) when participants encountered what may have been a moralized transgression reduced the effect of costs, providing supporting the idea that imperative action may only be engendered to the extent that a person's sense of self is linked to a moralized issue. Finally, Study 3 found possible convergent support using a different (intergroup) paradigm. More specifically, Study 3 demonstrated that support for aggressive military action in response to a highly moralized transgression was sensitive to pragmatic considerations (e.g., costs and the efficacy of aggression) when group identification with the victims of the transgression was low but not high. Although the effects across studies were mixed and not always entirely as predicted, the overall pattern of findings provides support for the idea that action in response to a moralized issue or transgression only exhibits imperativeness to the extent that the moralized issue is experienced as self-relevant (e.g., more strongly linked to the self-concept).

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Introduction

"The hottest places in hell are reserved for those who, in times of great moral crises, maintain their neutrality" – Dante Alighieri

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The rousing words of Dante Alighieri capture the sense that moral beliefs have a compelling power, such that when people are faced with a moral conflict, there is often a sense of responsibility and obligation that pushes them to act in accordance with their moral views—whatever they may be. The important issue at stake is *what* we are pushed to do. Arguably, we are always pushed to do what we believe to be right. The problem is that one person's right can be another person's wrong. Taken further, one person's right can mean another person's death. From the notorious Holy Wars of the past to the appalling destruction witnessed on September, 11th, 2001, countless atrocities have been committed in the name of justice and the divine. This pairing of aggression and moral value is often considered to be of grave concern (Ginges & Atran, 2011; Atran, 2006; Atran & Ginges, 2012), because it may both justify and incite attempts to harm other people. Following from this, my thesis addresses two important questions: 1) just how powerful are moral beliefs, in terms of motivating aggressive behavior, and 2) why (or under what circumstances) are moral beliefs so commanding—that is, what gives them their compelling power over behavior?

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What is Moral?

Often, researchers have taken it upon themselves to define what is or is not moral (e.g., Haidt, 2001; Smetana, 2006; Nucci & Turiel, 1978), or have assumed that certain scenarios, actions, and issues are moral while others are not (e.g., Ginges & Atran, 2011; Hillygus & Shields, 2005). However, there are many individual differences in what people consider and define as moral, the degree to which they interpret a situation as morally relevant, and what a moral belief or value means to them (Skitka, 2010; Bauman & Skitka, 2009; Blasi, 1983). For example, some people might view defying a certain authority figure as a highly immoral act of disobedience, while others may see it as a mere disagreement of opinion or a secular act of social progression (Haidt, 2007). Thus, following Skitka (2010), the current research avoids a normative approach in defining what is and is not moral. Instead, I let participants define for themselves what they experienced as moral and what it meant for a belief or action to be moral.

Characteristics of Morality

Several unique psychological characteristics have been attributed to moral beliefs that are thought to distinguish them from other types of beliefs and preferences. For example, much of the literature would suggest that moral beliefs are experienced as omnipresent *universal rules*, such that one's moral beliefs are thought to apply to everyone, everywhere, at all times (Smetana, 2006; Skitka, Bauman, & Sargis, 2005; Skitka, 2010). For example, if you believe that it is morally wrong to steal, it shouldn't matter if the thief is a Nobel laureate or yourself, it shouldn't matter what country or culture it takes place in, and it should not matter if the theft took place during the Stone

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Age or will take place a million years from now; in all cases, stealing is/was/will be wrong—even if it occurred a long time ago in a galaxy far, far away!

Another characteristic attributed to moral beliefs is that they are marked by feelings of *certainty and objectivity* (Goodwin & Darley, 2008; Goodwin & Darley, 2012; Skitka et al., 2005; Skitka, 2010), such that moral beliefs are understood and expressed as facts about the world (as opposed to mere preferences). Thus, just as one can be sure of the fact that mixing blue paint with yellow paint will make green paint, or that darkness is the absence of light, people tend to be equally certain that their moral beliefs are inherently true. In association with this, moral beliefs are typically construed in black and white terms, with an issue or action being labeled as either right or wrong—there is no middle ground when it comes to moral beliefs (Goodwin & Darley, 2008). However, this is truer for proscriptive moral beliefs (moral wrongs) as compared to prescriptive moral beliefs (moral rights), such that people experience beliefs about moral transgressions as more objective than beliefs about moral goods (Goodwin & Darley, 2012).

Moral beliefs also seem to be imbued with an *immunity from conventional judgment*, such that they are considered to be independent from and outside the reaches of secular authority (e.g., the Supreme Court and procedural justice; Skitka, Bauman, Lytle, 2009; see also Killen & Smetana, 2008; Smetana, 2006). In other words, moral beliefs are experienced as intrinsically right or wrong, and they cannot be legitimated or illegitimated by a non-moral authority (e.g., if you believe that telling the truth is morally right, then it will always be morally right, regardless of what anyone or anything else says). At most, it seems that a moral value may only be deemed superior or inferior to

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another moral value (e.g., while honesty may be an important moral value in our daily lives, it can be forsaken when it comes to saving a person's life).

All of these characteristics—universality, objectivity, immunity from convention—mean that people are highly motivated to protect and uphold their moral beliefs and sense of morality in the face of opposition (Skitka et al., 2005; Skitka, 2002; Leach, Ellemers, & Barreto, 2007).

A fourth central quality typically ascribed to moral beliefs is that they experienced psychologically as *obligatory or imperative* (i.e., they demand or oblige the appropriate moral action, regardless of consequences; Haidt, 2001; Skitka, 2010; Smetana, 2006; Killen & Smetana, 2008), such that if a person believes that stealing is wrong, they will feel morally obligated to not steal. However, not only are people bound to this moral contract in logical terms (e.g., if one fails to obey their moral duty to not steal, then they will have done something morally wrong), but people are also bound by an intrinsic *feeling* of imperativeness (Skitka, 2010) or an affective motivation to obey their moral dictates.

Why Moral Matters Matter More

The notion that moral beliefs are experienced as imperatives suggests that approaching decisions in moral terms is likely to reduce the influence of traditional rational factors (e.g., outcome probabilities, potential costs, etc.) in a variety of decision-making contexts (Atran & Axelrod, 2008; Tetlock, Kristel, Elson, & Green, 2000; Ginges, Atran, Medin, & Shikaki, 2007; Ginges & Atran, 2011; Dehghani, Iliev, Sachdeva, Atran, Ginges, & Medin, 2009; Dehghani, Atran, Iliev, Sachdeva, Medin, & Ginges, 2010). For example, Packer and colleagues (Packer, Van Bavel, Johnsen, &

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Cunningham, in prep) found that when people construed voting in moral (vs. pragmatic) terms, their intentions to vote were less influenced by perceived costs (e.g., longer lines, bad weather) and benefits. In a donation context, studies have also shown that more costs (i.e., pain and effort) can actually increase one's dedication to a cause and increase donations (Olivola & Shafir, 2010).

The enduring Israeli-Palestinian conflict is a more graphic example of the intractable and incendiary nature of conflicts when they are rooted in moral ground, such that people are less willing to negotiate or accept compromise (Ginges et al., 2007; Tetlock, 2003. Ginges et al. (2007) had Israelis and Palestinians judge various peace deals that involved significant compromises for one's own side (e.g., Israel having to recognize Palestinians' right of return, or Palestinians having to acknowledge the sacred right of Jewish people to Israel). Naturally, all participants opposed the deal, but a portion of participants from either group deemed their opposition to be a sacred value (i.e., they would reject the compromise no matter how beneficial it was to their people). Those who viewed it as a sacred value were even more opposed and outraged (than they were at baseline) if the same peace deal also involved receiving material incentives (e.g., billions of dollars) for their own side. In contrast, participants who viewed the compromise in non-sacred terms responded positively to the added incentives (the expected response in terms of traditional rationality). Consistent with other research, their findings suggest that adulterating the sacred with the profane, even for the pursuit of peace, incites moral outrage (Tetlock et al., 2000; Tetlock, 2003; Ginges et al., 2007), thereby exacerbating an already contentious situation. Nevertheless, there is a glimmer of light among the flames; Ginges et al. (2007) also showed that when a peace deal

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involved both sides having to make a sacred or symbolic sacrifice, there was a significant reduction in moral outrage, support for violence against peace deal supporters, feelings of anger and disgust, etc.

In a separate study—also concerning the Israeli-Palestinian conflict—Ginges & Atran (2011; Study 1) found that among Jewish residents of the West Bank, perceived 'righteousness' (the extent to which acts were perceived as morally mandated), but not perceived effectiveness, predicted support and willingness to partake in political violence against Palestinians and even against Israelis pushing for a peace deal. Coming from a different angle, they also found that people were much less sensitive to the probability of success (saving the lives of hostages) when deciding on a military—as opposed to a diplomatic—resolution to a hostage crisis (Ginges & Atran, 2011, Studies 2-6). More specifically, the authors provided participants with a hypothetical hostage situation, whereby Country X has taken 100 ingroup citizens hostage, and the hostages will likely be tortured and killed. Participants were either provided with a diplomatic option (i.e., negotiation) or a military option to rescue the hostages. Participants then had to decide whether or not they would accept the given option under conditions of varying effectiveness (i.e., the amounts of hostages saved with certainty). What they found was that participants in both conditions overwhelmingly accepted their option when all hostages were guaranteed to be saved, but the proportion of participants who accepted the diplomatic option dropped drastically as the effectiveness went down, whereas the proportion of participants who accepted the military option was not sensitive to the same changes in effectiveness. As a whole, their research suggests that support for war, in particular, is often judged in a deontological (vs. consequentialist) manner, and that when

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it is viewed as a moral obligation, the perceived effectiveness of aggression (a pragmatic concern) becomes less relevant to one's decision for supporting it (Ginges & Atran, 2011).

Many of the aforementioned effects of moral beliefs are indeed potentially alarming; however, it is the forceful, moral push to action (i.e., the sense of imperativeness, or obligation) that wields the most potential power for bringing about benevolent or destructive behavior. Marietta (2008), for example, found that when political issues are framed using 'sacred rhetoric' (i.e., when they are construed in moral terms), people employ 'absolute reasoning', such that they place a value on the issue that is beyond question, costs or consequences, they deny compromise, and the issue evokes moral outrage. This leads people to intensify their support or opposition, and express significantly greater intentions to act upon moral appeals (Marietta, 2008). For example, an appeal for the abolishment of capital punishment framed using sacred rhetoric would reason that killing a person (including criminals) is always morally wrong, whereas an argument using non-sacred or pragmatic rhetoric would reason that a life sentence to prison deters criminals more than a quick and painless death. In this example, it would be predicted that the former argument would rally more intense support (e.g., ramped up dogmatism and increased intentions to act in opposition of capital punishment) than the pragmatic appeal for the abolishment of capital punishment—at least among people who were already anti-capital punishment. Likewise, Van Zomeren, Postmes, & Spears (2010) found that moralized conflicts instigate collective action (both intended and actual) and incite feelings of group-based anger. It seems that moral conflicts tend to

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strike such a chord in us that we feel a necessity or duty to act, which galvanizes us into action.

Moral Imperatives

As outlined earlier, much of the literature assumes that imperativeness is an inherent characteristic of moral beliefs and issues, such that it is one of the criteria for defining what is moral vs. non-moral (Killen & Smetana, 2008; Smetana, 2006). Indeed, many of the studies described above provide circumstantial support for this assumption, in terms of finding evidence that moral beliefs are associated with less willingness to negotiate and less sensitivity to efficacy considerations. Furthermore, moralized (vs. non-moralized) beliefs appear, overall, to be stronger predictors of behavior. Thus, if we were to map out a simplified model of imperative moral action, as implied by the current literature, it would look something like Figure 1. In the first step of the model, an eliciting stimulus or situation (e.g., a transgression) leads people to engage in a decision-making process. Next, the stimulus or situation can be interpreted in more moral or more pragmatic terms (which can be influenced by multiple factors, e.g., the nature of the conflict, persuasion, framing, etc.). In the last step, to the extent that the stimulus or situation is experienced as moral, their action in response to the conflict will be imperative. To the extent that the stimulus or situation is experienced in non-moral terms, their corresponding action will not be imperative, but sensitive to pragmatic considerations.

Moral, but Not Necessarily Imperative

While I do not deny that moral beliefs and moral conflicts *can* be (and often are) characterized by a sense of imperativeness or obligation, I question the extent that

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imperativeness is necessarily an inherent quality of moralized beliefs or conflicts. I also suggest that researchers to date have failed to directly test the assumed moral imperativeness. At root, an action deemed imperative is one that must be enacted *regardless of its consequences* (Ginges & Atran, 2011; Ginges et al., 2007; Baron & Spranca, 1997; Kant, 1785). Although prior studies have found that moralized beliefs are stronger predictors of behavior and are less amenable to compromise, researchers have generally examined these phenomena as main effects. That is, they have typically not examined what happens as the consequences of an action—in particular its costs—vary. As noted, there is some evidence that moralized beliefs result in less sensitivity to efficacy considerations (i.e., the possibility of benefits; Ginges & Atran, 2011; Ginges et al., 2007; Baron & Spranca, 1997; Ritov & Baron, 1999); however, there are important limitations to these studies. Among the studies cited, all of them (with the exception of Ginges & Atran, 2011) used a measure of sacred or protected values (e.g., "This is not acceptable no matter how great the benefits"; Ritov & Baron, 1999) as an independent variable. By design, these studies focused on self-reported morally imperative beliefs, and tested whether they predicted morally imperative intentions or behaviors. Thus, they have not examined whether moralized beliefs (in general) exhibit imperativeness. In addition, all of the studies (with the exception of Ritov & Baron, 1999, Experiment 4) have only examined the influence of differing levels of benefits (as opposed to costs) on a person's moral beliefs. As such, they have only demonstrated that a change in benefits does not significantly alter a person's stance concerning moral beliefs (i.e., people are willing to forego increased benefits to uphold a moralized belief). However, it has been widely shown that there are fundamental differences when things are framed in terms of

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gains (e.g., receiving or foregoing benefits) as opposed to losses (e.g., incurring or avoiding costs; Higgins, 1997; Blanton & Christie, 2003; Carver & Scheier, 1998). In particular, it has been suggested that it is easier for people to forego benefits than it is for them to accept costs (Ritov & Baron, 1999). Thus, while people may be willing to sacrifice a potential gain to uphold a moralized belief (seemingly imperative behavior), they may not be as willing to incur a potential cost (non-imperative behavior). A more direct test of imperativeness, then, must involve costs. Are people still willing to engage in an action related to their moral beliefs when it carries the risk of strong negative consequences?

In past research, I conducted three studies that served as the impetus for the current investigation. In particular, I addressed two questions: 1) to what extent does experiencing a conflict in moral (vs. non-moral) terms increase one's willingness to aggress, and 2) to what extent are people deterred by costs for aggressing when a conflict is regarded as moral? The latter question was meant to directly find evidence for imperativeness in moral conflict situations. For the first question, I hypothesized that moral conflicts would trigger greater aggression than non-moral conflicts. For the second question, I explored the role of deterrence because it is a heavily relied upon means of trying to keep people from aggressing (Huth, 1999; Leeds, 2003). On one hand, it was possible that moralizing a conflict would lead people to care less about the costs for aggressing (i.e., a reduction in deterrence). On the other hand, some research suggested that costs increase the perceived meaning and value of moral action (Olivola, & Shafir, 2010); thus, it was possible that people would be more aggressive when costs were higher (i.e., reversing the effect of deterrence). In either case, at the time, I hypothesized (in

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accordance with the literature) that people would be undeterred by costs for aggressing when the conflict was highly moralized, a powerful and direct indication of imperative action.

While all three studies found support for the first hypothesis that moralizing a conflict increases levels of intended and actual aggression, the results indicated that the association between morality and aggression during a conflict was moderated by the perceived costs associated with aggressing. As described in more detail below, in two studies higher costs reduced aggression, while they increased aggression in a third study. These results indicated that moralizing a conflict does not always evoke the kind of imperative action that one would expect, given the current literature. Between the three studies, support for two seemingly conflicting hypotheses was found, which revealed the need for a more nuanced conception.

In Pilot Studies 1 and 2 (Aoki & Packer, 2011), participants were presented with information regarding a foreign policy conflict (i.e., America's concern over Iran's nuclear program). After participants rated the extent to which they viewed the conflict in moral terms, they were either led to believe that aggressive military action against Iran would entail minimal costs (*low cost condition*), or steep costs (*high cost condition*; I used retaliatory costs in Study 1 and monetary costs in Study 2). As a measure of aggression, participants rated the degree to which they would approve of the US taking forceful military action against Iran. The results showed that moralizing the conflict was positively correlated with support for aggression, but *only* when the costs for doing so were relatively low. When participants were faced with high costs (both retaliatory and

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financial) for aggressing, the correlation between moralization and support for aggression was attenuated (i.e., participants seemed to be deterred).

The results of these studies were surprising, because the broader literature seems to suggest that rational models of conflict resolution are compromised once morality enters the picture (Ginges & Atran, 2011; Ginges et al., 2007; Tetlock, 2003; Dehghani et al., 2009, 2010). However, preliminary coding of additional data that I collected in Study 2 might help to explain this gap. Participants were asked to write about why the foreign policy conflict was a moral issue to them (if they saw it as moral). Participants who saw the conflict as moral and as an ingroup threat (e.g., it was a moral issue because Iran wanted to hurt Americans) showed little to no deterrence in the face of costs. In contrast, participants who saw the conflict as moral and as a threat to people in general (e.g., it was a moral issue because Iran wanted to hurt innocent people) or focused on the immorality of the outgroup (e.g., Iran is evil, or Iran is led by evil people) displayed a pattern of deterrence. Below are examples of actual essays written by participants:

> *Essay coded as ingroup threat: "I think that Iran plans destructive deeds with it's nuclear program. It is highly upsetting to me when I think of the possible dangers they could inflict upon America."*
>
> *Essay coded as general threat: "It's a moral issue because they have been executing people recently showing their not so moral values which can be incorporated on their use of their weapons if they develop them."*

One way to interpret this is that the ingroup moral threat was experienced as more self-relevant (i.e., from what some researchers have called a 2nd party perspective; Descioli & Kurzban, 2009), whereas those who saw the conflict as a general, or other-

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focused threat experienced it as less self-relevant (from more of a 3rd party perspective). Whereas the latter were deterred, the former were not.

In the third study (Aoki & Packer, in prep), participants experienced an interpersonal moral conflict (whereas Study 1 and 2 were intergroup conflicts), with a measure of behavioral aggression. More specifically, participants were paired up with an ostensible partner and either wrote about their most important moral value (*moral condition*) or their most important personality trait (*non-moral condition*). All participants received the same negative feedback from their fake partner, expressing criticism of their esteemed value. After rating how much they (dis)liked their partner, participants were given the opportunity to aggress against their partner via having them consume hot sauce in an ostensibly unrelated taste-test study. Importantly, all participants were led to believe that their partner strongly disliked spicy foods and hot sauce. In one condition, participants were told that after their partner consumed the hot sauce selected (by the participant) for them, their partner would select a hot sauce for the participant to taste (*retaliation possible condition*). In the other condition, they were told that their partner would be selecting an applesauce for the participant to taste (*retaliation impossible condition*). Aggression was measured by the amount and spiciness of the hot sauce that participants selected for their partner.

Study 3 revealed a vastly different pattern than Studies 1 and 2, such that moral (vs. non-moral) conflicts engendered more aggression, but only when retaliation by the target was possible (vs. impossible). It should also be noted that these effects were only present for participants who at least somewhat disliked their partner (i.e., those past the neutral point), since arguably there was not much of a conflict for people who liked their

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partner. The findings of Study 3 were more in accord with past research, in that morality tended to reduce the influence of what we traditionally think of as a rational, cost-benefit analysis. However, the results extended beyond the current literature, since people were not merely undeterred by potential costs for aggressing; instead, it seemed that people were more motivated by the presence of costs, which paradoxically increased the extent to which people aggressed. While a precise understanding of the mechanisms that underlie this phenomenon are not entirely clear, research (in a non-aggressive context) conducted by Olivola et al. (2010) suggests that costs (e.g., pain and adversity) may infuse a given cause with more meaning and value, serving to invigorate and empower people as the costs increase (see the Martyrdom Effect; Olivola et al., 2010). However, the question still remains: why didn't I find a Martyrdom-like effect in Studies 1 and 2?

A major difference between Study 3 and Studies 1 and 2 was that the former explored an *interpersonal* context, while the latter explored an *intergroup* context. The difference in who (or whom) is absorbing the costs may partially explain the vastly different interactive effects of morality and costs on aggression. For example, participants in Study 3 were the sole recipients of the incurred costs for aggressing; thus, (presumably) the only thing holding them back from aggressing was how much retaliation they thought they could handle. The costs in Studies 1 and 2, however, were to be felt by the group; thus, many people whom the participants presumably care about (i.e., fellow ingroup members) would be exposed to the noxious ramifications, putting a competing moral issue on the table—i.e., how much danger is one willing to subject their group to, in order to punish transgressors?

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An alternative explanation is that the moral condition indeed increased aggressive tendencies in participants (in general); however, participants in the no retaliation condition may have quelled that impulse because it would be unfair or unjust to aggress against someone who is unable to retaliate. Thus, only participants who were partnered up with a moral transgressor who was able to "fight back" followed through with the provoked aggression.

Another key difference is that Studies 1 and 2 involved a conflict that varied between participants in terms of its perceived self-relevance (ranging from a distant 3rd party/observer perspective to more of a 2nd party/victim perspective), whereas Study 3 involved one's most important moral value—an intimate and self-related/personal conflict. It is possible that, in conjunction with the potential self vs. group-cost effects, the highly self-relevant nature of Study 3 produced more pronounced effects than those of Studies 1 and 2. This possibility was explored in the current research. In particular, I investigated whether the extent to which a moral conflict is linked to one's identity or sense of self is a factor in predicting imperative behavior (or the lack thereof).

Morality and the Self: Who Am I?

> *"Most of us understand moral norms, see them as desirable, are sensitive to the moral good, and are in principle motivated by it; but only sometimes (the frequency varies from person to person) the moral motivation embedded in moral understanding is effective in producing action."* – Blasi (2004) p. 341

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To date, the majority of research on moral beliefs and morality has largely focused on the effects of morally mandated beliefs (e.g., Skitka, 2002; 2010; Skitka et al., 2005) and sacred values (e.g., Baron & Spranca, 1997; Ritov & Baron, 1999; Ginges et al., 2007; Atran & Axelrod, 2008) and their seemingly imperative nature, as described in the previous sections. However, it is clear that actions do not always mirror moral beliefs; that is to say, people do not always do what they believe to be morally right, and they do not always refrain from doing what they believe to be morally wrong (Blasi, 1983, 2004). Given that not all moral beliefs take the form of moral mandates or sacred values, an important question that seems to have been overlooked by much of the literature is: what dictates whether a moral belief necessitates moral action vs. strongly recommends it? Put another way, what gives rise to the imperativeness of a moral mandate or sacred value?

Past research implicates the involvement of the self-concept as a likely suspect (see Blasi, 1983, 2004; Monroe, 2008; Sachdeva & Medin, 2009), such that the self-relevance of a moralized belief or action may determine the extent that it is experienced as an imperative. However, there are at least two distinct ways in which self-relevance may be involved in the moral decision-making process: 1) a person may be focused on the self-related implications for either taking action or not (e.g., how will I be perceived by others and/or myself if I do X or refrain from doing Y?), or 2) a person may be focused on their sense of connection and responsibility to others with whom they identify (e.g., given that I care deeply about my family and friends, I feel a sense of responsibility to protect them when they are in danger).

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With respect to the former, Blasi's (1983) Self Model of morality suggests that the sense of obligation or necessity (what he calls "responsibility") that compels us to action is driven by the extent to which acting upon the moral conflict has implications for one's sense of self and identity. In this model, people take into account how much acting or not acting in a moral situation would change or alter their identity and how they view themselves. Thus, if a moralized action has implications for either boosting or threatening a person's self-image, the person will engage in or refrain from that action more imperatively. However, if the moralized action is not viewed as highly self-relevant (i.e., acting or not acting will not greatly affect the person's sense of self), the person will remain sensitive to costs and benefits with respect to engaging or refraining from action. This approach to self-relevance is adopted by Study 2 in the current thesis.

Unpacking this perspective even further, there are at least two ways in which a person can be focused on the self-related implications of their actions. First, a person can be focused on how it will affect their *private self-image* (e.g., how will I feel/what will I think about myself if I do X or not?). Second, a person can be focused on how it will affect their *public self-image* (e.g., how will others feel/what will others think about me if I do X or not? e.g., Snyder, 1974). While there may be potentially interesting behavioral differences between these two sub-foci when a person is concerned about the self-implications of their actions, I do not empirically investigate this in my thesis.

The other approach to self-relevance that I mentioned above (which I adopt in Study 3) focuses more on a person's sense of responsibility to help and protect those who they feel strongly connected to. It should be clarified that instead of being consciously focused on and motivated by the consequences of one's actions for the self-concept

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(potentially a more deliberative/calculating process), the sense of responsibility and motivation stem from feelings of empathy, compassion, and concern for important others (potentially a more intuitive/emotional process). Thus, the self-relevance is driven by the connection between the self and others, which may or may not be consciously perceived. The stronger the connection between the self and certain others (e.g., the more they identify with them), the more responsible a person may feel in terms of helping and protecting them in times of need.

For example, past research has demonstrated that a threat to the future survival of one's ingroup (e.g., ethnic, cultural, racial group, etc.) elicits a feeling of collective angst, which motivates a person to engage in or support behaviors that strengthen and protect the ingroup (Wohl, Branscombe, & Reysen, 2010). Furthermore, this effect is moderated by group identification, such that only high identifiers (i.e., people who felt most connected to their group and experienced the threat as highly self-relevant) increase their support for group strengthening and protecting behaviors in the face of existential threats to the ingroup (Wohl, Giguere, Branscombe, and McVicar, 2010).

In a related vein, Monroe (2008) considered how one's self-image and identity may constrain the possible choices that a person perceives in a moral conflict. That is to say, the person may be obliged by their identity to enact or refrain from certain types of action. This, she suggests, is why some Germans risked their lives (and the safety of their families) to save complete strangers during WWII. These Germans, in particular, seemed to be the type of people who viewed the Jews not as Jews, but as fellow human beings (Monroe, 2008, 2009), and in doing so, they felt a sense of responsibility to save and protect their fellow ingroup members. For these people, it simply was not an option

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to do otherwise. Thus, they seemed to have as little choice with regard to saving/helping others as most people have when deciding to save their own lives—that is to say, it was not so much a choice as it was a reflexive instinct. This would suggest that the effects of self-relevance apply to situations where the ingroup-outgroup/self-other boundaries are extended beyond the stereotypical demographic confines to include broader and more abstract categories (e.g., considering humanity as one's ingroup).

Regardless of which approach to self-relevance one takes, the literature suggests that a person's sense of self is not merely a jumble or collection of traits, characteristics, beliefs, social identities, etc. Rather, there exists an organizational structure, such that some beliefs or group identities are more central than others (e.g., Blasi, 1983; Brewer & Gardner, 1996; Markus & Wurf, 1986; Carver & Scheier, 1998). Likewise, moral conflicts and moral beliefs are not weighed in a binary fashion as either obligatory or not, but rather some are more meaningful or more valuable to one's sense of self than others. It is for this reason that not all moral conflicts incite a sense of mandatory action or obligation; only the moral conflicts that are central to a person's sense of self, specifically those that threaten the integrity of self-identity if he/she fails to act upon them or those that involve important others, will evoke imperative action.

As intuitive as it sounds, recall that much of the research conducted on morality makes the assumption that moral issues, by definition, are experienced as imperatives (e.g., Smetana, 2006; Smetana & Killen, 2008; Haidt, 2001). However, according to Blasi (1983), a moral judgment—before leading to action, or inaction—passes through a sort of filter, whereby the relevance to one's self-identity is surveyed (via either the self-related implications of action/inaction or the connection to those involved); if the conflict

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bears no weight on one's sense of self, then the bridge to moral action is severed. On the other hand, a moral conflict that is highly self-relevant or self-identifying will evoke a sense of responsibility, or obligation, to act. An example of the former (a lack of responsibility, which thwarts action) would be the well-known bystander effect (Darley & Latane, 1968), whereby people seem to remain passive, disregarding the pleas for help by victims, when other "bystanders" are around.

Research on the bystander effect has pointed to the diffusion of responsibility as one of the main reasons why a substantial portion of people fail to lend a helping hand to victims amidst a crowd of other onlookers. That is to say, bystanders tend to believe that somebody else from the capable crowd will surely call for help or step in. In this respect, the perceived responsibility to aid the person in need is "diffused" throughout the crowd. More recent research on the phenomenon further suggests that other people need not be physically present in order to generate the bystander effect; even imagining a group interaction (e.g., going to dinner with friends or going to a crowded movie theater) can be sufficient (Garcia, Weaver, Moskowitz, & Darley, 2002). What seems to be crucial is a sense of *unaccountability* (or at least less accountability/responsibility), which seems to be triggered by the mere thought of certain collective contexts.

When a person is alone (physically and/or mentally), however, the buck stops with them because the responsibility to help or the blame for inaction cannot be passed onto or diffused among anyone else (except for the victim in some cases; see Kay, Jost, & Young, 2005). Thus, the lone wolf tends to assume more responsibility for a victim's welfare, leading people in solitary situations to aid the victim more frequently than those in the presence of even one other bystander, much less a crowd (Darley & Latene, 1968).

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Who I Am Versus Who I Am, Now

The self-concept is anything but a simple, unitary concept (Markus & Wurf, 1987). The "self" that Blasi and Monroe focused on is more of a chronic and central self-concept (i.e., moral actions and behaviors were compared against or linked to one's enduring and highly important/defining sense of self). However, research in social cognition has revealed that while people have a plethora of groups that they identify with, and many individual characteristics and idiosyncrasies that help to define and distinguish them, only a subset of these are activated at any one time (Markus & Kunda, 1986; Brewer & Gardner, 1996; Markus & Wurf, 1987). This limited scope of online, accessible aspects of one's self is referred to as the working self-concept (Markus & Wurf, 1987), which I examined in the current investigation. In Monroe's work, she seems to be focused on what Brewer & Gardner (1996) refer to as the relational self (i.e., aspects of the self derived from one's roles and connections in relation to others). However, this still leaves the personal self (i.e., aspects of the self that serve to distinguish the individual from others) and the collective self (i.e., aspects of the self that revolve around broader social and group identification) unexplored in the context of moral action. Thus, in the current investigation, I was interested in extending Blasi's and Monroe's ideas by examining the working self-concept (Study 2) and the collective self (Study 3) in relation to morally imperative action.

Current Investigation

The model of imperative moral action (see Figure 1), implied by the current literature, is incomplete; it cannot account for my previous findings, which suggest that people can still be deterred by costs for an action, even when that action is in response to

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a highly moralized transgression. Following Blasi (1983; 2004), I posit a more nuanced model in which a connection to a person's sense of self (e.g., perceived self-relevance or heightened self-focus) is the crucial missing link that moderates whether or not an action will be more (vs. less) imperative in response to a moral transgression (see Figure 2). More specifically, my model suggests that the more strongly a person's moral beliefs are linked to their sense of self (e.g., because they are co-activated), the more imperative the action will be. Importantly, my model also suggests that moralized beliefs can lack imperativeness to the extent that a person's sense of self is weakly linked or activated.

In order to test this model, I conducted 3 studies that investigated the extent to which moralizing a perceived transgression could alter the influence of costs for aggressing or support for aggression, and in particular, I focused on how this intersects with the self. The first study was a conceptual replication of my past research (Aoki & Packer, in prep), using a different paradigm, and served as the basis for Study 2. In particular, Study 1 examined the effects of mindset primes (e.g., moral vs. pragmatic) on the influence of costs (high vs. low) for aggressing (punishing) in response to a transgression. In Study 2, I examined the effects of an induced self-focus (via a self-awareness prime) on aggressive behavior under varying cost conditions (high vs. low) and mindset primes (e.g., moral vs. pragmatic). The third study extended this exploration into a group context, allowing me to examine the extent that group identity (e.g., ingroup vs. outgroup) and mindset (e.g., moral vs. pragmatic) would affect support for aggression under varying cost conditions (high vs. low vs. control).

Overall, my hypotheses were as follows:

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1) Experiencing a moral transgression will engender more aggression than a non-moral transgression when the costs for doing so are sufficiently low.

2) Experiencing a moral transgression will only give rise to imperative action to the extent that the transgression and/or acting upon it is sufficiently linked to one's sense of self or identity; barring this, people will still be deterred by costs.

Studies 1 & 2: The Price of Punishment to Help One's Self vs. Others

As outlined above, people vary in terms of what they experience as moral and the extent to which specific beliefs and attitudes are moralized (Bauman & Skitka, 2009; Skitka, 2010). Recent research has further demonstrated the flexible nature of moral construal processes *within* an individual, such that a person can judge the same action in either moral or non-moral terms, and can switch between moral and non-moral evaluations in a rapid fashion (Van Bavel, Packer, Haas, & Cunningham, in prep). Given the flexibility of the construal process, it is possible to induce a moral vs. non-moral mindset in people (i.e., to prime people to evaluate subsequent actions or events in moral vs. non-moral terms). Accordingly, one of the aims of the first two studies was to demonstrate that priming people to be in a moral (vs. pragmatic) mindset would engender differing levels of aggressive action. This was an important extension to my past work, where moralization was passively measured (vs. actively manipulated, as in the current studies), because it moves the investigation beyond correlation. A second aim of Studies 1 and 2 was to demonstrate that despite a transgression being evaluated in moral terms, there would be an interaction between being focused on the self and costs, such that the level of aggression would vary depending on the costs involved and whether a person was focused on their sense of self when responding to the transgression. That is to say,

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just because a transgression is experienced in a moral light does not mean that it will be experienced deontologically, or as an imperative; it likely matters whether you are focused on *someone else* having been wronged vs. being focused on how *you think and feel about that someone else* having been wronged. It should be noted that, due to the impersonal nature of the paradigm (see below for details) the default assumption in Studies 1 & 2 was that participants would (on average) experience the transgression as relatively low in self-relevance (and self-focus), unless self-relevance was otherwise heightened.

In Studies 1 and 2, the extent that participants punished (by removing money from) an ostensible transgressor served as an index of aggression. While other, potentially more face-valid measures of aggression exist, punishment in Studies 1 and 2 was consistent with the definition of aggression: "*Human aggression* is any behavior directed toward another individual that is carried out with the *proximate* (immediate) intent to cause harm." – Anderson & Bushman, 2002, p. 28. More specifically, punishing the transgressor involved the participant intentionally causing the transgressor to have money taken away from them—a psychologically unpleasant experience (i.e., causing psychological harm). Importantly, the most likely proximate intent behind punishing the transgressor was to cause psychological harm, as it yielded no instrumental benefits to the participant (in fact, it was costly), nor did it help the ostensible victim of the transgression in either the short-term or long-term (the victim did not gain any money, and it was a one-shot game—preventing any strategic intent). Even if it is assumed that punishing the transgressor was intended to "correct" or change their behavior in future instances (outside of the experimental context), the proximate intent would still be to cause

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psychological harm to the transgressor in order to deter him/her from committing subsequent transgressions. In addition, using punishment as the dependent measure (vs. other measures of aggression) kept the paradigm as close as possible to the already well-established literature on third-party punishment (which Studies 1 and 2 are based off of).

Together, Studies 1 and 2 will provide a behavioral examination of the role of the self and personal responsibility, and whether or not they are crucial to the imperativeness of a moral conflict and action.

Study 1

A major aim of Study 1 was to replicate in a more controlled laboratory setting some of the findings from my previous work (Aoki & Packer, in prep) using an adaptation of a paradigm borrowed from the economic literature (see Fehr & Fischbacher, 2004). In particular, there have been a variety of "economic games" (e.g., the Prisoner's Dilemma, the Dictator game, the Public/Common Goods game, etc.) that have been used to study cooperative and altruistic behavior (Fehr & Fischbacher, 2004; Fehr, Fischbacher, & Gachter, 2002). I was most interested in the third-party punishment literature, where researchers have used these economic games to demonstrate that people will altruistically punish non-cooperators (i.e., punish while incurring personal cost), even when they are in an uninvested third-party position (i.e., they do not personally benefit from punishing the non-cooperator; Fehr & Fischbacher, 2004; Fehr & Gachter, 2002). In addition, Study 1 served as an informative pilot test before implementing the adapted paradigm on a bigger scale (in Study 2). Thus, in Study 1 I simply examined the effects of costs on aggressive behavior (i.e., punishment) among participants who observed a transgression while in a moral (vs. non-moral) mindset.

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Method & participants. Study 1 was a 2 (Mindset Prime: Moral vs. Pragmatic) X 2 (Cost: High vs. Low) between-subjects design. Sixty-three undergraduate students from Lehigh University were recruited via advertisements posted around campus and through campus e-mails. Participants were compensated with $10 for a 1 hour experimental session. Three participants were excluded, due to not taking the study seriously (1 participant), or knowing that the other players were fake (2 participants).[1]

Procedure. After greeting the participants, the experimenter situated each participant in a separate room and told them that they would be partaking in a group study over the computer network. After indicating their consent on the computer, participants completed a mindset manipulation. Using an adaptation of Van Bavel et al. (in prep), participants were asked to evaluate a series of actions and behaviors (e.g., recycling, skipping class, voting, and cutting in line; see Appendix 1) in terms of how *morally* good/bad they would be to do (moral mindset prime) or how *personally* good/bad they would be to do (pragmatic mindset prime). In total, there were 30 actions/behaviors to be evaluated, and both conditions consisted of the same actions (in a randomized order). By having participants repeatedly make either moral or pragmatic evaluation, the manipulation was intended to prime participants to evaluate subsequent events (i.e., the upcoming conflict situation) and decisions (i.e., whether or not to punish and how much) in mostly moral or pragmatic terms, depending on their condition.

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[1] **Not taking the study seriously** was indicated via a single item presented toward the end of the study ("True or False: I took today's study seriously"). **Knowing that the other players were fake** was indicated by the participants explicitly mentioning, in the probe essay, that they knew the other players were computer generated.

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Following Fehr & Fischbacher (2004), I implemented an adaptation of a well-established economic game setting known as the "Dictator Game", in which two participants have to split their earnings. The catch is that one of them (the "allocator" in the current study) is given all the money in the beginning and dictates how much or how little to give to another player (the "receiver" in the current study), who has no say in the matter. A third, uninvested player (the "observer" in the current study) who observes the transaction is given the option to pay (out of the money that the experimenter pays them) to punish the allocator, if desired. Traditionally the game is played by three live participants with each position (the allocator, receiver, and observer) being filled. In the current study, however, participants only played as the observer and always played with ostensible participants filling the other roles, so as to control the level of unfairness witnessed by all participants.

As mentioned earlier, participants were told that they would be participating in a group task and believed that they were randomly matched up with two other participants. Furthermore, they believed that the computer randomly assigned them to one of three positions (allocator, receiver, or observer) for the task. Again, in reality, participants were always assigned to play as the observer. As the observer, participants were then given an envelope with $5 and were told that they would be allowed to keep whatever money that they had leftover at the end of the study. Through the computer, participants

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also learned that allocator and the receiver had been given $2.50 each.[2] Following this, participants were given further information about their position and what the task was:

> *Instructions: "The ALLOCATOR will now be given another envelope with an extra $5 that they can divide with the RECEIVER. The ALLOCATOR will decide how to divide up the money with the RECEIVER, and can choose to keep or give any amount of the money - it's completely up to them. The RECEIVER will simply receive whatever the ALLOCATOR decides to give them.*
>
> *As the OBSERVER, you will observe the transaction. After the ALLOCATOR makes their decision, you will have the option paying (out of the $5 you have been given) to increase or decrease the ALLOCATOR'S earnings. Further details regarding your options will be provided shortly".*

After reading the instructions, the task commenced and participants witnessed the allocator keeping the vast majority of the extra money ($4.75), leaving only a small portion ($0.25) for the ostensible receiver. The details for increasing or decreasing the allocator's earnings were then explained. Participants were told that decreasing the allocator's earnings (a measure of punishment) entailed having money removed from them (the allocator), and that increasing the allocator's earnings involved having them receive extra money from the researcher. In the high cost condition, it was specified that removing money from the allocator would cost the participant $1.00 per every $1.50 that

[2] Participants were given $5 while the allocator and receiver were given $2.50 (initially), because the allocator was subsequently given an additional $5 to split with the receiver. Thus, in theory, everyone would walk away with $5 if the allocator was fair.

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they wanted to have removed from (or added to) the allocator (see Appendix 2). In the low cost condition, participants were told that it would cost them $0.25 per every $1.50 that they wanted to remove from (or add to) the allocator.

Immediately after making their decision to add or remove money from the allocator, participants were asked to rate their perception of how expensive the response choices were. Following that, participants completed a questionnaire regarding their moral reactions toward the allocator and their decision. Participants finished with a standard demographics questionnaire, were fully debriefed, and thanked for their participation.

Measures.

Response choice. Participants' choice of action in response to the allocator's decision was indicated by having participants select one of three choices: 1) remove money from the allocator (punishment), 2) reward the allocator with money (reward), or 3) neither.

Punishment. If participants selected to either punish or reward the allocator, they were then asked how much they wanted to punish/reward the allocator on a 5-point scale. The amount of punishment/reward ranged from 1 (*"you pay [$0.25 or $1.00] and the allocator loses/gains $1.50*) to 5 (removing all of the allocator's money, or doubling it: *"you pay [$1.25 or $5.00] and the allocator loses/gains $7.50*), with each increment of punishment/reward costing the participant $1 in the high cost condition and $0.25 in the low cost condition.

As the central behavioral index of punishment, I combined the three response choices such that abstaining from rewarding/punishing the allocator and opting to reward

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the allocator were both coded as 0 (no punishment) and were combined with the 5-point scale associated with the punishment choice, such that the main measure of punishment became a 6-point scale, ranging from 0 (no punishment) to 5 (removing all of the allocator's money: *"you pay [$1.25 or $5.00] and the allocator loses $7.50*).

Cost perception. Participants' perception of how costly it was to punish or reward the allocator was assessed with a single, face-valid item ("Please rate how inexpensive or expensive you felt the reward/punishment options were?"). Participants rated their cost perception on a 7-point scale, ranging from 1 (*very inexpensive*) to 7 (*very expensive*).

Predictions. I predicted a 2-way interaction between mindset prime (moral vs. pragmatic) and cost (high vs. low) for punishment, such that although most participants would be highly punitive when the costs for doing so were low, they would be more punitive when in a moral vs. pragmatic mindset. However, I anticipated that participants would be deterred from punishing when the costs were high—even when primed with a moral mindset.

Results.

Manipulation check. Contrary to the predictions, there was no main effect of cost on cost perception ($F(1, 56) = 0.22$, $p = .64$), suggesting that participants did not perceive a significant difference between the two cost conditions ($M = 3.12$, $SD = 0.24$ in the low cost condition and $M = 3.27$, $SD = 0.26$ in the high cost condition).

Severity of punishment. Despite the failed manipulation check on the cost conditions, I ran an ANOVA to test the predicted interaction between cost and mindset on amount of punishment. There was no main effect of cost, $F(1, 56) = 1.70$, $p = .20$.

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However, there was a main effect of mindset prime ($F(1, 56) = 3.94$, $p = .052$), such that participants primed with a moral mindset were more punitive than those primed with a pragmatic mindset. Consistent with the predictions, this main effect was qualified by a 2-way interaction between cost and mindset prime ($F(1, 56) = 3.94$, $p = .052$; see Figure 3), such that when the cost for punishing was high, participants were not very punitive, regardless of mindset prime (all participants were equally deterred by high costs; moral and pragmatic mindset *Ms* both = 0.36, *SDs* = 0.63, $t(30) = 0.00$, $p = 1.00$); however, under low cost, those with a moral mindset displayed greater levels of punishment ($M = 1.12$, $SD = 1.41$, $t(26) = 2.43$, $p = .02$)—those with a pragmatic mindset still punished very little ($M = .20$, $SD = .41$). This is in line with my previous research (Aoki & Packer, in prep), which suggested that (in some contexts) a moralized conflict only gives rise to increased support for aggression when costs for doing so are low.

Relative Punishment. After looking at participants' response choices (i.e., punish vs. reward vs. neither) it became clear that the punishment DV was overlooking some important information. More specifically, a sizable portion (21.7%) of participants chose to reward the allocator. I had not anticipated people actually choosing to reward the allocator, as the reward option was merely intended to make it more believable that their ostensible partners were real (i.e., it insinuated that the allocator could have been generous and not selfish).

Given that a substantial proportion of participants chose to reward the allocator, I decided to run an additional analysis that accounted for these unexpected and potentially important choices. Thus, instead of using the original punishment measure—which coded any amount of reward as 0 (no punishment)—I recoded participants' reward scores

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as negative numbers (i.e., a reward score of 5 became -5, 4 became -4, and so on). The new scale allowed me to examine the rewarding and punishing behaviors on a single scale, which ranged from -5 (maximum reward) to 5 (maximum punishment). With relative punishment as the DV, I again ran a 2 x 2 ANOVA with cost and mindset prime. Similar to the prior analysis, while there was no main effect of cost ($F(1, 56) = 0.07$, $p = .79$), there was a significant main effect of mindset prime ($F(1, 56) = 5.38$, $p = .024$), which indicated that participants were more punitive in the moral mindset condition. This effect, however, was qualified by a significant interaction between mindset and cost ($F(1, 56) = 8.86$, $p = .004$; see Figure 4), which again supported the predictions. More specifically, when the cost was low, participants primed with a moral mindset were more punitive than participants primed with a pragmatic mindset, who tended to be relatively rewarding (*Ms* = 1.06 and -0.67, *SDs* = 0.31 and 0.33, respectively; $t(30) = 3.28$, $p = .003$). However, when the cost was high, participants in both conditions were deterred from punishing (*M* = -0.00, SD = 0.34 for moral mindset condition, M = 0.21, *SD* = 0.34 for pragmatic mindset condition; $t(26) = 0.61$, $p = .55$).

The behavior of participants in the low cost and pragmatic conditions may indicate that they were actually being very strategic in their decisions. A handful of participants indicated (via the suspicion probe essay) that they mistakenly believed they were going to be playing multiple rounds. As such, if one believed that the allocator might be deciding how much extra money to give to the participant in a later round, it would serve the participants well to behave in an obsequious manner (e.g., by giving the allocator money when they didn't deserve it). I corrected this misconception in Study 2.

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Discussion. The results of Study 1 supported the predictions, such that when the costs were low, it seems that people were more punitive towards a transgression when in a moral (vs. pragmatic) mindset. However, all participants were deterred by costs for punishing a transgressor, even when they were primed to think about the situation in moral terms. Interestingly, the results also suggested that people take advantage of low costs in a pragmatic mindset, not by being more punitive, but by being more strategic (e.g., bribing the allocator). This result was likely due to participants misunderstanding the task (e.g., multiple trials vs. a one-shot decision), which qualitatively changes the nature of the game and the interpretation of the data.

Study 1 was intended to be a pilot study for Study 2, and as such, I gained valuable information in terms of what to change and what to keep for the second study. After reading the free response essays at the end of the study, it was clear that there was confusion about the decision task. Again, many participants incorrectly presumed that there was going to be more than one transaction, which may have altered their decisions. Also, there were a handful of participants who were surprised that they got to keep the $5 at the end of the study, despite it being explicitly mentioned in the instructions. One oddity in Study 1 that I cannot adequately explain (given that it did not occur with a very similar manipulation in Study 2) is the fact that participants' cost perception was not significantly predicted by cost condition, but that participants were indeed deterred by costs for punishing the transgressor. Clearly costs did exert effects on decisions, even if they were not consciously perceived as different between the two conditions.

Aside from these limitations and hiccups, the hypotheses were confirmed in Study 1, such that participants were deterred when the costs of punishing a transgressor were

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high, even following a moral prime. I suspect that this is only the case when people approach or experience a transgression from a less personal (e.g., outside observer or bystander) vs. more personal (e.g., direct victim) perspective, thus lacking a sense of personal responsibility or self-relevance. Study 2 examined this idea more directly.

Study 2

Study 2 was a direct extension of Study 1, using the same dictator game paradigm (with minor alterations to address some of the problems in Study 1). While Study 1 (and previous research; Aoki & Packer, in prep) found evidence against the assumption of imperativeness as an inherent quality of moral issues, Study 2 specifically examined whether (and to what extent) linking a person's sense of self to a perceived moral transgression increases the extent to which their actions are treated as imperatives. This would suggest that connecting moral attitudes to the self is what drives the imperativeness of moral conflicts.

In order to empirically examine the effects of connecting the self to a perceived transgression (moral or otherwise), I borrowed a manipulation from the self-awareness literature. In particular, I utilized the mirror paradigm—a widely used and well-validated manipulation of self-focus and awareness (see Carver & Scheier, 1978). The presence of the mirror shifts people's focus from the external environment to an inward focus on the self. When this self-focus occurs, people are more likely to compare their decisions and behaviors to the salient, internal standard at hand (Carver, 1975). In Study 2, the internal salient standard was set by the mindset primes, thereby linking the self to either moral or non-moral decisions. Again, this self-focus manipulation is more likely to shift

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participants' focus to the self-implications of either punishing the transgressor (or not), rather than inducing or highlighting a sense of connection to the ostensible victim.

Method & participants. Study 2 was a 2 (Mindset Prime: Moral vs. Pragmatic) X 2 (Focus: Self vs. Control) X 2 (Cost: High vs. Low) between-subjects design. In total, 191 undergraduate students from Lehigh University participated in the study for partial fulfillment of course credit. Participants were additionally compensated with $5 for the decision task (the same dictator game as in Study 1). I excluded 16 participants from data analyses due to a failure to follow or understand the directions (5 participants), not taking the study seriously (1 participant), not expecting to be able to keep the $5 after the study was over (8 participants), and suspecting that they were not playing with real people (2 participants).[3] The demographics of the remaining sample were typical of a college population, with ages ranging from 17 to 23 years old (M = 19.25, SD = 1.25), the majority being White (62.28% were Caucasian, 16.16% were Asian, and all other ethnic categories combined made up the other 21.56%), and 54% of the participants were female.

Procedure. Unless otherwise noted, the procedure for Study 2 was the same as Study 1. Upon arriving at the lab, participants were randomly assigned to one of two

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[3] **Failure to follow or understand directions** was operationalized as failing to correct an incorrect response to any of the 3 task check questions that were asked before the group task commenced. **Not taking the study seriously** was assessed by a single item presented during the probe questionnaire ("True or False: I took today's study seriously"). **Not expecting to be able to keep the $5** after the study was over was assessed by a single item presented during the probe questionnaire ("True or False: I get to keep what is left over of the $5 at the end of the study."). **Knowing that they were not playing with real people** was indicated via the participant explicitly telling the experimenter that they knew the other 2 "participants" were played by the computer due to participating in a very similar study the previous semester (1 participant), or via the open-ended probe question where the participant wrote that knew the other participants were fake.

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focus conditions. In the self-focus condition, participants were seated in a small room with a mirror placed slightly behind and to the left of the computer monitor that they were using. The mirror was angled such that a participant could clearly see their face when looking into the mirror. Their face was also visible in their peripheral vision when looking straight ahead at the computer monitor. To keep the manipulation as subtle as possible, the experimenter never mentioned anything about the mirror. In addition, there was a note on the mirror that said, "*Save for developmental experiment, please do not move*", to give the impression that the mirror was for a different study for a different lab. In the control condition, a neutral-colored towel was used to completely cover the mirror. The same note was again placed on top of the towel.

The pragmatic and moral priming manipulations (identical to those used in Study 1) were intended to induce the appropriate standards of comparison, such that personal gains and losses would be the salient standard for those in the pragmatic prime condition, and one's moral beliefs and values would be the salient standard in the moral prime condition. In either case, I predicted that the presence of a mirror would highlight participant's sense of self when making subsequent decisions and behaviors, and increase the influence of whatever standards (personal or moral) were salient.

After completing the mindset prime, participants moved on to the dictator game task. I made three main changes (from Study 1) to the dictator game task and instructions in Study 2. First, the instructions were clearer that the task was a one-shot game (see Appendix 4 for changes in text from Study 1). In addition, participants' understanding of the task (e.g., knowing that it was only a one-shot task and that they got to keep the $5) was probed before starting the game. Secondly, to avoid unnecessary confusion (as was

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observed in Study 1), I omitted the reward option from Study 2, so the high and low cost conditions only involved removing money from the allocator (see Appendix 5). Importantly, participants could still choose not to remove any money from the allocator. Lastly, I reduced the cost to punish the allocator in the low cost condition. Thus, in the different cost conditions, participants paid either $0.10 (low cost) or $1.00 (high cost) for every $1.50 that they wanted to remove from the allocator. I chose to decrease the price for the money removal option in the low cost condition to $0.10 from the original $0.25 (Study 1) because the cost conditions did not actually predict participants' cost perceptions in Study 1—although, they did produce significant effects on decisions.

Following their decision, participants completed manipulation checks and follow-up questionnaires (i.e., moral thoughts, moral reactions, cost perception, task check, and demographics), and were fully debriefed and thanked for their participation.

Measures.

Punishment. As a behavioral index of punishment, participants were given the opportunity to remove money from the allocator. Using a 6-point scale, the amount of punishment ranged from 0 (not removing any money from the allocator: *"you pay $0.00 and the allocator loses $0.00*) to 5 (removing all of the allocator's money: *"you pay [$5.00 or $0.10] and the allocator loses $7.50*), with each increment of punishment costing the participant $1 in the high cost condition and $0.10 in the low cost condition.

Moral thoughts. The extent to which participants reported being consciously aware of and directly thinking about the moral implications of their actions when they made their decision to punish the allocator was measured with 4 items (e.g., "When I made my decision as the observer, I thought about what my moral responsibilities were",

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"When I made my decision as the observer, I was guided by my moral principles"; see Appendix 6). The 7-point scale ranged from 1 (*strongly disagree*) to 7 (*strongly agree*; Cronbach's α = .87). Thus, the moral thoughts measure was focused on participants' moral thought process.

Moral reaction. The degree to which participants felt that the allocator and their disproportionate decision were morally wrong/immoral was measured with 7 items (e.g., "I felt that the allocator's decision was morally wrong", "I felt that the allocator was immoral", and "I was morally repulsed by the allocator's decision"; see Appendix 7). Participants responded on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*; Cronbach's α = .93). Thus, while the moral thoughts measure above focused on deliberative moral thoughts, the moral reaction measure focused on participants' actual moral judgment or attitude. While these two aspects of moral processes are related, they can be distinguished.[4] For example, when deciding what to do with a homeless person who was caught stealing food, two people could equally deliberate about the moral implications of the situation, but one could judge the suspect as an immoral thief, while the other could judge the poor person as an innocent victim of capitalism.

Cost perception. Participants' perception of how costly it was to punish the allocator was assessed with a single, face-valid item ("Please rate how inexpensive or

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[4] While one could imagine substantial overlap between moral thoughts and moral reaction, a principal components factor analysis revealed two distinct components accounting for 72.16% of the variance. Importantly, each factor was appropriately comprised of the moral thoughts and moral reaction measures.

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expensive you felt the money removal options were"). Participants rated their cost perception on a 7-point scale, ranging from 1 (*very inexpensive*) to 7 (*very expensive*).

Task check. To ensure that participants understood the group task instructions, they were quizzed with three true-false questions before the task started ("The RECEIVER can pay to remove money from the ALLOCATOR", "The OBSERVER can pay to take money away from the ALLOCATOR", and "There will only be one transaction, and you will only interact with your partners once"). Participants were notified whenever they incorrectly answered one of the task check questions. When this happened, they were shown the instructions again, and then they were given another opportunity to answer the same question before moving on to the next one.

Because the validity of the cost manipulation was contingent upon participants understanding that actual money was at stake, they were asked another true-false question at the end of the study to check this ("True or False: I get to keep what is left over of the $5 at the end of the study").

Predictions. I predicted a 3-way interaction between mindset prime, self-focus, and cost for aggressing. More specifically, I anticipated that participants would generally be highly punitive when the costs for doing so were low, and that they would generally be deterred from punishing when the costs were high—even those in the moral prime condition. However, I expected that participants in the self-focus *and* moral prime condition would be the exception, such that these participants would be undeterred by higher costs for punishing. Again, the underlying idea was that participants with a co-activated moral mindset and self-focus would more strongly connect the moral conflict

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and their decision to their sense of self; thus, in accordance with Blasi's self model (Blasi, 1983), they will experience a greater sense of responsibility to act.

Results.

Manipulation check: cost. As expected, there was a main effect of cost condition on cost perceptions, such that the high cost condition was rated as significantly more expensive than the low cost condition, $F(1, 174) = 49.89$, $p < .001$ (*Ms* = 3.56 and 2.10, *SDs* = 1.53 and 1.13, respectively).

Severity & prevalence of punishment. To test the predicted 3-way interaction, I ran a 2 (Mindset Prime: Moral vs. Pragmatic) X 2 (Focus: Self-focus vs. Control) X 2 (Cost: Low vs. High) ANOVA, with the measure of punishment (i.e., amount of money removed from allocator) as the dependent variable. The predicted interaction was not significant, $F(1, 167) < .001$, $p = .98$. The only significant result was a main effect of cost ($F(1, 174) = 4.90$, $p = .028$), such that participants in the high cost condition punished the allocator significantly less than the low cost condition (*Ms* = 1.11 and 1.54, *SDs* = 1.20 and 1.38, respectively). This would suggest that, in general, participants were deterred by high costs (see the full pattern of effects in Figure 5).

I then tested the same 3-way interaction, but this time looking at whether or not participants chose to punish the allocator at all (rather than *how much* they chose to punish, as in the previous analysis). To do this, I ran a binary logistic regression with mindset prime, focus, and cost predicting participants' choice to punish (vs. not punish) the allocator. This analysis allowed me to test whether the variables of interest influenced the odds that participants chose to punish. Again, the 3-way interaction was not significant, $X^2(1, 167) = .12$, $p = .73$. However, there was a significant 2-way

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interaction between cost and focus ($X^2(1, 171) = 4.33$, $p = .037$), such that participants were significantly less likely to punish the allocator when faced with high costs (vs. low costs) in the control focus condition (proportion of Ps who chose to punish = 45.5% vs. 70.2%, respectively; $X^2(1, 91) = 5.59$, $p = .02$). In contrast, in the self-focus condition, cost did not change the likelihood of punishment (71.1% vs. 64.1%, respectively; $X^2(1, 84) = 0.47$, $p = .49$, see Figure 6). This interaction suggests that participants' decision to punish a transgressor was deterred by costs in the control condition, but undeterred by costs when their sense of self was salient.

Further examination of mindset primes. After running the primary analyses above, it was rather surprising that the moral and pragmatic primes had no significant effects. In the hope of shedding light on the issue, I examined what sort of influence the primes had on some of the other measures. I ran separate ANOVAs with mindset prime, focus, and cost predicting participants' *moral thought* (i.e., the extent to which participants reported consciously thinking about the moral implications of the conflict and their decision) and their *moral reaction* (i.e., the extent that participants actually judged the allocator and/or their decision as immoral).

There was a main effect of mindset prime predicting moral thought ($F(1, 174) = 9.17$, $p = .003$), with those in the moral prime condition scoring significantly higher ($M = 5.33$, $SD = 1.35$) than those in the pragmatic prime condition ($M = 4.72$, $SD = 1.42$). This effect was qualified by a significant 2-way interaction between prime condition and focus condition ($F(1, 171) = 4.12$, $p = .044$), such that the presence of the mirror decreased (though not significantly, $t(85) = 0.88$, $p > .05$) moral thoughts in the pragmatic prime condition ($M = 4.85$, $SD = 1.33$ decreased to 4.58, $SD = 1.50$), but significantly increased

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moral thoughts in the moral prime condition (M = 5.06, SD = 1.38 increased to 5.64, SD = 1.26; $t(86) = 2.02$, $p = .046$). This interaction would suggest that the primes successfully influenced participants' *thoughts* about the conflict and their decision, and also that the self-focus condition (mirror present) enhanced this influence.

However, in examining participants' actual moral judgments (vs. thoughts), the moral and pragmatic primes were not significant predictors of moral reaction ($F(1, 174) = 1.76$, $p = .19$; Ms = 4.36 and 4.07, SDs = 1.50 and 1.42, respectively), suggesting that while the priming manipulations did alter how much participants thought about the moral implications of the conflict, their moral thoughts did not translate into different moral judgments. That is, thinking about the moral relevance and implications did not alter participants' moral judgments of the allocator or their decision. Thus, I found some evidence that the mindset primes were unsuccessful at influencing participants' moral and pragmatic judgments beyond their natural reactions.

Interestingly, there was a main effect of focus ($F(1, 174) = 5.71$, $p = .018$) in predicting moral reaction, such that when the mirror was present, participants judged the allocator and their decision to be more immoral and wrong than those in the control condition (Ms = 4.47 and 3.96, SDs = 1.35 and 1.52, respectively). This was qualified by a significant 2-way interaction with the cost condition ($F(1, 174) = 7.96$, $p = .005$), whereby participants in the control condition had lower moral reactions in the high (vs. low) cost condition (M = 3.67 and 4.22, SDs = 1.65 and 1.37, respectively; $t(89) = 1.66$, $p = .10$), but in the self-focus condition, participants' moral reactions were significantly heightened in the high cost condition (M = 4.82, SD = 1.12) compared to the low cost condition (M = 4.13, SD = 1.51; $t(82) = 2.43$, $p = .02$). Given that moral reaction was

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reported after participants' punishment decisions, and because participants in the control focus condition punished less under high cost and more under low cost conditions, their moral reaction scores may reflect a justification or rationalization effect (i.e., in the control condition, the costs were sufficient to explain participants' punishment behaviors, such that their moral reaction scores might have just been a rationalization of their behavior). However, in the self-focus condition, moral reactions were actually ramped up by higher costs for punishing, and since participants were just as punitive in the high (vs. low) cost conditions, the costs were insufficient to explain participants' punishment behaviors; thus, it seems to make more sense that in the self-focus condition, participants' moral reactions played more of an active role (vs. post hoc justification)—of course, since moral reaction was measured after their punishment, this remains speculation.

Using moral reaction as a predictor. Since the moral and pragmatic primes did not differentially affect participants' moral judgments, I substituted the dichotomous mindset prime variable with the continuous measure of moral reaction. While the moral reaction variable was originally intended as a potential mediator, it is nonetheless a face-valid index of the degree that participants experienced the conflict as moral. Furthermore, other researchers have opted to use a similar approach by measuring the perceived moralization of an issue and using it to predict intentions and behaviors (e.g., Skitka, 2010, 2002; Skitka et al., 2009, 2005; Bauman & Skitka, 2009; Van Zomeren, Postmes, & Spears, 2010). Thus, I regressed level of punishment on moral reaction, focus, and cost in a multiple regression analysis. The 3-way interaction was not significant, $t(167) = .94$, $p = .35$. As expected, there was a main effect of cost ($\beta = -.18$, $t(174) = 2.46$, $p = .015$), whereby participants punished less in the high cost (vs. low

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cost) condition, indicating that participants were more deterred by higher costs for punishing. There was also a significant main effect of moral reaction ($\beta = .31$, $t(174) = 4.29$, $p < .001$), such that the level of punitiveness increased as moral reactions increased.

Although the 3-way interaction was not significant, the graphs in Figure 7 suggest that the general pattern of the results were consistent with the predicted 3-way interaction. More specifically, in the control focus condition, participants were deterred by cost no matter how morally the conflict was experienced. However, the second graph in Figure 7 suggests that participants in the self-focus condition were only deterred by costs at the low end of the moral reaction scale (i.e., those who judged the conflict in less moral terms); those at the higher end of the moral reaction scale were undeterred by the cost for punishing the allocator. To examine this more closely, I split the data by focus conditions (self-focus vs. control) and regressed level of punishment on moral reaction and cost conditions. While neither of the 2-way interactions between cost and moral reaction conditions were significant (*ps* > .27), there was a significant main effect of cost for those in the control condition ($\beta = -.23$, $t(88) = 2.29$, $p = .025$), but not for those in the self-focus condition ($\beta = -.15$, $t(81) = 1.42$, $p = .16$). This provides some support for the idea that costs deter people from punishing, even when the conflict is highly moralized; however, when self-focus is heightened, costs exert less influence in a highly moralized conflict.

To more directly examine the latter, I compared the effects of costs at one standard deviation above the mean and one standard deviation below the mean of moral reaction scores in the self-focus condition. At the lower end of the moral reaction scale (-

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1 SD = 3.15), there was a marginally significant difference between the cost conditions (β = -.77, $t(83) = -1.78$, $p = .079$), suggesting that people were deterred by higher costs for punishing—much like in the control condition, as a whole. However, at the higher end of the moral reaction scale (+1 SD = 5.85), there was no difference between high and low cost conditions, $\beta = -.09$, $t(83) = -.23$, $p = .82$. This provides further support for the idea that people are only undeterred by costs when a conflict is both highly moralized and also highly self-relevant.

I also ran a binary logistic regression to examine the extent that moral reaction, cost, and focus predicted punishment choice (i.e., whether or not participants chose to punish the allocator). While cost and focus did not significantly predict punishment choice (*ps* > .15), moral reaction did ($X^2(1, 174) = 12.24$, $p < .001$), such that participants who reported experiencing the transgression in more moral terms were significantly more likely to punish (vs. not) the allocator. This supports the first hypothesis that transgressions construed as more moral (vs. non-moral) would elicit greater support for aggression. However, none of the two-way interactions were significant (*ps* > .13), nor was the three-way interaction, $X^2(1, 167) = .49$, $p = .48$.

Discussion. While the bulk of the results of Study 2 were not statistically significant, the overall pattern of the data is promising and lends some credence to the original hypotheses and predictions. Ignoring the mindset primes (since the manipulation did not appear to influence judgments) and assuming that participants spontaneously tended to view the conflict as morally relevant (see Turillo, Folger, Lavelle, Unphress, & Gee, 2002 and Fehr & Fischbacher, 2004), the data *could* suggest that people are highly punitive (both in terms of severity and prevalence) toward moral transgressors when the

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cost for punishing them is relatively low. However, when the cost for punishing a transgressor goes up, third-party punishment goes down, suggesting that people can be deterred by costs (and other consequences; see Aoki & Packer, in prep), even when the conflict is regarded as moral. Critically, this third-party pattern of deterrence seems to disappear when one's sense of self is salient, providing potential support for the second hypothesis that moral conflicts will only give rise to imperative (or undeterred) action to the extent that the self-relevance of the conflict, or one's response to it, is evident. However, while this gratuitous interpretation would be consistent with the third-party punishment literature, I chose to run additional analyses instead of relying on such questionable assumptions.

The pattern of data from the alternative analyses that I ran (using moral reaction in place of mindset primes) found tentative support for the hypotheses and predictions. In support of the first hypothesis, the more a participant regarded the conflict as moral, the more punitive (in terms of severity and prevalence) they were. However, it should be noted that while the first hypothesis stated that this would only be the case when the costs were sufficiently low, it seemed to also be the case in the high cost condition. I suspect that this is due to the fact that, while the cost *was* greater in the high (relative to low) cost condition, it was still minimal compared to costs in other conflict contexts (e.g., military retaliation or hundreds of millions of dollars; Aoki & Packer, in prep, and also Study 3 of the current paper). As tentative support for the second hypothesis, participants in the high (vs. low) cost condition were less punitive (i.e., more deterred), even when the conflict was regarded as highly moral; however, when the conflict was seen as highly moral *and* self-relevant, participants were relatively less deterred by high costs.

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While I believe that there was sufficient reason to warrant the use of the alternative analyses and interpretations of these results, I am aware that such interpretations were post hoc and must be met with caution. In addition, given that some of the results of Study 2 seemed inconsistent with those of Study 1, I will briefly mention some key differences between the two studies that may potentially explain these disparities. Most notably, the mindset primes seemed to be successful in Study 1, but not in Study 2. However, part of the successful effects of the primes in Study 1 seemed to be driven by participants' rewarding behavior in the pragmatic, low cost condition. One reason why participants would spend money to reward the greedy allocator's decision would be to win favor from the allocator in the hopes that the allocator would return in kind upon subsequent interactions (e.g., splitting money equally with the participant, or not punishing the participant for keeping an unequal share). Again, I found some evidence for this interpretation, as a substantial proportion of participants from Study 1 reported being under the impression that there would be more than one transaction/exchange between the participant and their ostensible partners. Unfortunately, it was a mistaken assumption, and I corrected it in Study 2 by making the information and directions clearer, and by quizzing participants on this specific issue before they completed the task. While it seemed to clear up participants' understanding of the one-shot nature of the task, it also might have attenuated the effect of the mindset primes. Another difference that may have diluted the effects of the mindset primes was that I changed the allocator's transaction from keeping $4.75 and giving $0.25 (Study 1) to keeping $4.90 and giving $0.10 (Study 2). While the difference seems small, it could have increased the moral offensiveness of the allocator's transaction enough to bridge the

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difference between the pragmatic and moral mindset conditions. These conjectures are speculative, however, and I admit that I do not have a solid grasp on why the mindset conditions were unsuccessful in Study 2.

Study 3: Caring about Cost Depends on Who the Victim Is

While Studies 1 and 2 provided behavioral support for the hypotheses, the situations were interpersonal and were arguably far removed from the sorts of moralized conflicts that I am most interested in (i.e., conflicts involving significant consequences and large-scale aggression). Thus, in Study 3, I used a completely different paradigm, involving an intergroup context.

In addition, while there are multiple ways to approach self-relevance (or the co-activation of the self) in response to a perceived moral transgression, the previous study relied on inducing a self-focus in an otherwise third-party position. Another way to investigate this intersection, which I adopted in Study 3, is to consider the different perspectives that people can take on during a perceived moral transgression. DeScioli & Kurzban (2009) detail three different roles that are typically filled during moral interactions: the actor, the second party, and the third party. The actor is the initiator of the moral conflict (i.e., the transgressor), whereas the second party is the receiver of that transgression (i.e., the victim). The third party is an outside observer of the transgression taking place (i.e., the bystander). Of particular relevance here is the distinction between second-party and third-party positions. Whereas the second-party perspective involves the self directly (e.g., *I* was or *we* were wronged by person X), the third-party perspective

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is more indirect, where one experiences the conflict from a psychological distance (e.g., *that person* was or *they* were wronged by person X).[5] Thus, in Study 3, I examined the potential differences in how second vs. third-party positions (and perspectives) affect people's support for aggressive action, in interaction with costs, in response to a transgression perceived through a moral (vs. pragmatic) lens.

Method & Participants

Study 3 was a 2 (Mindset Prime: Moral vs. Pragmatic) X 2 (Group: Ingroup vs. Outgroup) X 3 (Cost: High vs. Low vs. Control) between subjects design. All participants were recruited online through Mechanical Turk (i.e., a website run by Amazon.com where people can complete tasks and surveys over the internet for payment). Participants were compensated with $0.50 for completing the 15 minute online survey, which was administered via Qualtrics. Responses from 291 participants were collected. A total of 42 participants (14.4%) were excluded from analyses due to speeding through the survey (26 participants), not taking the time to read a crucial passage (15 additional participants), and a computer error by which they received both group conditions (1 additional participant).[6] The majority of participants were White

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[5] It should be noted that, while DeScioli & Kurzban explain the differing perspectives as being clearly defined roles during a moral conflict, I approach the distinction between second and third-party perspectives as one of degree (ranging from more self-focused to more other-focused), rather than of kind. Another crucial difference in how I see these perspectives is that they are, perhaps, more fluid (vs. fixed) than DeScioli & Kurzban make them out to be. For example, I believe that there may be factors that can cause a third-party perspective to shift more toward a second-party view (e.g., via perspective taking or other means of connecting one's sense of self with the victim) with relative ease.

[6] **Speeding through the survey** was operationalized as reaching the end of the survey in under 5.27 minutes. We decided upon this specific time, because it was half of the median time (10.54 minutes) to complete the survey. **Not taking the time to read a crucial passage** was operationalized as spending fewer than 6 seconds on the page that explains the hostage situation (i.e., Country X taking the tourists hostage and planning on killing them). We decided on the 6 second cut off after examining a stem-and-leaf

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(79.1% were Caucasian, 6% were Black or African American, 8% were Asian, and all other ethnic categories made up the other 6.9%) and 53.2% of the participants were male. Participants ranged in age from 18 to 66-years-old (*M* = 34.49, *SD* = 12.39).

Procedure

After indicating their consent, participants were randomly assigned to complete either a moral or a pragmatic priming task. This mindset prime manipulation was the same one used in the prior two studies with one minor change. I changed 4 of the original 30 behaviors ("study", "cheat on a test", "listen to your parents", and "skip class" were changed to "cheat on a tax return", "steal a car", "buy birthday gifts for friends", and "shovel a neighbor's walkway"; see Appendix 1) so that they would be more meaningful to the typically older (non-student) Mechanical Turk population. After the priming task, all participants were presented with information regarding a hypothetical hostage scenario involving Country X. Using an adaptation of a scenario from Ginges & Atran (2011), participants learned about Country X that despises the Western world and that is notorious for taking tourists hostage:

> *Hostage passage: "The United States is facing an ongoing foreign policy conflict with a nation which we will call Country X. Country X is notorious for their corruption. A deep anti-Western sentiment has spread throughout the country, with frequent violent demonstrations. There have been multiple incidents in the*

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plot of all the times that participants spent on that page. The plot clearly showed that below 6 seconds is where the normality of the frequency distribution starts to deviate. Additionally, the 6 second cut off point was also relatively close to being half of the median (14.6 seconds)

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past in which Country X has taken tourists from nearby countries hostage - sometimes torturing and ultimately killing them."

Participants were then informed that Country X has just taken a large group of tourists hostage (American tourists in the ingroup condition and Belgian tourists in the outgroup condition) and that they have plans to torture and kill them:

Hostage passage continued: "Military intelligence has just revealed that a busload of [American/Belgian] tourists has been captured and are being held by hostage Country X. There is good reason to believe that Country X will torture the hostages, and that all of them will eventually be executed."

The participants were then tasked with making judgments about how to resolve the crisis. Specifically, they were told that while there were several options available, they needed to make judgments about using aggressive military action against Country X in an effort to save the hostages:

Judgment task passage: "The hostage situation is still ongoing, and decisions need to be made on how to respond. There are several options available, including the use of military force to try to rescue the tourist hostages."

Before participants rated their approval of military action, the costs that would be involved were explained to them. I used an adaptation of a cost manipulation that I have successfully used in previous research (Aoki & Packer, in prep; Study 2), such that the financial costs of military intervention were presented as being high versus low. I was additionally interested in exploring the effects of moralization and self-focus when attention was not drawn to costs, so in this study I also added a control condition. Thus, in the different cost conditions (high vs. low vs. control), the aggressive military action

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was either framed as extremely expensive, inexpensive, or the costs were not broached at all:

> *High Cost: "While the aggressive military intervention is likely to be effective, it is also estimated to be extremely expensive and costly. The US is currently suffering from a weakened economy and the proposed military operation will certainly create further strain. More specifically, the current military estimate for the cost of the military intervention is approximately $120,000,000 (120 million US dollars) at the low end, but can easily exceed $450,000,000 to $500,000,000 + (450 million US dollars to over a half a billion dollars) with more moderate estimates".*
>
> *Low Cost: "While the aggressive military intervention is likely to be effective, it is also estimated to be relatively inexpensive and cost-effective. The US is currently suffering from a weakened economy, but the proposed military operation will not create further strain. More specifically, the current military estimate for the cost of the military intervention is approximately 0.00001% of our annual Gross Domestic Product (GDP) at the low end, and is unlikely to exceed 0.00005% of our GDP with more moderate estimates."*[7]
>
> *Control: "The aggressive military intervention is likely to be effective."*

After receiving all the information concerning the hostage scenario, participants then rated how much they approved or disapproved of the military action. Following

[7] The estimated monetary expense in both the high and low cost conditions were actually identical, it is just that when the cost is framed as a percentage of the total US GDP (~$15 trillion), the cost appears to be much smaller and insignificant since 15 trillion is such an unfathomably large number.

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Ginges & Atran (2011), I also asked questions regarding their support for the military action under different assumptions of efficacy (i.e., if different numbers of hostages were to be saved). Following this, participants completed questionnaires that measured the extent to which they viewed the conflict in moral terms (i.e., moral mandates, moral thoughts, and moral reactions). I also measured their perception of how costly the military action was and the extent that they identified with the nationality of the hostages. Participants concluded with a standard demographics questionnaire, were thanked and fully debriefed upon completion.

Measures

Support for aggression. The main dependent variable was a measure of how much participants approved of aggression in response to the hostage conflict. I measured approval of aggressive action on 7 items (e.g., *"To what extent do you approve of US military force against Country X?"*, *"How much force do you think that the military should use?"*, *"How much aggressive military intervention would you authorize?"*; see Appendix 8). Each question was measured on a 7-point scale ranging from 1 (*not at all*) to 7 (*completely*), 1 (*none*) to 7 (*whatever is necessary, with no limit*), or 1 (*not at all aggressive*) to 7 (*as aggressive as possible*) depending on the question. This scale was highly reliable (Cronbach's $\alpha = .96$).

Efficacy of aggression. Two questions were used to assess participants' support for military action as a function of how efficacious the action was likely to be. In the first question, participants were asked to assume that all of the hostages would be saved *("If you knew, with certainty, that all of the hostages would be saved, would you support aggressive military force?"*). In the second question, participants were asked to assume

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that only one hostage would be saved (*"If you knew, with certainty, that only 1 hostage would be saved, would you still support aggressive military force?"*). The scale for both questions ranged from 1 (*not at all*) to 7 (*completely*).

Cost perception. I assessed the perceived costs for the military action with a single item (*"Given the information you received earlier, please estimate how expensive and costly it would be for the US to engage in aggressive military intervention in Country X?"*). The scale ranged from 1 (*very inexpensive*) to 7 (*very expensive*).

Observer-victim perspective. Participants rated whether they felt more like an outside observer (indicating a 3rd party perspective) or a victim (indicating a 2nd party perspective) with a single item (*"When making a decision about aggressive military intervention in the hostage conflict, did you feel like you were more of a direct victim or more of an outside observer?"*). Ratings were made on a 7-point scale, ranging from 1 (*OBSERVER, I felt I had nothing to do with who was attacked*) to 7 (*VICTIM, I felt that I was attacked*).

Group identification. Using an adapted version of a group identification measure developed by Leach and colleagues (Leach, Van Zomeren, Zebel, Vliek, Pennekamp, Doosje, Ouwerkerk, & Spears, 2008), I measured the extent to which participants identified with the nationality of the hostages (American for the ingroup and Belgian for the outgroup) via 6 items (e.g., *"I feel a bond with [Americans][Belgians]"*, *"I think that [Americans][Belgians] have a lot to be proud of"*, *"I am similar to the average [American][Belgian] person"*, *"I feel solidarity with [Americans][Belgians]"*, see Appendix 9). Both scales were reliable (Cronbach's $\alpha = .92$ for American ID and .93 for Belgian ID). I used the group ID information to ensure that participants in the

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ingroup condition identified more strongly with the ingroup, as compared to participants in the outgroup condition identifying with the outgroup.

Moral thoughts. The extent to which participants thought about the moral implications of the military action when making their approval ratings was measured with 3 items (*When I made my ratings regarding the aggressive military intervention… "I thought about what my moral responsibilities were"*, *"I was guided by my moral principles"*, and *"I was concerned about fairness"*). The 7-point scale ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's α = .74.

Moral reaction. The degree to which participants judged Country X and their actions as morally wrong/immoral was measured with 4 items (*"I felt that Country X's actions were morally wrong"*, *"I felt that Country X was immoral"*, *"What Country X did was wrong"*, and *"I was morally repulsed by Country X's actions"*). Participants responded on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's α = .88.

Moral mandate. Participants' general moralization of the hostage conflict was measured with two items adapted from Skitka's (2009) measure of moral mandates (*"My feelings about the hostage situation are a reflection of my core moral beliefs and convictions"*, and *"My feelings toward Country X are a reflection of my core moral beliefs and convictions")*. Pearson's r = .70.[8]

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[8] As in study 2, we ran a principal components factor analysis to ensure that the moral thoughts, moral reaction, and moral mandate measures were distinct. The factor analysis revealed three separate components accounting for 75.83% of the variance. Importantly, these three factors were appropriately comprised of the three respective measures of moralization.

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Primary Predictions

I predicted a 3-way interaction between mindset prime, group, and cost conditions. In particular, I anticipated that participants who evaluated the conflict in moral terms would support relatively high levels of aggression when the costs for doing so were low. When costs were high, however, I predicted that only those in the ingroup condition would continue to be highly supportive of aggression (i.e., those in the outgroup condition were anticipated to be deterred from supporting aggression, even when the conflict was viewed in moral terms). Participants who viewed the conflict in a pragmatic mindset were also expected to support high levels of aggression when the costs were low (i.e., they would not significantly differ from those in the moral prime condition); however, when the costs were high, both the outgroup and the ingroup conditions were anticipated to wane in their support for aggressive action (i.e., both perspective conditions would be deterred from supporting aggression when the conflict was viewed in a pragmatic light).

Results

Manipulation check: cost. As expected, there was a main effect of the cost manipulation on cost perception ($F(2, 237) = 163.55$, $p < .001$), with the military intervention in the high cost condition being perceived as more costly than the low cost condition (*Ms* = 6.41 and 2.87, *SDs* = 0.89 and 1.87, respectively). Interestingly, the perceived cost of the control condition ($M = 5.88$, $SD = 1.08$) was closer to the high cost

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condition than the low cost condition;[9] however, a multiple comparison post-hoc test (Tukey's HSD) revealed that all three cost conditions were significantly different from one another, *ps* < .024.

Manipulation check: 2nd party vs. 3rd party perspectives. There was a significant main effect of group on observer-victim perspective ($F(1, 237) = 11.97$, $p = .001$), such that participants in the ingroup condition reported feeling more like a victim (as opposed to an outside observer) than those in the outgroup condition (*Ms* = 3.38 and 2.65, *SDs* = 1.77 and 1.59, respectively).

Additionally, there was a significant main effect of group on group identification ($F(1, 237) = 39.05$, $p < .001$), with participants in the ingroup condition identifying more with the hostages (America/Americans; $M = 5.18$, $SD = 1.27$) than those in the outgroup condition (Belgium/Belgians; $M = 4.14$, $SD = 1.34$).

Support for aggression. To test the predicted 3-way interaction, I ran a 2 (Mindset Prime: Moral vs. Pragmatic) X 2 (Group: Ingroup vs. Outgroup) X 3 (Cost: High vs. Low vs. Control) factorial ANOVA predicting support for aggressive military intervention. The three-way interaction was not significant, $F(2, 237) = .476$, $p = .622$. The only significant result was a main effect of group ($F(1, 237) = 18.59$, $p < .001$), such that those participants in the ingroup condition approved of more aggression ($M = 5.22$,

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[9] One interesting observation was that, although participants in the control cost condition rated the estimated cost of the military action to be closer in expense to the high (vs. low) cost condition, when looking at their approval of the military action across multiple contexts, the control cost condition looked more akin to the low cost condition and in many cases looked even less costly. This might imply that, at least in this scenario, when people are not informed about the costs of the military action, they tend to not really think about the costs when making their decisions, or they naturally ascribe low costs to the actions that they wish to support, but inflate the estimated costs post hoc.

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SD = 1.47) than those in the outgroup condition (*M* = 4.32, *SD* = 1.75). There was no effect of cost or mindset prime (*ps* > .21).

Similar to Study 2, it seemed that the mindset primes were ineffectual, or at least that they did not prime what I wanted them to. However, what was more surprising—given that participants *did* significantly differ in their cost perceptions (i.e., the cost manipulation was successful)—was that the cost conditions had no noticeable effect on support for aggression either. One possible explanation is that enough people in all conditions judged the situation to be both highly moral and self-relevant (and thus, were undeterred), such that on average, costs seemed to be irrelevant. If this were the case, then I would need a more fine-grained analysis that would enable me to account for the potential range of moralization (similar to Study 2), and the potential range in strength of identification with the hostages' nationality. Thus, continuous measures of each would perhaps be more appropriate than the dichotomous moral vs. pragmatic and ingroup vs. outgroup conditions, which may have overlooked potentially important distinctions. I examined these ideas in more detail below.

Further examination of mindset primes. Going into this study, I was aware of the possibility that the mindset primes might be too weak to influence peoples' interpretation of the morality or pragmatics of the conflict, due to the glaring immoral actions of Country X. However, I was hoping that despite a potentially weak influence on perceptions of the conflict itself, the primes would still influence decisions about supporting military action (e.g., participants might still focus more on the costs and benefits of military action after the pragmatic prime, and focus more on the moral implications of the military action after the moral prime). This possibility was assessed

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via the moral thoughts questionnaire (i.e., the extent to which participants thought about the moral implications when rating the military action); unfortunately, there was no main effect of mindset primes on moral thoughts ($F(1, 237) = 0.08$, $p = .78$). Additionally, the mindset primes did not significantly predict participants' broad moralization of the conflict (i.e., moral mandates, $F(1, 237) = 0.05$, $p = .83$), nor their moral reactions to Country X and the hostage taking (i.e., moral reaction, $F(1, 237) = 0.81$, $p = .37$).

In looking at the means (see Table 1), it is clear that the majority of participants viewed the conflict in highly moral terms, regardless of mindset prime condition. This provides evidence to suggest that the mindset prime manipulation may have failed because the hostage situation was overwhelmingly construed in highly moral terms.

Moral reaction & group identification as predictors. Because the mindset prime conditions did not significantly predict any of the relevant variables, I opted to use moral reaction as a measure of moralization (as I did in Study 2) for subsequent alternative analyses. Additionally, I decided to use group identification (a continuous variable) in place of the dichotomous group variable,[10] since this would allow me to account for important nuances within the group conditions. That is to say, even though participants in the ingroup (vs. outgroup) condition identified with the nationality of the hostages more, individual differences in identification *within* group conditions (e.g., high

[10] We also ran a 2 (group: ingroup vs. outgroup) x 1 (group ID) x 3 (cost: low vs. high vs. control) regression analysis to examine if accounting for group condition *in combination with* group ID was meaningful. While there was a significant main effect of group condition ($\beta = .16$, $t(245) = 2.50$, $p = .01$), group ID ($\beta = .28$, $t(245) = 4.36$, $p < .001$), and cost ($\beta = -.18$, $t(245) = 2.62$, $p = .009$), none of the interactions were significant ($ps > .55$).

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vs. low identifiers) might be a more apt index of self-relevance than the average identification *between* group conditions (e.g., ingroup vs. outgroup identification).

Thus, I ran multiple regression analyses with cost, moral reaction, and group ID predicting approved aggression. Main effect terms were entered in Step 1: cost conditions were coded using two dummy variables and group identification was entered as a continuous variable. Standardized interaction terms in were entered into Step 2 (see Table 2 for full regression model). There was a significant main effect of cost, such that the high cost condition significantly differed from the control cost condition (β = -.22, $t(244) = 3.24$, $p = .001$) and the low cost condition (β = -.14, $t(244) = 2.05$, $p = .041$), which did not differ from the control cost condition (β = -.08, $t(244) = 1.12$, $p = .24$), suggesting that participants were less approving of aggressive military action when costs were high (vs. control or low). Additionally, there was a significant main effect of group ID ($\beta = .30$, $t(244) = 5.14$, $p < .001$) and moral reaction ($\beta = .27$, $t(244) = 4.55$, $p < .001$), such that and participants were more supportive of military action the higher their identification with the victim group and the more they moralized the transgression. While the former finding is consistent with the main effect of group condition found in the previous ANOVA, the latter is not. More specifically, I did not find an effect of *mindset primes* on support for military action, but I did find a significant effect of *moral reaction* on support for military action; this, again, suggests that the mindset primes did not prime what I wanted them to. Unfortunately, none of the interactions were significant ($\beta s < .11$, $ts(239) < 1.33$, $ps > .19$). Although the interactions were non-significant, the pattern in Figure 8 does depict what I had anticipated, with participants lower in group ID

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being more deterred by high costs and the difference narrowing as participants identified more strongly with the nationality of the hostages.

Does efficacy of action matter? In Studies 2 through 5 of Ginges & Atran (2011)—on which Study 3 of the current investigation was based—they found that people were not particularly sensitive to changes in efficacy (i.e., number of hostages saved) of the military action. The authors took this as evidence for morally imperative action, since lower (as compared to higher) prospects of success should "rationally" deter people from engaging in that action. Thus, being equally motivated or likely to engage in an action when the success of its outcome decreases (i.e., when the benefits decrease) seems indicative of imperative action. However, as I stated in the introduction, research hints at an asymmetry between costs and benefits, such that people may be more willing to forego benefits than to incur costs (Ritov & Baron, 1999). Thus, examining costs (in addition to benefits) may be a crucial part of the equation that has been missing in the literature on moral imperatives. The following analyses, then, extend beyond Ginges & Atran (2011) by examining the combined effects of cost and efficacy (an expected utility) on imperative action. In order to examine this—with the added nuance of group identification—I first looked at the effect of cost, mindset prime, and group (and cost, moral reaction, and group ID in a separate analysis) on participants' support for military action assuming that *all* hostages would be saved, then assuming that *only one* hostage would be saved, and then I looked at the change in support for military action between the two.

Under the assumption that all hostages would be saved with certainty, I ran an ANOVA with the original categorical variables (i.e., mindset prime, group, and cost)

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predicting support for military action. There was a significant main effect of group condition on support for aggression ($F(1, 237) = 4.60$, $p = .03$), such that participants were more supportive of the aggressive military action when the hostages were part of their ingroup vs. outgroup (*Ms* = 5.72 and 5.27, *SDs* = 1.46 and 1.72, respectively). However, there was no main effect of cost ($F(1, 237) = 0.21$, $p = .81$) or mindset prime ($F(1, 237) = 0.29$, $p = .59$), and there were no significant interactions (*ps* > .27). This could be taken to suggest that under the assumption that all hostages would be saved (the best possible outcome), moral construal and cost has little influence; however, given that I suspected that the mindset primes did not work the way I had expected (as mentioned earlier), I ran a regression analysis with the alternative continuous variables before interpreting the results more thoroughly.

In a multiple-regression analysis, I regressed support of military action on cost, moral reaction, and group ID. Main effect terms (i.e., dummy coded cost conditions and group ID) were entered into Step 1. All interaction terms were entered into Step 2. Consistent with the previous ANOVA, there was a main effect of group ID ($\beta = .15$, $t(244) = 2.36$, $p = .019$), suggesting that participants were more supportive of military action to the extent that they identified with the nationality of the hostages (see Figure 9 for the full pattern). However, the substitution of mindset primes with moral reaction revealed a significant main effect of moral reaction ($\beta = .26$, $t(244) = 4.19$, $p < .001$), suggesting that the more participants moralized the transgression, the more they supported the military action. More telling (and similar to the previous ANOVA), the cost conditions did not significantly differ from one another ($\beta s > -.11$, $ts(244) < 1.56$, *ps* > .12), again suggesting that when the efficacy of the military action was as opportune as

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possible (i.e., saving all the hostages), cost had little deterring influence on decisions—presumably because saving all the hostages was more valuable than the difference in cost between conditions. However, there was a marginally significant cost by moral reaction interaction (β = -.17, $t(239) = 1.85$, $p = .07$), such that for participants low in moral reaction, there seemed to be little-to-no difference between cost conditions, but for those high in moral reaction, support for military action seemed to be heightened when costs were low or not mentioned (vs. high). Given that the overall support for military action in the high cost condition was fairly high ($M = 5.38$, $SD = 1.74$), it seemed that, if anything, participants were taking advantage of low perceived costs rather than being deterred by high costs. None of the other interactions were significant ($\beta s < .12$, $ts(239) < 1.44$, $ps > .15$).

Next, I examined support for military action when it was assumed that only one hostage would be saved. Again, I started with an ANOVA using the original categorical variables predicting support for military action. There was a significant main effect of group condition on their support for aggression ($F(1, 236) = 6.24$, $p = .01$), with higher levels of support for military intervention when the hostages were a part of one's ingroup ($M = 4.26$, $SD = 1.83$) vs. outgroup ($M = 3.66$, $SD = 1.91$). There was no main effect of cost ($p = .68$) or mindset prime ($p = .10$). However, there was a significant two-way interaction between mindset primes and group conditions ($F(1, 236) = 4.99$, $p = .03$), such that when the lives of ingroup members were at stake, participants in the pragmatic prime condition were more supportive of the aggressive military action ($M = 4.70$, $SD = 1.74$) than those in the moral prime condition, $M = 3.79$, $SD = 1.81$; $t(109) = 2.71$, $p = .008$. There was no difference between moral and pragmatic prime conditions when

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outgroup lives were at stake, *Ms* = 3.69 and 3.60, *SDs* = 1.74 and 2.01 and 1.81, respectively; $t(127) = 0.18$, $p = .67$. This was a bit puzzling since I would have expected the *moral prime* condition to engender more support for military action than the pragmatic prime condition, when saving ingroup hostages. This effect (and others from the previous studies) raises questions as to what exactly the mindset primes are doing. I will touch on this question in the general discussion.

Next, I ran a multiple regression analysis with cost, moral reaction, and group ID predicting support of military action (assuming only one hostage would be saved). Main effect terms (i.e., two dummy coded cost variables and group ID) were entered into Step 1. Standardized interaction terms were entered into Step 2. There was a significant main effect of moral reaction ($\beta = .23$, $t(243) = 3.76$, $p < .001$), group ID ($\beta = .21$, $t(243) = 3.36$, $p = .001$), and cost (with high cost predicting less support than control cost; $\beta = -.15$, $t(243) = 2.05$, $p = .042$). However, the latter two effects were qualified by a significant 2-way interaction between cost and group ID, such that the effect of group ID in the high cost condition differed from the effect of group ID in the control cost condition ($\beta = .19$, $t(242) = 2.32$, $p = .02$), but not from the low cost condition, nor was there a difference between control cost and low cost conditions (*ps* > .22). The pattern of the data (see Figure 10) suggested that high costs (compared to control) had a strong deterring influence on participants' support for military action among those who were low in group ID, but the influence of high cost was attenuated the more participants identified with the groups.

In order to more directly examine the effect of cost at different levels of group ID, I ran a test of simple effects, comparing the effects of cost at one standard deviation

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above and below the mean of group ID. When group ID was low (-1 SD = 3.22) participants in the high cost condition were significantly less approving of aggression than participants in the control cost condition (β = -.26, $t(242)$ = 2.54, p = .01), but no differences in effects of cost existed between high vs. low or low vs. control cost conditions (*ps* > .12). Thus, participants were significantly more deterred by the high cost condition relative to the control. However, when group ID was high (+1 SD = 6.03) none of the cost conditions significantly differed from one another (β*s* < .02, *ts*(242) < .20, *ps* > .84), suggesting that participants were undeterred by increased costs for the military action when the moralized transgression was more self-relevant.

Finally, I examined participants' (in)sensitivity to changes in efficacy of the military action. Following Ginges & Atran (2011), sensitivity to change in efficacy (which I will simply refer to as "outcome sensitivity") was measured by subtracting the support for military action in the low efficacy scenario (only one hostage saved) from the high efficacy scenario (all hostages saved), with higher scores indicating a higher drop in support for military action in response to the drop in the efficacy of the military action—likewise, lower scores indicated less change in (more constant) support for the military action as the efficacy dropped.

I ran an ANOVA with cost, mindset prime, and group (the original categorical variables) predicting outcome sensitivity. None of the interactions were significant (*ps* > .12), nor were the main effects (*ps* > .18). This would seem to imply that while participants were somewhat sensitive to a drop in efficacy (overall M = 1.56, SD = 1.63), this outcome sensitivity was not influenced by any of the variables of interest. However, keep in mind that the mindset primes and cost conditions (in the ANOVAs) have yet to

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produce significant effects, except for one unexpected interaction which was not consistent with what I had predicted. Thus, I ran the alternative analysis using the continuous predictors in place of the respective categorical variables.

Regressing outcome sensitivity on cost, moral reaction, and group ID, I entered main effect terms (i.e., two dummy coded cost variables and group ID) in Step 1. All standardized interaction terms were entered into Step 2. Similar to the previous ANOVA, there were no main effects (*ps* > .15) and no three-way interactions (*ps* > .528). However, the regression analysis revealed a significant two-way interaction between group ID and cost, such that the effect of group ID in the high cost condition significantly differed from the effect of group ID in the control cost condition (β = -.18, $t(238) = 2.04$, $p = .043$; the effect of group ID did not differ in the high vs. low or low vs. control cost conditions, *ps* > .17). Looking at Figure 11, it seemed that cost influenced outcome sensitivity when participants were low in group ID, but not when they were high in group ID.

To examine the difference between high and low identifiers more directly, I ran a test of simple effects looking at the effects of cost at points one standard deviation above and below the mean of group ID. When group ID was low (-1 SD = 3.22), the effect of high (vs. control) cost on outcome sensitivity was significantly greater (β = .21, $t(242) = 1.93$, $p = .054$), with the high cost condition eliciting the biggest drop in support for military action (followed by low cost, then control; the effect of high vs. low and low vs. control cost conditions did not significantly differ from one another, *ps* > .19). However, when group ID was high (+1 SD = 6.03), the none of the cost conditions differed from each other (βs > -.01, $ts(242) < .92$, *ps* > .36), such that support for military action was

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equally stable across cost conditions. These results are consistent with those of Ginges & Atran (2011), suggesting that a moralized conflict can give rise to an insensitivity to seemingly important consequences (e.g., the number of hostages saved). However, the data adds further clarification by demonstrating that costs and self-focusing factors (e.g., group identity) may serve as important moderators.

Discussion

The originally predicted 3-way interaction between mindset prime, cost, and group did not emerge as expected in Study 3, nor did any of the expected effects of mindset primes or cost appear in the efficacy analyses involving the original categorical predictors. Similar to Study 2, I suspected that the former was due to the mindset primes not working as intended. Thus, I also ran alternative analyses using a continuous measure of moral reaction in place of the categorical mindset prime conditions.

Additionally, even though the group manipulations seemed to be successful (i.e., participants in the ingroup (vs. outgroup) condition identified with the nationality of the hostages to a greater degree, and rated experiencing the conflict from more of a 2nd party (vs. 3rd party) perspective), I was still unable to find any effect of cost between and within the group manipulations. However, because the dichotomous group variables may have concealed important nuances within the group conditions, I also opted to use the continuous measure of group identification (in place of the categorical group variable) in the alternative analyses as a more powerful indicator of self-relevance.

Taking this alternative approach, I found that low identifiers were not as approving of aggressive military action and were more deterred by the costs for the action. High identifiers, on the other hand, approved the aggressive action more and

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were undeterred by the costs of the military intervention. These results supported the main hypothesis, such that actions taken (or supported) in response to a moralized conflict can still be deterred by the costs associated with the respective actions, when the conflict is low in self-relevance (e.g., among low identifiers). However, when the moralized conflict is highly self-relevant (e.g., among high identifiers), we begin to see the undeterred, imperative action that is widely assumed in the moral literature.

Furthermore, I found that high identifiers' support for aggressive action was relatively unaffected by a drop in the efficacy of the action (even when costs were high), whereas low identifiers waned in their support for costly aggressive action when the efficacy dropped and was perceived as high in cost. This, again, provided additional support for the moderating role of self-relevance in predicting imperative action. Of course, while the use of group identification and moral reaction in lieu of ingroup vs. outgroup and moral vs. pragmatic prime conditions is justified, the corresponding analyses do need to be taken with a grain of salt, as both group identification and moral reaction were measured after the main DV.

It should also be noted that while I found a main effect of moral reaction in predicting support for military action in general, when all hostages would be saved, and when only one hostage would be saved, it did not significantly interact with the other variables (although, recall that there was a marginally significant interaction with cost in one of the analyses). One potential explanation is that the degree of moralization matters less (in terms of interactions with the other variables, but not main effects) once it passes a certain threshold (e.g., once a transgression or situation is construed in mostly moral terms). Thus, because the overwhelming majority of participants construed the

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transgression in highly moral terms (only 5.2% of the participants were below the midpoint for moral thoughts, 4.4% for moral mandate, and only 1.2% for moral reaction), the analyses were not able to truly examine the effects of construing the situation in relatively non-moral vs. relatively moral terms.

General Discussion

In a series of 3 studies, I set out to test 1) whether moralized transgressions would evoke higher levels of aggression and punishment than non-moralized transgressions, and 2) whether the aggression in response to a moralized transgression would be moderated by heightened self-focus or self-relevance, such that imperative action (e.g., undeterred aggression) would only arise when one's self-concept is linked to the moralized transgressions or decisions.

Study 1 supported the first hypothesis, in that participants were more punitive in a moral (vs. pragmatic) mindset condition. Crucially, and consistent with the second hypothesis, Study 1 showed that participants were deterred by costs for punishing, even when the transgression was seen in moral terms. Thus, Study 1 replicated the pattern of results from my prior studies (Aoki & Packer, in prep) in a laboratory setting and using a different paradigm.

In Study 2, while most of the originally planned analyses were null (due to the mindset primes being unsuccessful), alternative analyses found tentative support for both hypotheses. However, this support was spread out over two different dependent variables (the severity of punishment and the prevalence of punishment). More specifically, in support of the first hypothesis, the greater a participant's moral reaction to the situation, the harsher their 3rd party punishment was (i.e., the more moralized the transgression, the

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more punitive/aggressive they were). In addition, the prevalence of punishment (i.e., the likelihood of choosing to punish or not to punish) was significantly predicted by moralization, such that participants with greater moral reactions were more likely to punish (vs. not) the transgressor. In partial support of the second hypothesis, high (vs. low) costs for punishing the moral transgressor reduced the severity of participants' punishment among control participants; however, when self-focus was heightened by the presence of a mirror in the testing room, participants were undeterred by high costs for punishing the moral transgressor. Furthermore, it was the combination of moralization and self-focus that seemed to give rise to these effects. When participants were self-focused, but moralization scores were low, participants were still relatively deterred by costs for aggressing; however, when participants were self-focused and moralization scores were high, costs did not exert a significant effect on aggressive action. It should be noted that these effects were only found for the severity of punishment, and not the prevalence of punishment.

Similar to Study 2, the moral and pragmatic mindset primes were unsuccessful (in terms of how we expected them to behave) in Study 3. In addition, the dichotomous 2nd party and 3rd party conditions seemed to mask important information regarding the extent of one's identification with the victimized group. Thus, I employed alternative analyses to account for these unforeseen issues. In support of the first hypothesis (and in spite of a large bias to experience the transgression as moral), the greater their moral reactions, the more supportive participants were for military action. As tentative support for the second hypothesis, when the transgression was less self-relevant (i.e., among people who weakly identified with the hostages' nationality) people were deterred by costs for military

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intervention. However, when the transgression was high in self-relevance (i.e., among those who identified strongly), people were undeterred by costs for aggressive military intervention. As additional evidence, people were relatively unaffected by a drop in the efficacy of the military action (irrespective of cost) when the moral conflict was highly (vs. weakly) self-relevant. Thus, Study 3 provided some support (in multiple ways) that people are more likely to treat aggressive action as imperative to the extent that a moralized conflict is self-relevant.

Although each study was not without its drawbacks, taken together, the three studies found preliminary support for the hypotheses. Thus, consistent with my past research and extending upon the current literature, the current studies suggest that moralized (vs. less-moralized) conflicts and transgressions can increase the propensity for violence and aggression. However, contrary to the assumption in the literature that imperativeness is an inherent quality of moralized issues (e.g., Skitka 2010; Smetana, 2006; Haidt, 2001), I found that moralization, by itself, was not sufficient to elicit imperative action in response to a transgression. Instead, the current studies suggested that moralized transgressions might only engender imperative action (e.g., being undeterred by costs or other consequences) to the extent that a transgression is strongly associated with one's sense of self. This latter finding adds to the existing moral psychology literature, and lends initial support for my more nuanced model of how moral processes may influence people's decisions and behaviors by demonstrating the importance of self-focus in moderating the imperativeness of one's actions. In addition, the current investigation was (to my knowledge) the first to directly examine the effects

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of cost on moral decision-making, which provided a truer test of imperativeness than has previously been the case in the literature (e.g., Skitka, 2010; Skitka et al., 2005).

Broader Implications

The overall aim of the current investigation was to gain a more detailed understanding of *how and in what ways* moral processes can influence decisions and behaviors and also *when* do they exert these influences. In demonstrating that moral (vs. non-moral) transgressions can amplify levels of aggression and, in certain circumstances, give rise to undeterred aggression, the current research has important implications for conflict resolution. In particular, my research underscores the importance of considering whether the actors involved in a given conflict construe the situation in moral *and* self-relevant terms, as it would not only increase the stakes (i.e., the potential for violence and destruction would be greater), but it would also change what sorts of responses would be effective (or not) for obtaining compliance or making progress. For example, the current studies (and others; see Ginges et al., 2007) imply that sanctions, embargoes, and even retaliatory threat (or any other means of third or second-party punishment) will be relatively ineffective at stopping an aggressor when a conflict is both highly moralized and strongly linked to a group's identity (e.g., al-Qaeda, Hezbollah, etc.).

On a brighter note, the current research may also have important implications for the reduction of such precarious conflicts, or for spurring compassionate behavior more generally. More specifically, given that my research suggests that pairing moralization and self-focus can lead to imperative action, it may be possible to link one's self-focus or self-identity to more prosocial actions and orientations, such that when moralized, it may lead to imperative benevolence (rather than aggression).

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For example, in many donation contexts and scenarios, people are asked if they would like to donate to a charity/cause, and the people who choose to donate will usually get their name publicized in some fashion. Often times they will get to have their name displayed on a certain public website or bulletin, or they will get to write their name on a piece of paper and have it proudly displayed on the walls of a grocery store or restaurant. Having one's name attached or connected to a given prosocial cause may make it more self-relevant—in either the reputational or private sense. However, this connection typically happens *after* people have already chosen to donate or not (at least for those who have not spontaneously construed the situation in self-relevant terms; however, I am more interested in the people who do not do this, as they may be more apt to say no. Thus, having one's name on a wall probably does nothing other than to make the person feel a little more attached to a cause that they already gave to (and/or, to show people who have yet to donate that so many other people have donated). Perhaps a better way (in terms of recruiting more people to donate or having less people say no) would be to establish the self-relevant connection *before* they decide whether to donate or not. For instance, before making a decision about donating, a person could be asked if they would like to sign their name on the special piece of paper to show their support for X cause/charity. Presumably, hardly anyone would deny such an effortless and morally good gesture. A similar "tactic" is well-known in the persuasion literature as the foot-in-the-door technique, whereby getting someone to consent to a small request increases the chances of their consenting to a larger request. While the foot-in-the-door phenomena would likely play a part in getting more people to say yes to donate, my research would predict that the added component of self-relevance (i.e., connecting one's sense of self or

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identity to the cause) would increase motivation to donate on top of the effects of the foot-in-the-door. Thus, something as simple as changing *when* people write their name on a piece of paper may significantly increase prosocial behavior, because it changes the self-relevance of one's decision. In addition, one could imagine other (simple) means of inducing a connection between a person's sense of self and donating to/volunteering for a cause, such as having a mirror present when asking people if they would like to donate or volunteer.

Caveats

While, as a whole, my studies provide promising but tentative support for the hypotheses, each study had its share of limitations. For example, although Studies 1 and 2 benefited from a controlled, laboratory environment, the situation and tasks were relatively artificial and the costs quite minimal in comparison to most real-life moral conflicts (which I hope to shed light on). However, while the situation that participants were placed in for Studies 1 and 2 *can* be seen as artificial, the pattern of results was similar to those obtained from studies using vastly different paradigms that asked people about real-life international conflicts (Study 3 from this paper and Aoki & Packer, in prep). Also, even though participants in Studies 1 and 2 believed that only $5 was at stake, prior research has shown that increasing the stakes to $100 does not significantly alter the pattern of data for similar ultimatum and dictator games (Hoffman, McCabe, & Smith, 1996). Similarly, because Study 3 relied on a hypothetical hostage scenario and was conducted online, it is possible that participants reacted differently than they would in a real-world situation. While the scenario was not real, it was designed to be as realistic and plausible as possible, and has been used by other researchers on a variety of

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samples and cultures—including cultures where such political violence is more common (e.g., Palestine and Nigeria; Studies 4 and 5 from Ginges & Atran, 2011).

A prime problem. In addition to the limitations of the study designs, unexpected challenges along the way created further limitations. More specifically, and most primary, the effects of the mindset primes (or lack thereof) are not well understood. For example, while I found the anticipated effects in Study 1, the same was not true for Studies 2 and 3. The mindset primes *did* influence moral thoughts (though, not moral reactions) in Study 2, but did not affect any of the primary dependent variables. In Study 3, the mindset primes did not influence moral thoughts or moral reactions; however, perplexingly, there was a significant mindset x group interaction predicting support for aggression assuming only one hostage would be saved! The effect was such that participants in the pragmatic prime and ingroup condition were more supportive of military action than all other conditions, including those in the moral prime and ingroup condition (whom I had anticipated being the most supportive of military action). One possible explanation is that participants in the moral prime condition became more aware of, or sensitive to the destructive and immoral aspects of aggressive military action (rather than the moral good of saving the hostages, which I expected), thereby curbing their support for military intervention.

However, another potential explanation is that the pragmatic prime *did* prime participants to be more pragmatic, and that this could have actually made them more aggressive, since a pragmatic response to such a situation could be to threaten or scare the transgressors as much as possible (e.g., by showing the enemy that one is willing to support a full scale military assault, even if it would only save one hostage). This type of

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mentality lies at the heart of terrorism—i.e., to strike fear in the enemy, so as to cripple or weaken any resistance or retaliation. Thus, pragmatically primed participants in Study 3 may have tried to deter the transgressors via strategic intimidation (a sort of tactical daunting much like Shock and Awe). In essence, sometimes appearing to behave irrationally is a rational response to a situation.

With hindsight being 20/20, morality and pragmatics are very broad and messy forms of evaluation, and as such, priming morality or a moral mindset can likely give rise to very different and seemingly inconsistent effects. In trying to make sense of this confusing mess of moral primes, one potential insight might be that the primes may have been influencing different stages of the construal process. In particular, in our scenarios, a transgression occurred and participants had to make a decision about how to respond. Thus, it could have made a difference whether participants were influenced by the primes during the construal of the transgression (assessment stage), or during the construal of their response (action stage). For example, a participant could interpret the transgression in more moral terms, but still base their behavioral response in more pragmatic terms, or vice versa (a possible independent effect of primes on assessment and action stages). However, the current studies were not designed with this possibility in mind, and thus, I was not able to tease apart the primes' influence on assessment vs. action stages. More specifically, while a prime's influence on the assessment stage could be tapped by measuring a participant's moral reaction to the transgression (which I did), this would not necessarily provide any information regarding a prime's influence during the action stage. In order to assess a prime's influence during the action stage, one would have to

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measure the extent to which a participant viewed the specific action/response (e.g., punishing the allocator or supporting military action against Country X) in moral terms.

The correlation, not manipulation, of moralization. While I set out to manipulate moralization, the mindset primes clearly did not work out as cleanly as I had hoped. As a result, I had to rely on alternative analyses using self-reported measures of moralization (i.e., moral reaction) in place of the primes. While accounting for moralization did seem to provide tentative support for the hypotheses, there are two important limitations to keep in mind when interpreting the results: 1) all of the effects are correlational, as I did not directly manipulate moralization, and 2) moralization was measured *after* the dependent variables, so participants' scores were susceptible to post-hoc justification effects—that is, they may have tried to justify their prior decisions by ramping up or down their reported moral reactions to the transgression.

A further word of caution is that there were discrepancies between the studies in terms of the effects of moralization. For example, moral reaction predicted the severity and prevalence of punishment in Study 2 (as a main effect), and somewhat interacted with cost and focus in the predicted direction. However, while moral reaction significantly predicted support for military action in Study 3 (as a main effect), it did not interact with cost and group ID (with the exception of one unpredicted marginal interaction with cost). In Study 1, the mindset primes seemed to work out (whether fortuitously, or not), and so I did not examine the effects of moralization. However, for consistency's sake, I went back and ran a regression with moral reaction and cost predicting punitiveness and found no main effect of moral reaction (p = .31) and no moral reaction x cost interaction (p = .27). These discrepancies across studies, again, suggest

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that manipulating and measuring moralization is a very tricky task where a lot can easily go awry. As mentioned in the previous section, one possible (partial) solution would be to measure people's moralized attitudes toward the specific behavior of interest (e.g., support for aggressive military action, or punishing the allocator) in addition to the transgression (e.g., Country X or the allocator and their actions), giving a more complete and accurate assessment of moralization.

Future directions

There are many new and exciting directions in which I wish to take this research. However, before (or in addition to) branching off into new avenues of research, there are a few important follow-up steps to the current research. More specifically, in future research I plan to explore additional ways to manipulate or induce moral vs. non-moral orientations—outside of the mindset primes that I used in the three studies—or, at the very least, to examine the mindset primes more in depth and empirically test some of the potential explanations (mentioned above) of the inconsistencies. An additional challenge to figuring out a novel way to manipulate moral construals will be to find a good conflict, transgression, or situation whereby I can adequately shift around people's moral vs. amoral construals.

Additionally, I wish to examine in more detail and further clarify the role of the self-concept in moral processes. In particular, having provided some evidence that self-focus (Study 2) and self-relevance (Study 3) can dramatically alter decisions in a moral conflict, I want to start looking at possible mediators for the effect. Following the ideas outlined by Blasi (1983, 2004), I believe that a sense or feeling of responsibility is a good candidate for mediating the imperative effects of self-focused moral conflicts. Thus, I

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hope to test this more directly in future research by experimentally manipulating participants' (perceived and actual) level of accountability, culpability, and the like. In addition, I would also like to further examine the potential behavioral differences between being focused on the self-related implications of one's moral actions vs. being focused on a sense of connection with others (e.g., self-other overlap) and the moral actions that follow suit.

As broached earlier, I am also interested in exploring the prosocial side of moral cognitions and behaviors. For example, it would be interesting to extend the current findings to situations and paradigms that involve making choices to donate to, or volunteer for, benevolent causes. While some researchers have already begun to look at the effects of costs (e.g., pain and effort) in a donation context (Olivola & Shafir, under review), no research (to my knowledge) has examined the effects of self-focus on highly moralized prosocial acts. As an additional layer of interest and complexity, I plan to draw on ideas from the self-regulation and regulatory focus literature (e.g., Higgins, 1997; Carver & Scheier, 1998). More specifically, I plan to examine the effects of prevention and promotion foci during moralized conflicts. While recent research has already connected the two literatures and revealed important differences between proscriptive/prevention-focused and prescriptive/promotion-focused morality (Janoff-Bulman, Sheikh, & Hepp, 2009; Janoff-Bulman, 2011), this area is still in its nascence and has thus far focused mostly on emotional aspects of morality (particularly shame and guilt; Sheikh & Janoff-Bulman, 2010). Relating back to the current investigation, I hope to hone in on the potential differences between prevention and promotion foci in terms of their effects on imperative action. Given that a prevention focus may be associated with

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a stronger motivational pull (Carver & Scheier, 1998; Blanton & Christie, 2003; Rozin & Royzman, 2001) and issues of oughts/duties/responsibilities (Higgins, 1997; Janoff-Bulman et al., 2009), it would be interesting to see if a prevention (vs. promotion) focus is more likely to engender imperative actions.

Conclusion

While research and interest in moral psychology has seen a recent resurgence, there are many fascinating avenues that have yet to be explored. It is evident that a closer look at some of the current assumptions made by psychologists about the moral domain is warranted. In the three studies reported here, I found that imperative (e.g., undeterred) action was not an inherent quality of moralized issues (as seems to currently be assumed in the literature; see Haidt, 2001; Skitka, 2010; Smetana, 2006); rather, there was some evidence to suggest that imperative action was contingent upon linking the moralized conflict to one's sense of self.

The motivating power of moral beliefs and sentiments is both awe-inspiring and disheartening. As the lives of individuals, groups, and nations become increasingly intertwined and diversified through globalization, and as our technological capacity for destruction and benevolence accelerates, the importance of understanding when and how moral beliefs galvanize action increases in step.

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Appendix

1. MORAL VS. PRAGMATIC MANIPULATION (Studies 1, 2, & 3)

(Studies 1 & 2)
Moral condition:
"Before the group exercise, your first task will be to evaluate a series of actions in terms of whether they are morally good or bad. These moral judgments focus on whether or not someone ought to do something because it is the right or the wrong thing to do."

How morally good/bad would it be for you to…

Pragmatic condition:
"Before the group exercise, your first task will be to evaluate a series of actions/behaviors in terms of whether they would be good or bad for you personally. These pragmatic judgments focus on pros and cons, and take into account the costs and benefits you may experience if you do something."

How personally good/bad would it be for you to…

(1 = very bad, 7 = very good)
study
work hard
turn off the lights
conserve water
carpool
recycle
obey traffic lights
listen to parents
treat a friend to dinner
plant a tree
eat healthily
confront a bully
vote
pay taxes
buy organic food
gossip about friends
shoplift
cheat on a test
cut into line
litter
skip class
keep a lost wallet
leave a meal unfinished

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flatter a boss with a lie
tell a white lie
eat too much
throw away left-overs
have unsafe sex
gamble
lie to get a job

(Study 3)

Moral condition:
"Your first task will be to evaluate a series of actions/behaviors.

There are multiple ways of evaluating an action. One way of evaluating an action is by thinking about whether it would be good or bad morally. These moral judgments focus on whether or not someone ought to do something because it is the right or the wrong thing to do. Please rate the following series of actions using this type of evaluation."

How morally good/bad would it be for you to…

Pragmatic condition:
"Your first task will be to evaluate a series of actions/behaviors.

There are multiple ways of evaluating an action. One way of evaluating an action is by thinking about whether it would be good or bad for you personally. These pragmatic judgments focus on pros and cons, and take into account the costs and benefits you may experience if you do something. Please rate the following series of actions using this type of evaluation."

How personally good/bad would it be for you to…

(1 = very bad, 7 = very good)
cheat on a tax return
steal a car
buy birthday gifts for friends
shovel a neighbor's walk

2. PUNISHMENT INSTRUCTIONS (Study 1)

"You now have the option to pay to increase or decrease the ALLOCATOR's money. Below are the prices:"

High Cost:

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(Punishment)
If you choose to remove money: For every $1.00 that you choose to pay, the ALLOCATOR will lose $1.50.

(Reward)
If you choose to add money: For every $1.00 that you choose to pay, the ALLOCATOR will receive an extra $1.50.

Please note that either is completely optional. When you are done reviewing the prices, click 'Continue'

Low Cost:

(Punishment)
If you choose to remove money: For every $0.25 that you choose to pay, the ALLOCATOR will lose $1.50.

(Reward)
If you choose to add money: For every $0.25 that you choose to pay, the ALLOCATOR will receive an extra $1.50.

Please note that either is completely optional. When you are done reviewing the prices, click 'Continue'

3. MORAL REFLECTION (Studies 1 & 2)

(1 = strongly disagree, 7 = strongly agree)
-I felt that the ALLOCATOR's decision was morally wrong
-I felt that the RECEIVER was morally wronged by the ALLOCATOR
-I felt that the ALLOCATOR was immoral
-I felt that the ALLOCATOR's decision was immoral

4. ALTERED DICTATOR GAME INSTRUCTIONS (Study 2)

(changes from Study 1 are italicized)
"As the OBSERVER, you will observe the transaction. After the ALLOCATOR makes their decision, you will have the option to pay (out of the $5 you have been given) to decrease the ALLOCATOR'S earnings. Further details regarding your options will be provided shortly. *It is important to note that this is a one-shot task, meaning that only ONE transaction will be made, and then the task will be over (and your interaction with the other participants will end)*."

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5. **PUNISHMENT INSTRUCTIONS (Study 2)**

"You now have the option to pay to decrease the ALLOCATOR's money. Below are the prices:"

High Cost:

For every $1.00 that you choose to pay, the ALLOCATOR will lose $1.50.

Please note that removing money from the ALLOCATOR is completely optional. When you are done reviewing the prices, click 'Continue'

Low Cost:

For every $0.10 that you choose to pay, the ALLOCATOR will lose $1.50.

6. **MORAL THOUGHTS (Study 2)**

"The following questions pertain to what you thought and experienced when you saw the interaction between the ALLOCATOR and the RECEIVER."

- When I made my decision as the OBSERVER, I thought about what my moral responsibilities were
- When I made my decision as the OBSERVER, I was guided by my moral principles
- When I made my decision as the OBSERVER, I was concerned about fairness
- When I made my decision as the OBSERVER, I was concerned about justice

7. **MORAL REACTION (Study 2)**

- I felt that the ALLOCATOR's decision was morally wrong
- I felt that the RECEIVER was morally wronged by the ALLOCATOR
- I felt that the ALLOCATOR was immoral
- I felt that the ALLOCATOR's decision was immoral
- I believe that what happened to the RECIEVER was wrong
- What the ALLOCATOR did was wrong
- I was morally repulsed by the ALLOCATOR's decision

8. **SUPPORT FOR AGGRESSION (Study 3)**

(1 = not at all, 7 = completely)
- To what extent do you approve of US military force against Country X?
- To what extent do you believe that the US should take immediate military action against Country X?
- To what extent do you believe that the US should invade Country X to save the hostages?

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(1 = none, 7 = whatever is necessary, with no limit)
- How much force do you think the US military should use?
- How much military intervention would you authorize?

(1 = not at all aggressive, 7 = as aggressive as possible)
- How aggressive do you think the US military should be?

9. GROUP IDENTIFICATION (Study 3)

(1 = strongly disagree, 7 = strongly agree)
- I feel a bond with [Americans][Belgians]
- I feel solidarity with [Americans][Belgians]
- I feel committed to [America][supporting Belgians]
- I think that [Americans][Belgians] have a lot to be proud of
- I have a lot in common with the average [American][Belgian]
- I am similar to the average [American][Belgian] person

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Figures

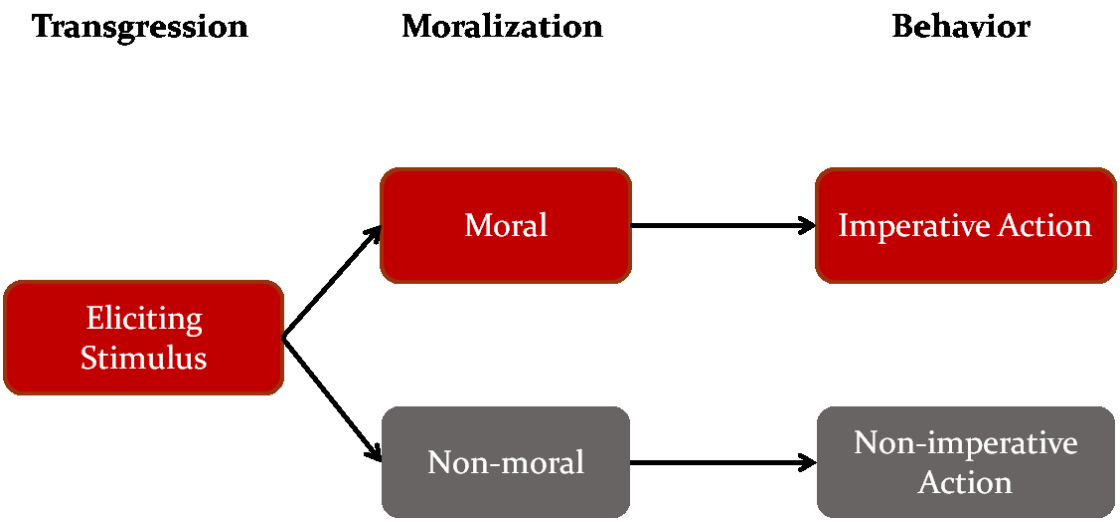

Figure 1. Simplified model of moral processes implied by the current literature. In this model, an eliciting stimulus (e.g., a transgression, a challenged belief, a debated issue, etc.) will engage a person in a decision-making process. As a part of this process, a person can either construe the transgression in more moral or more non-moral (e.g., pragmatic) terms. To the extent that the transgression is moralized, a person will experience a sense of imperativeness, such that they must act upon the transgression (righting the wrong), regardless of costs, benefits, and consequences. To the extent that the transgression is seen in non-moral terms, a person will not experience a sense of imperativeness, and will thus be influenced by costs, benefits, and consequences.

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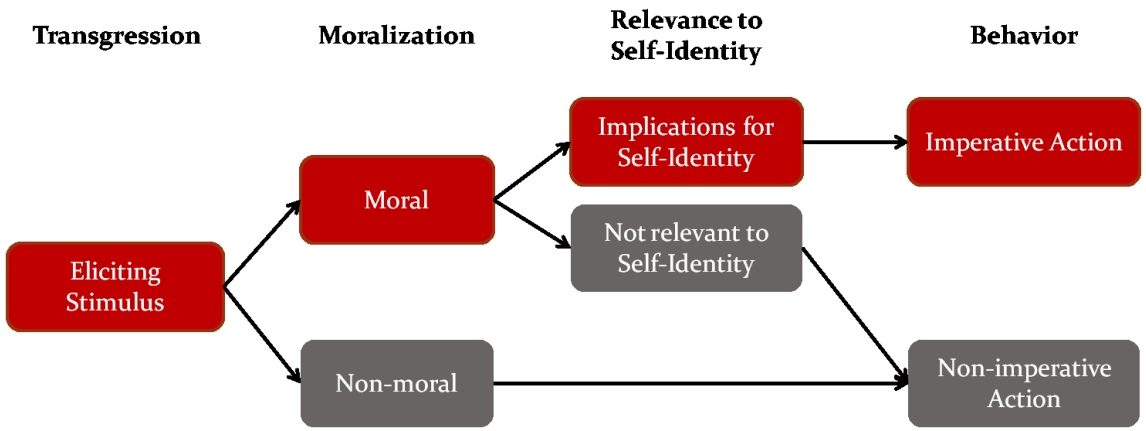

Figure 2. Simplified, but more nuanced model of moral processes proposed by the current investigation. The proposed model differs from the model currently assumed by the literature in two major ways: First, the proposed model predicts that a transgression can be moralized and still fail to evoke a sense of moral imperativeness, whereas the currently assumed model would predict that a moralized transgression would necessarily evoke a sense of imperativeness. Second, the proposed model suggests that in addition to being moralized, it matters whether the transgression is construed as self-relevant (i.e., having implications for a person's sense of self or identity) or not relevant to the self. When a transgression is moralized, but not experienced as self-relevant, the moral transgression will not evoke a sense of imperativeness. Importantly, the proposed model predicts that when a transgression is construed as both moral *and* self-relevant, it will give rise to imperative action.

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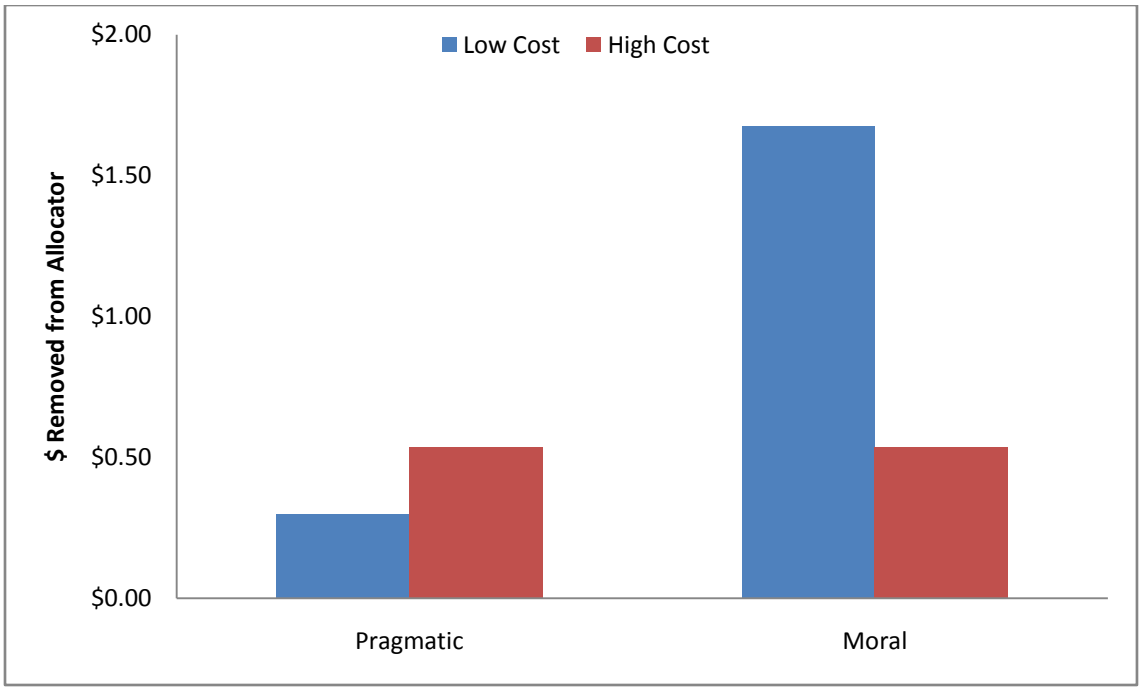

Figure 3. Study 1: Punitiveness ($ removed from allocator) as a function of Mindset Prime X Cost.

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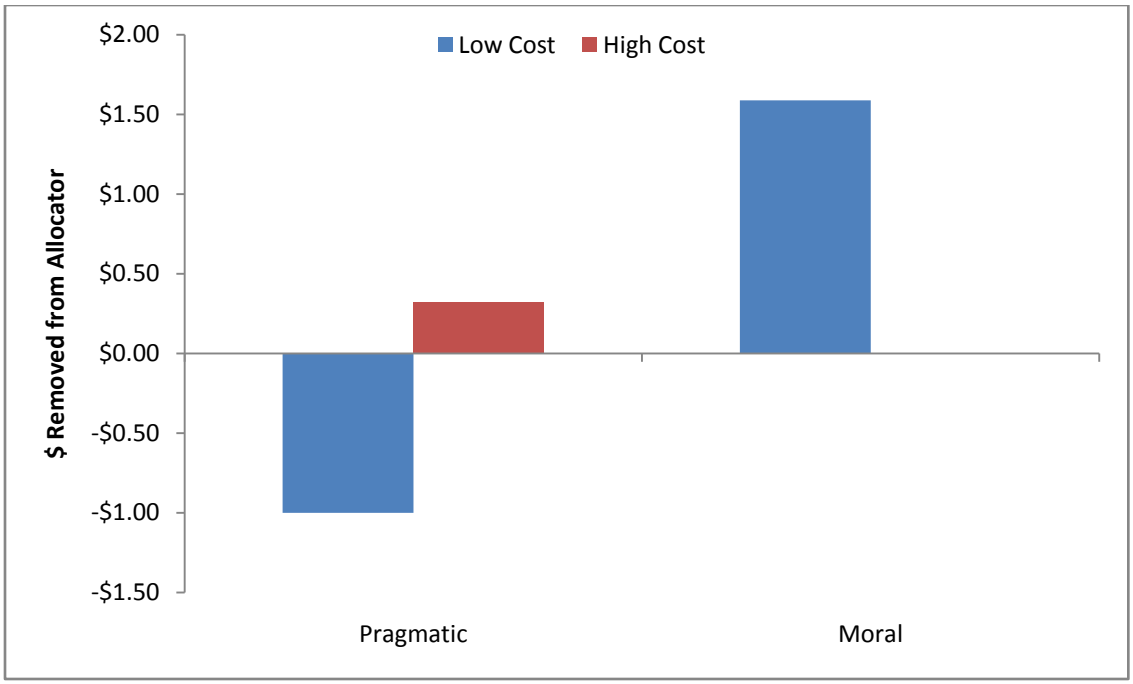

Figure 4. Study 1: Relative punitiveness ($ removed from allocator) as a function of Mindset Prime X Cost. Negative numbers indicate participants (on average) giving the allocator money vs. removing money.

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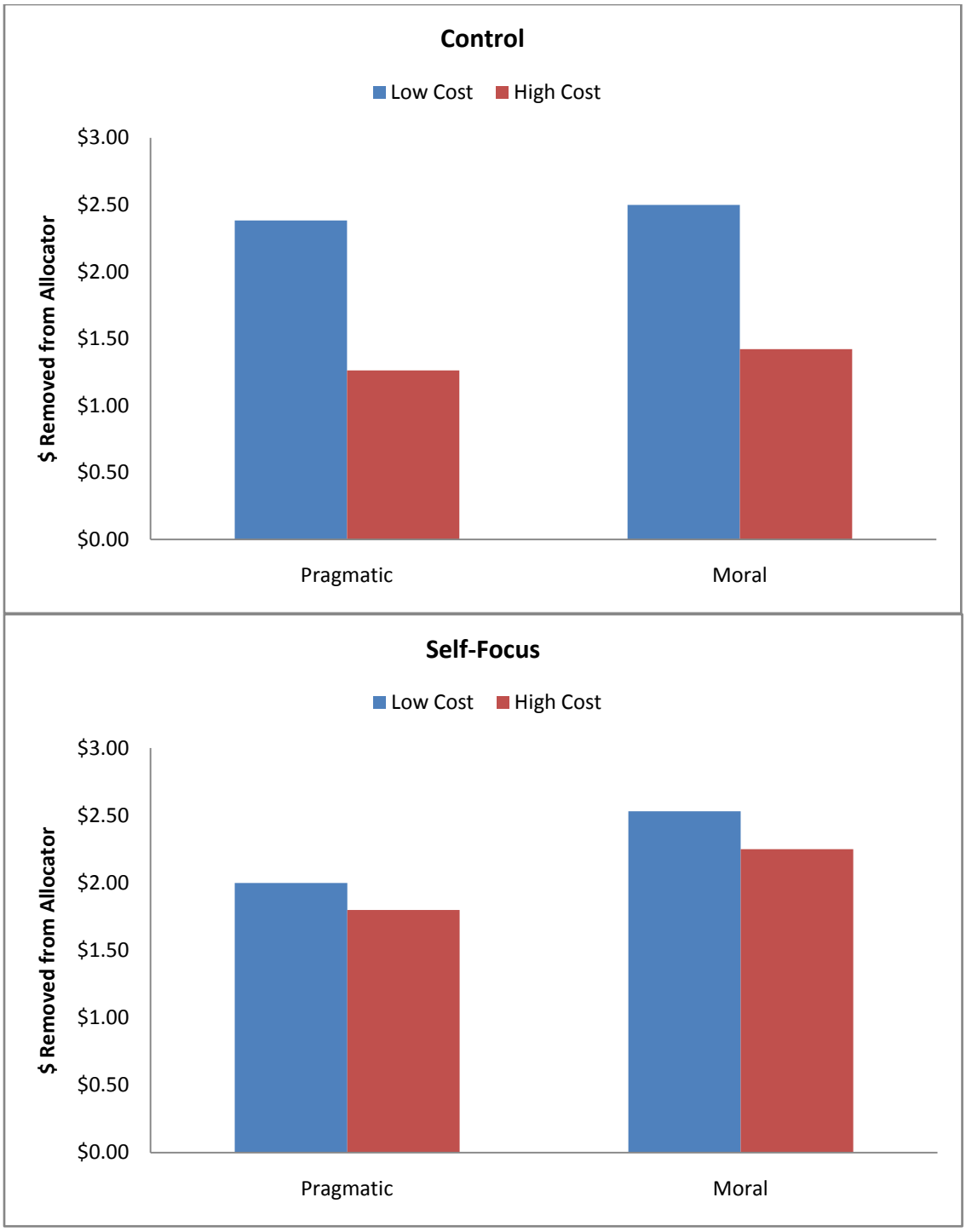

Figure 5. Study 2: Punitiveness ($ removed from allocator) as a function of Mindset Prime X Cost (split by Focus).

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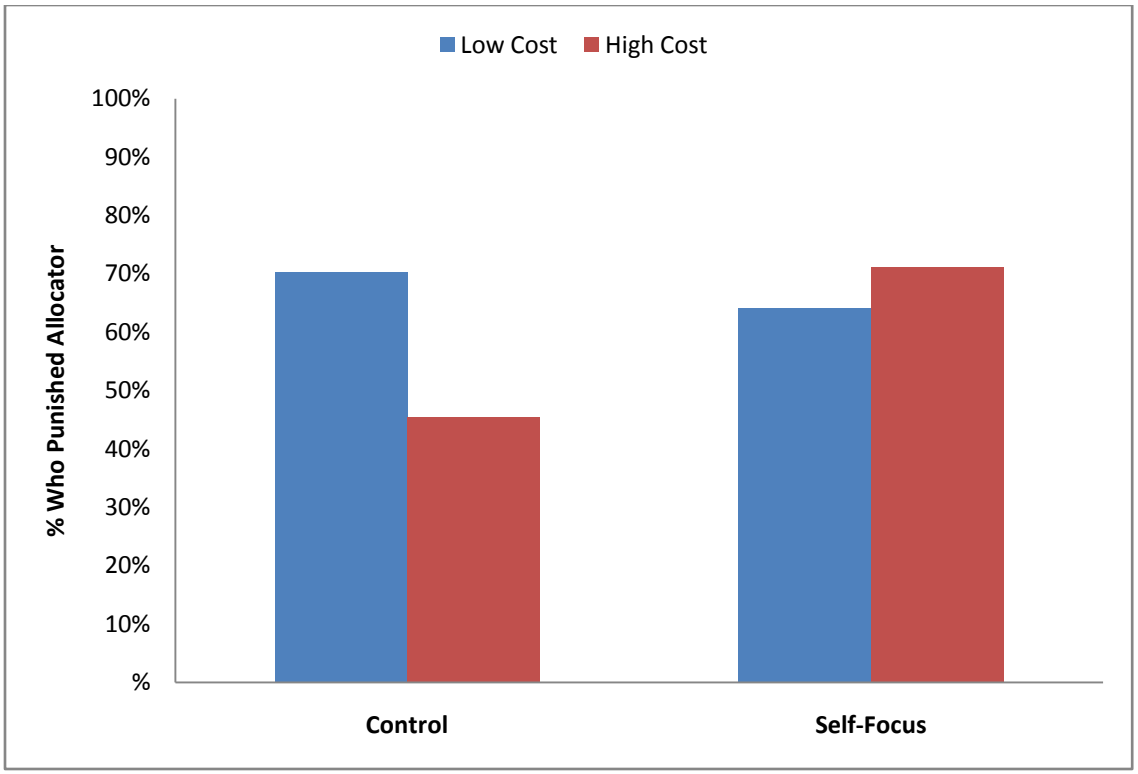

Figure 6. Study 2: Proportion of participants who chose to punish the allocator as a function of Focus X Cost.

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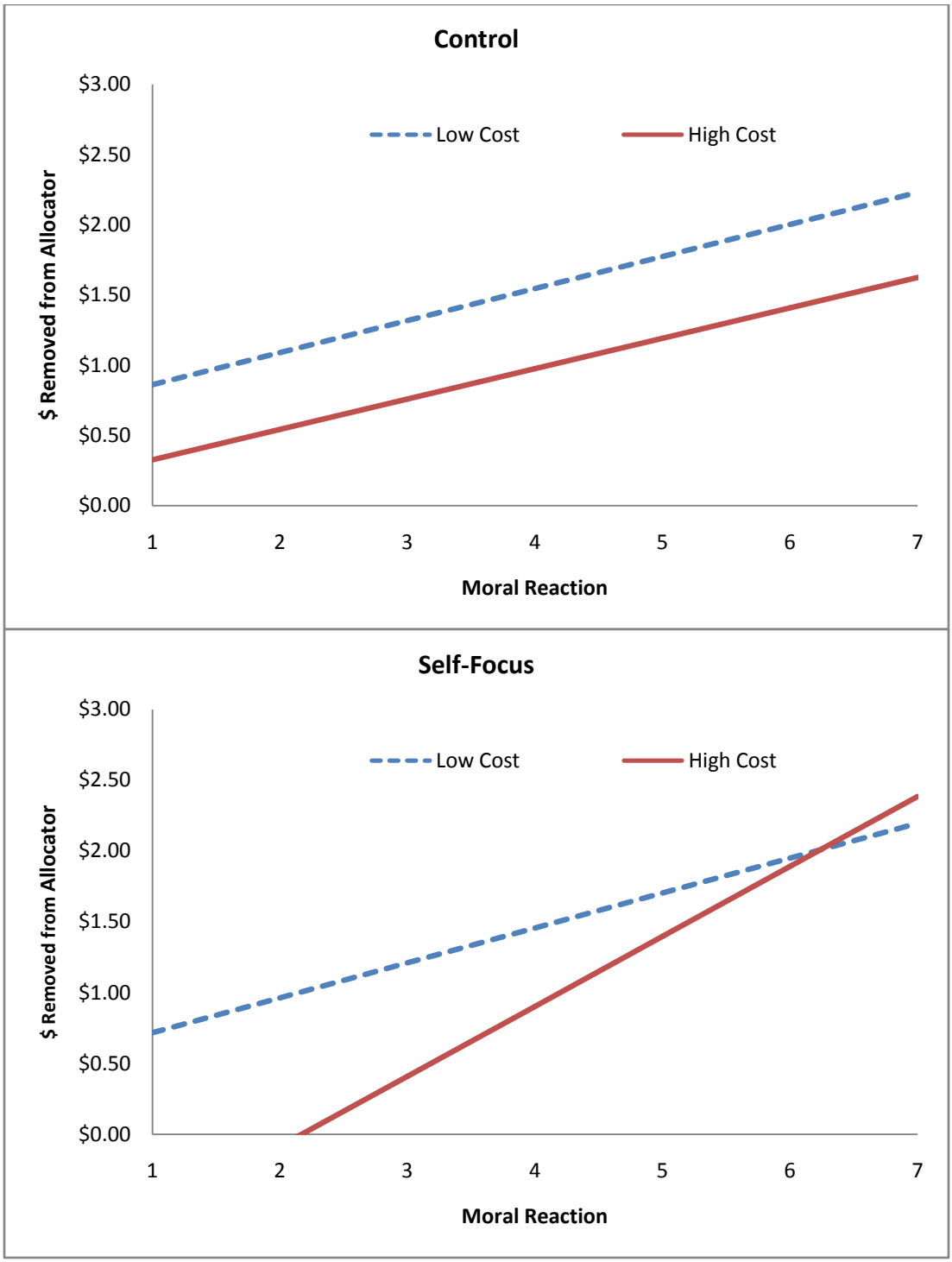

Figure 7. Study 2: Punitiveness ($ removed from allocator) as a function of Moral Reaction X Cost (split by Focus).

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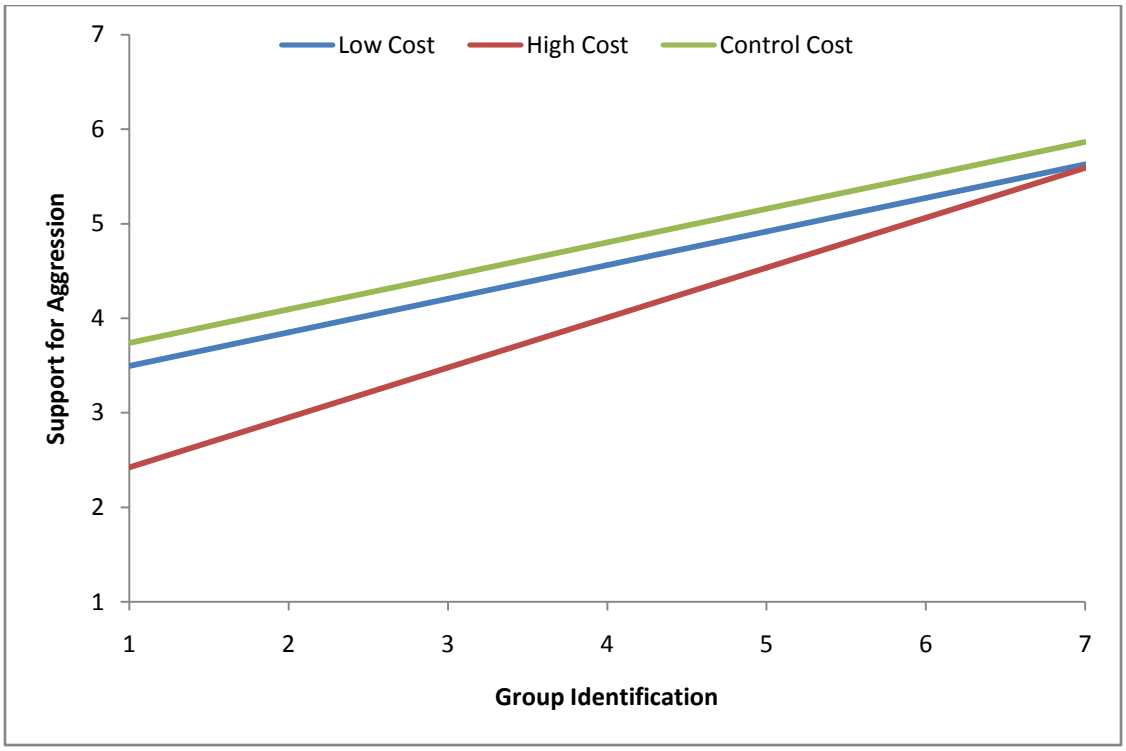

Figure 8. Study 3: Support for aggression as a function of Group ID X Cost.

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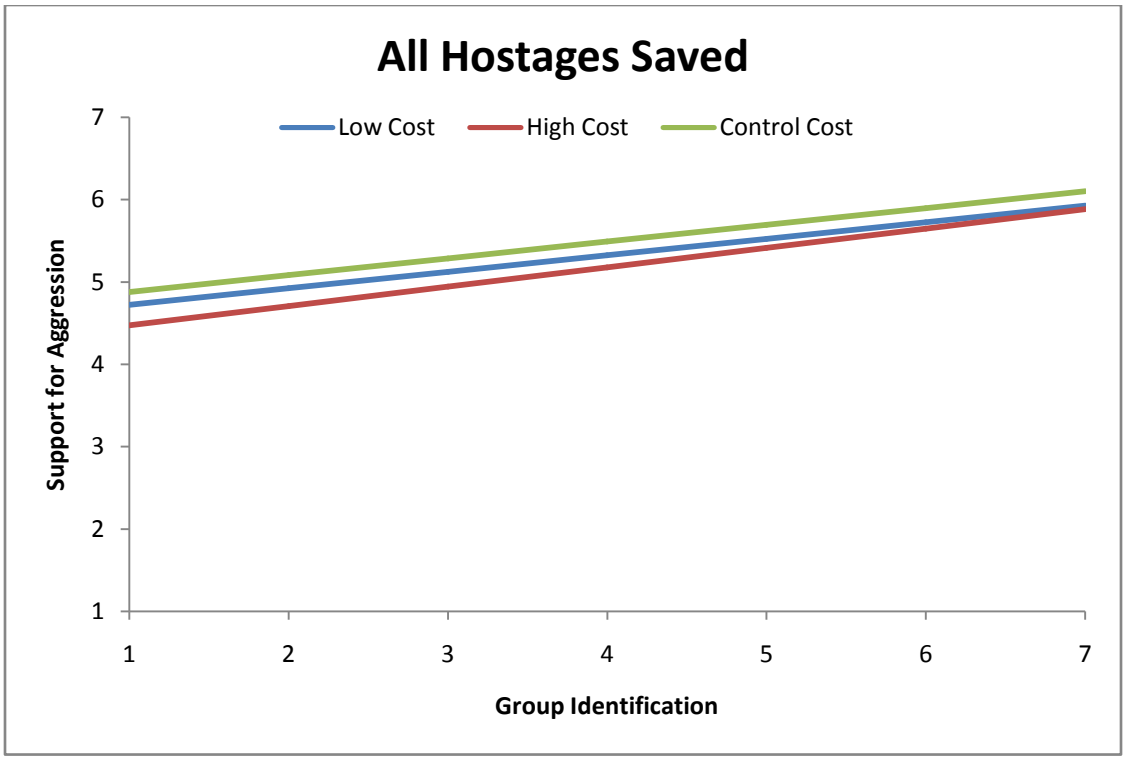

Figure 9. Study 3: Support for aggression (assuming that all hostages would be saved) as a function of Group ID X Cost.

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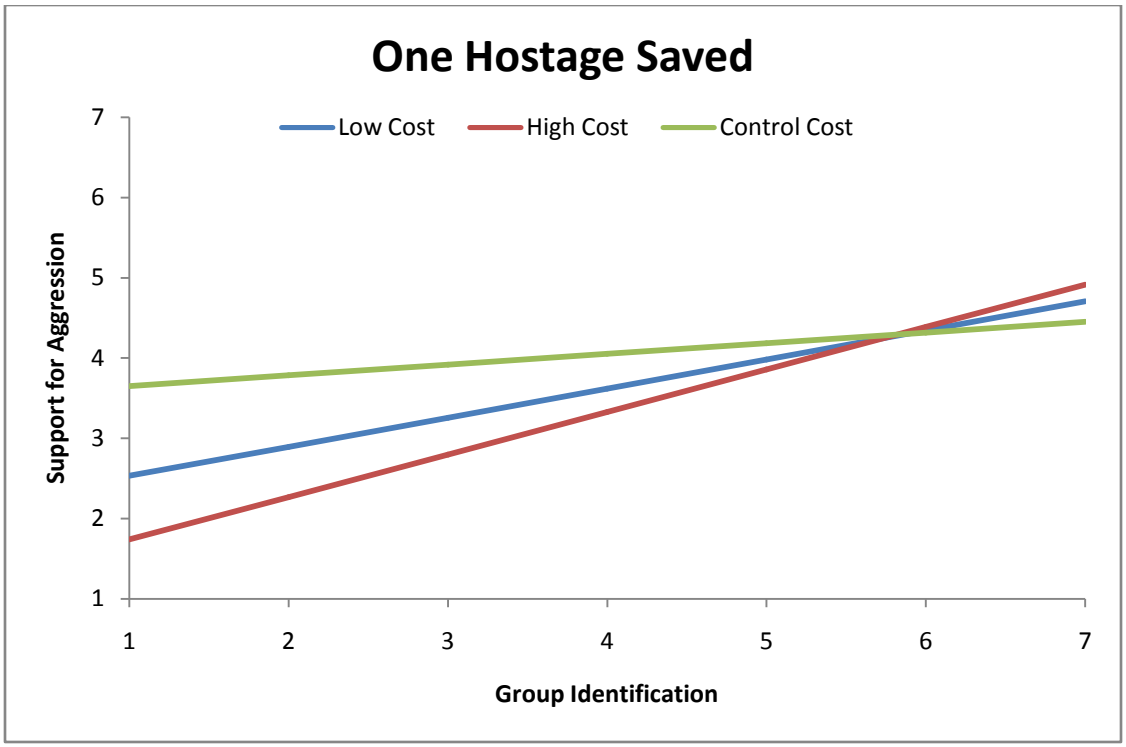

Figure 10. Study 3: Support for aggression (assuming that only 1 hostage would be saved) as a function of Group ID X Cost.

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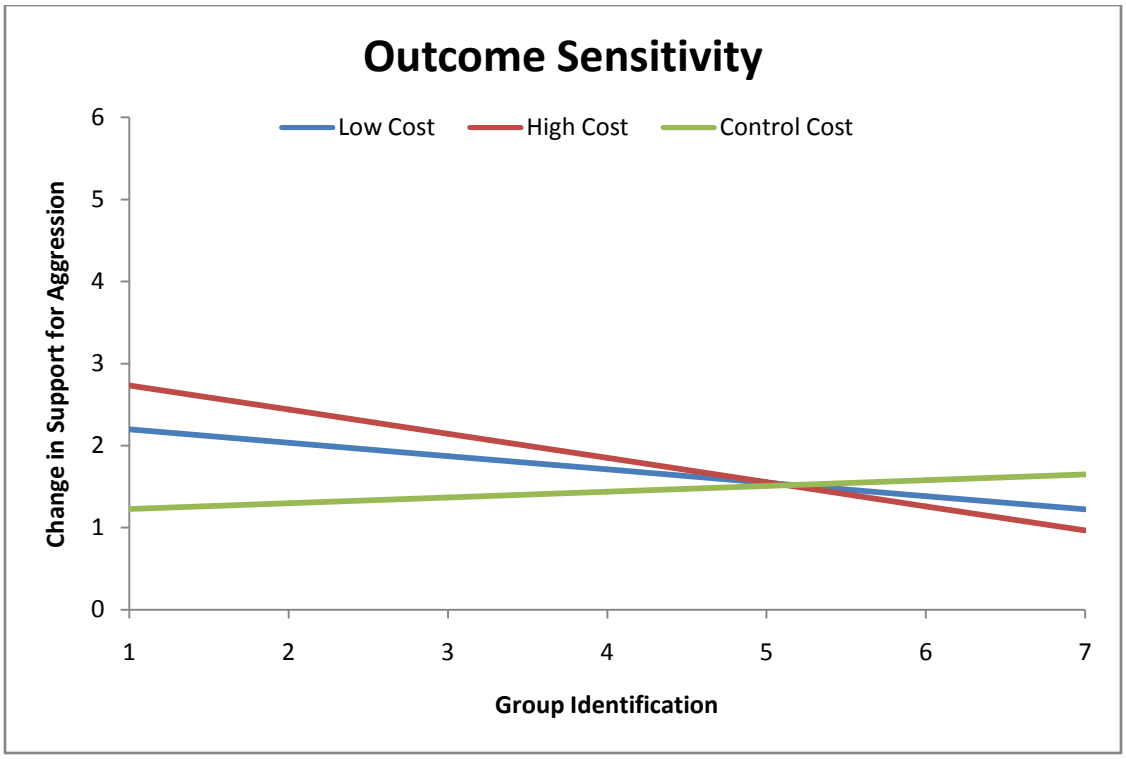

Figure 11. Study 3: Outcome sensitivity (change in support for aggression) as a function of Group ID X Cost. Outcome sensitivity was calculated by subtracting participants' support for aggression (assuming only 1 hostage would be saved) from support for aggression (assuming all hostages would be saved). Larger numbers indicated a greater drop in support for aggression while smaller numbers indicated little change in support for aggression.

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Tables

Table 1.
Study 3: Means of Moralization Variables by Mindset Primes

Variable	Pragmatic Prime		Moral Prime	
	M	*(SD)*	*M*	*(SD)*
Moral Mandate	5.51	(1.14)	5.54	(1.13)
Moral Reaction	6.37	(0.86)	6.27	(0.93)
Moral Thoughts	5.59	(0.91)	5.55	(1.05)

Note: Means are on a 1 to 7 scale.

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Table 2.
Study 3: Regression Model Predicting Aggression (Standardized Coefficients)

Predictor	R^2	ΔR^2	F	t	β
Step 1	.196		14.85***		
Condition dummy1 (CD 1)[a]				-1.17	-.08
Condition dummy2 (CD 2)[b]				-3.24**	-.22**
Group ID				5.14***	.30***
Moral Reaction				4.55***	.27***
Step 2	.203	.007	0.41		
CD 1 x Group ID				0.008	.001
CD 2 x Group ID				0.98	.08
CD 1 x Moral React				0.29	-.02
CD 2 x Moral React				0.58	-.05
Group ID x Moral React				0.01	-.001
Step 3	.205	.002	0.35		
CD 1 x Group ID x Moral React				0.40	-.03
CD 2 x Group ID x Moral React				0.64	.05

a. 1 = low cost, 0 = other.
b. 1 = high cost, 0 = other.
*** $p < .001$. **$p < .01$. *$p < .05$.

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Education

M.Sc. Enrolled in Ph.D. Program, Psychology, Lehigh University; Bethlehem, PA
M.Sc. Anticipated September 2012
Concentration: Social Cognition & Personality

B.A. Psychology, University of Wisconsin-Stout; Menomonie, WI
December 2008
Minors: Cognitive Neuroscience; Philosophy; Art

Research Interests

I am deeply interested in better understanding the unique dynamics that moral sentiments add to interactions. In particular, my research focuses on the role morality plays in interpersonal and intergroup conflicts, with a special interest in moralized aggression.

Publications

Packer, D. J., **Aoki, J. T.**, & Frazier, P. A. (2012). On the advantages and disadvantages of a low resolution snapshot. [Review of Blumberg, H., Kent, M. V., Hare, P. M., & Davies, M. F. (2012). Small group research: Implications of peace psychology and conflict resolution. New York: Springer]. *Peace and Conflict: Journal of Peace Psychology, 18*, 201-202.

Conference Posters

Aoki, J.T. and Packer, D.J. (2012, January). *Costly moral conflicts ignite aggression: When heated situations get even hotter*. Poster presentation at the 13th annual meeting of the Society for Personality and Social Psychology, San Diego, CA.

Aoki, J.T. and Packer, D.J. (2011, May). *Moral mandates and aggression: If you are the weakest link, goodbye!* Poster presentation at the 23rd annual convention of the Association for Psychological Science, Washington, DC.

Li, P., **Aoki, J.T.**, Wheeler, J. and Johnson, C. (2008, May). *The presence of racial minorities impairs people's ability to focus attention*. Poster presented at the 80th annual meeting of the Midwestern Psychological Association, Chicago, IL.

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Li, P., Wheeler, J., **Aoki, J.T.** and Johnson, C. (2008, May). *The after-image of in-group faces are more distractive than out-group faces*. Poster presented at the 80th annual meeting of the Midwestern Psychological Association, Chicago, IL.

Budd, D., **Aoki, J.T.**, Harstad, L., Johnson, C., McCarthy, R. and Gajda, H. (2007, May). *Lasting memories: Emotional arousal and memory for specific details*. Poster presented at the annual meeting of the UW-Stout Research Day, Menomonie, WI.

Tafalla, R., Jenks, M., **Aoki, J.T.**, Treiber, C. and Sweeney, V. (2007, March). *Desensitization to violence: Do violent video games have an effect?* Poster presented at the 4th annual meeting of Posters in the Rotunda, Madison, WI; Poster presented at the annual meeting of the UW-Stout Research Day, Menomonie, WI; Poster presented at the Inaugural meeting of the MidBrains Undergraduate Neuroscience Conference, Saint Paul, MN.

Scientific Presentations

Aoki, J.T. (March, 2012). *Overlooking the I in imperative*: *Revisiting an assumption in the moral literature*. Talk presented at Brownbag Meeting, Lehigh University

Aoki, J.T. (April, 2011). *Moral transgressions and aggression: Exploring the role of deterrence*. Talk presented at Brownbag Meeting, Lehigh University

Packer, D.J. and **Aoki, J.T.** (March, 2011). *Developing a typology of intergroup aggression*. Talk presented at Social Cognition Area Meeting, Lehigh University

Aoki, J.T. (November, 2009). *The psychobiology of stress*. Guest lecture for Personality course at Ball State University

Aoki, J.T. (November, 2009). *Intelligence predicts health and longevity, but why?* Guest lecture for Personality course at Ball State University

Aoki, J.T. (October, 2009). *Personality, strategic behavior, and daily-life problem solving*. Guest lecture for Personality course at Ball State University

Boemio, A. and ***Aoki, J.T.** (August, 2008). *The effect of signal manipulations on intelligibility: Speech perception viewed as a problem in auditory pattern recognition*. Talk presented at Neuroscience and Cognitive Science meeting, University of Maryland-College Park

Relevant Experience

2011	Summer research assistant for Group Processes Lab – Helped collect data, design study materials, and supervise undergraduate RAs
2010-2011	Teacher Development Series – Attended biweekly seminar on cultivating teaching skills
2008	Neuroscience and Cognitive Science summer research internship, University of Maryland-College Park
2007	Cognitive Neuroscience reading group – Met weekly to discuss selected research articles and book chapters
2006	Paid research assistant for Suspicious Behavior Detection Study designed by Primetime Medical Software

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2005-2008 Cognitive-Neuroscience Education and Research Values Experience, NSF-funded research program, University of Wisconsin-Stout

Research Projects

2011-2012 Master's Thesis (3 studies)
Department of Psychology, Lehigh University
Moral conflicts and aggression: Exploring the I in imperative

2010-2011 First-Year Research Project (4 studies)
Department of Psychology, Lehigh University
Moral transgressions and aggression: Exploring the role of deterrence

2008 Summer Research Project
Neuroscience and Cognitive Science summer research internship, University of Maryland
The effect of signal manipulations on intelligibility: Speech perception viewed as a problem in auditory pattern recognition

2008 Senior Research Project
Department of Psychology, University of Wisconsin-Stout
Violent video games and desensitization to violence: An ERP study

Teaching Experience

2012 Graduate Teaching Assistant – Intro to Psychology, Lehigh University; Bethlehem, PA

2011 Graduate Teaching Assistant – Personality, Lehigh University; Bethlehem, PA

2011 Graduate Teaching Assistant – Research Methods, Lehigh University; Bethlehem, PA

2010 Graduate Teaching Assistant – Social Psychology, Lehigh University; Bethlehem, PA

2007 Pre College Program – Provided hands on lab experience and lessons to middle school and high school students, University of Wisconsin-Stout

Awards

2007 1st place award for "Best Poster Presentation" (monetary award) at the annual meeting of the UW-Stout Research Day, Menomonie, WI.

2005-2008 6 Chancellor's Awards for Academic Excellence

Professional Affiliations

2011-Present Association for Psychological Science, Graduate Student Affiliate

2011-Present Society for Personality and Social Psychology, Graduate Student Affiliate

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