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Is the moral domain unique? A social influence perspective for the study of moral cognition

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Abstract

The nature of the cognitive processes that give rise to moral judgment and behavior has been a central question of psychology for decades. In this paper, we suggest that an often ignored yet fruitful stream of research for informing current debates on the nature of moral cognition is social influence. We introduce what we call the “social-moderation-of-process” perspective, a methodological framework for leveraging insights from social influence research to inform debates in moral psychology over the mechanisms underlying moral cognition and the moral domains in which those mechanisms operate. We demonstrate the utility of the social-moderation-of-process perspective by providing a detailed example of how research on social influence in behavioral ethics can be utilized to test a research question related to a debate between two prominent theories in moral psychology. We then detail how researchers across the field of moral psychology can utilize our social-moderation-of-process perspective.

1 | INTRODUCTION

The question of what is “special” about moral judgment and behavior has been a central question to moral psychology. Is morality a unique domain of human thought, with a separate set of cognitive processes and neurological antecedents, or is the psychology of morality really just “normal” psychology, relying on the same cognitive processes as all judgments across all domains of behavior? Early research in moral psychology focused mainly on this question of whether moral cognition is unique (Cushman & Young, 2011; Haidt & Kesebir, 2010; Young & Dungan, 2012). More recently, researchers in moral psychology have shifted to asking questions related to the mechanisms underlying different “domains” of morality (Chakroff & Young, 2015b; Cushman, 2015). Murder, stealing, betrayal, and incest can all be considered “immoral,” but does the mind judge murder and incest in the same fashion? Researchers interested in this broad question often turn to neuroscience and formal mathematical models to investigate the cognitive mechanisms underlying specific types of moral judgments (Crockett, 2016; Cushman, 2013). And although there is no doubt that these methods can provide a much more precise account of moral cognition than traditional laboratory experiments, they often ignore a fruitful area for studying the mechanisms underlying moral cognition: social influence.

In this article, we propose a framework for utilizing research on the social influences of moral behavior to inform debates regarding the mechanisms underlying moral cognition. We call this framework the “social-moderation-of-

process” perspective, which extends past work on the role of moderation in establishing causal relationships between cognitive processes and behavior (Spencer, Zanna, & Fong, 2005). We define a “mechanism of moral cognition” as any cognitive process that is an irreducible element needed to understand moral judgments and behaviors. By leveraging insights from behavioral ethics on the social nature of moral judgment and behavior, we can provide a framework for testing theoretical questions in moral psychology regarding the nature of moral cognition. This perspective is predicated on a belief that is implicit across all research in moral cognition: that an understanding of the cognitive mechanisms driving moral behavior is not sought simply for its own sake, but so that we can strive to make moral progress, as it were, by better predicting and reducing immoral behavior and reducing intergroup conflict that arises from moral disagreements. Debates still rage as to what mechanisms drive moral behavior, yet the above goal is shared by most, if not all, in the moral psychology community. And although moral psychology has many methods for informing debates regarding the cognitive mechanisms driving moral judgment, we consider our social-moderation-of-process perspective as simply one new tool in the moral psychologist's tool belt. It is not meant to replace any existing method, but rather serve as a novel way of testing hypotheses related to psychological process by utilizing insights from research on social influence.

2 | THE SOCIAL-MODERATION-OF-PROCESS PERSPECTIVE

The fundamental argument of the social-moderation-of-process perspective we propose is that when attempting to establish a causal relationship between a cognitive process and a moral judgment or behavior, researchers ought to manipulate social factors that will moderate the proposed cognitive process. Demonstrating that the manipulation of a social factor, with an established relationship to the proposed cognitive mechanism, causes a change in the moral behavior of interest (the dependent variable), allows one to argue for a causal relationship between the proposed mechanism and the outcome of interest (Spencer et al., 2005). Conceptually, the social-moderation-of-process perspective is arguing for *indirect* testing of mechanisms, that is to say that rather than directly measuring a proposed mechanism, one should manipulate a second order of social factors that will have a direct effect on the proposed mechanism, which should then have a direct effect on the moral outcome of interest. Empirically, the social-moderation-of-process perspective is arguing for more socially grounded, field-based research in moral psychology that incorporates an understanding of the social influence on moral behavior and judgment.

We define “social influence” as any *interpersonal* or *contextual* factors that affect moral judgments and behaviors (for review, see Moore & Gino, 2013). Interpersonal factors are the ways in which the presence (or absence) of other people, and their relationship to us, affect our moral judgments and behaviors. An example of an interpersonal factor affecting moral judgments and behaviors is that of “bad apples” within our own group, and how people only seek restitution for the unethical behavior of in-group members when they are being observed by out-group members (Gino, Gu, & Zhong, 2009). Contextual factors are the ways in which the environment of a moral judgment or behavior can change such judgments or behaviors. An example of a contextual factor affecting moral judgments and behaviors is that of how institutional structure and the culture of a corporation can facilitate and normalize corruption and unethical behaviors among its employees (Ashforth & Anand, 2003). The social-moderation-of-process perspective argues that an understanding of how interpersonal and contextual factors affect cognitive processes provides researchers with an avenue for indirectly testing causal hypotheses in moral psychology.

In considering how social influences can be used to understand mechanisms of moral cognition, our methodological perspective is a direct extension of the “moderation-of-process design” proposed by Spencer et al. (2005). In their piece, Spencer et al. discuss what they see as the overuse of the classic mediation model from Baron and Kenny (1986). They argue that traditional mediation design is best used when a proposed psychological process is easy to measure, but difficult to manipulate. However, they argue that when the reverse is true, when the proposed process is easy to manipulate but difficult to measure, an experimental design utilizing moderation is superior to utilizing mediation in establishing a causal chain.

According to Spencer et al. (2005), the moderation-of-process design can provide strong evidence for a proposed psychological process under two theoretical conditions. First, that the proposed moderating variable can have an effect on the proposed psychological process, a condition that should be supported by previous research on the subject. Second, that the proposed moderating variable has no relationship with other possible psychological mechanisms that could serve as an alternative explanation for the relationship between the independent and dependent variables. This second point illustrates perhaps the biggest challenge of the moderation-of-process approach: It is testing for process indirectly; therefore, no other plausible psychological mechanism that would also be affected by the moderating variable should exist. In order for this second condition to be plausible, it is best for researchers to choose potential moderators that have been extensively studied and are well understood.

Our social-moderation-of-process perspective is simply the application of Spencer et al.'s methodological prescriptions to a specific domain of research: that of social influences on moral cognition. Figure 1 lays out both when and how moral psychologists should utilize the social-moderation-of-process perspective. We argue that the study of moral cognition can benefit both from incorporating an understanding of social influence and from a methodological focus on moderation. If the evolutionary function of morality is to maintain social relationships and foster cooperation (Fiske & Rai, 2015; Greene, 2013; Haidt, 2012), then our social-moderation-of-process perspective echoes other scholars who have called for research in moral psychology to move “beyond the lab” (Graham, 2014; Hofmann, Wisneski, Brandt, & Skitka, 2014). In addition to the benefits of increased ecological validity, we believe that many of the proposed psychological processes underlying moral cognition, including reinforcement learning (Cushman, 2013), theory of mind (Gray, Young, & Waytz, 2012), visual imagery (Caruso & Gino, 2011), cognitive control (Greene, Morelli, Lowenberg, Nystrom, & Cohen, 2008), category boundary appraisals (Rai & Holyoak, 2014), and empathic concern (Crockett, Kurth-Nelson, Siegel, Dayan, & Dolan, 2014), just to name a few, meet the criterion laid out in Spencer et al. (2005): They are easier to manipulate than they are to measure. Indeed, in a recent call for more formal modeling in moral psychology, Crockett (2016, pg 86) rightfully notes that “... a mechanistic understanding of moral decision making has been limited by the cognitive opaqueness of measured behaviors.”

In the following section, we detail an example of how the social-moderation-of-process perspective can inform an ongoing debate in moral psychology: the debate between moral foundations theory and dyadic morality theory. This debate is an ideal context for demonstrating the utility of the social-moderation-of-process perspective for three distinct reasons. First, it is an active topic of debate among the proponents of each respective theory, and the debate is a source of recent empirical research (Graham, 2015; Gray & Keeney, a,b). Second, the cognitive mechanism proposed by dyadic morality theory, mind perception, defined as perceiving others to have a mind (for review, see Epley & Waytz, 2010), meets the criterion laid out by Spencer et al. (2005) for a process that is best tested *indirectly*, as mind perception it is easy to manipulate but hard to measure, and therefore suited well for the social-moderation-of-

<u>When to Use the Social-Moderation-of-Process Perspective</u>	<u>How to Use the Social-Moderation-of-Process Perspective</u>
<ul style="list-style-type: none"> • When testing a hypothesis of a causal relationship between a cognitive process and a moral judgment or behavior • When said cognitive process is easy to manipulate but hard to measure • When said cognitive process is moderated by a known social factor • When seeking external validity of proposed casual relationship 	<ul style="list-style-type: none"> • Identify a social factor with an established relationship with proposed cognitive mechanism • Identify a context, either lab or field, where said social factor can be manipulated AND where moral judgment/behavior of interest is observable • Manipulate said social factor to demonstrate a change in said moral judgment/behavior, thereby provide indirect evidence for proposed mechanism

FIGURE 1 Using the social-moderation-of-process perspective

process perspective. Third, the social-moderation-of-process perspective helps reveal a novel hypothesis that suggests a way to possibly reconcile the two theories.

3 | USING SOCIAL INFLUENCE TO INFORM DEBATES IN MORAL COGNITION

The social-moderation-of-process perspective can provide useful insights into a current debate in moral psychology: the debate between moral foundations theory (Graham et al., 2011; Haidt, 2007) and dyadic morality theory (Gray & Wegner, 2009; Gray et al., 2012). This debate falls along two distinct theoretical lines. The first is the question of whether morality is a unique domain of thought (i.e., “domain-specific”), or whether general cognitive processes are what determine moral thought (i.e., “domain-general”). The second area of debate relates not to whether morality is a “general” or “specific” domain of thought, but rather the number of domains (e.g., murder and incest being different “domains”) within the mind that constitute moral cognition, with “pluralists” arguing for multiple domains and “monists” arguing for a single domain (Graham et al., 2013). Dyadic morality theory and moral foundations theory disagree on both of these questions, yet here we argue that the application of the social-moderation-of-process perspective helps reveal a hypothesis suggesting a partial reconciliation of the theories.

Dyadic morality theory argues that the “essence” of moral cognition is a single, general cognitive process called “mind perception” (Gray et al., 2012). Mind perception is the “pre-attributional process” of determining whether something had a mind and is capable of having certain mental states (for review, see Epley & Waytz, 2010). Mind perception is the process behind acts of “anthropomorphization” (Epley, Waytz, & Cacioppo, 2007) where humans attribute human-like qualities to animals and objects (e.g., thinking a piece of technology has emotions, or believing that dogs can have complex intentions). Importantly, mind perception has two separate dimensions that encompass the realm of possible mental states (Gray, Gray, & Wegner, 2007). The first is the “agentic” dimension, which encompasses mental states such as self-control, intelligence, emotional regulation, and the ability to act intentionally. The second dimension is the “experiential” dimension, and these mental states include things such as pain, happiness, desire, and fear. According to dyadic morality theory, these two dimensions of mind perception are deterministic of all moral judgments. The theory argues that all moral judgments are simulated in the mind as an interaction between two (hence “dyadic”) individuals, a “moral agent” and “moral patient.” The moral agent is the transgressor and the patient the victim, and the extent to which we judge the action as wrong depends on the agentic mind perception toward the moral agent (i.e., are they capable of intentionally causing harm) and experiential mind perception toward the patient (i.e., are they capable of experiencing suffering). Dyadic morality theory argues that the brain goes through this simulation when making judgments of *all moral actions*, even when making judgments of “victimless” crimes or moral violations that do not involve harm, per se (Gray, Schein, & Ward, 2014).

Moral foundations theory takes a radically different view on the nature of moral cognition. Moral foundations argue that morality is a unique domain of human cognition and that moral judgments cannot be reduced to a single cognitive process that operates outside the domain of morality. To moral foundations theorists, the uniqueness of moral cognition derives from morality's special role in human evolutionary history (for review, see Graham et al., 2013). In addition, moral foundations theory argues that there are five distinct, irreducible domains of morality, each with its own evolutionary roots: the domain of harm, fairness, loyalty, respect for authority, and purity (Graham et al., 2011). Moral violations such as murder, cheating, betrayal, disobedience, and incest (just as examples) are qualitatively different from one another, and how we judge murder is cognitively distinct from how we just something such as incest. In responding to dyadic morality theory, moral foundations theorists will acknowledge that mind perception can perhaps have an effect on moral judgments, but they reject the idea that mind perception is the fundamental driving force behind all moral judgments, across all domains, as overly reductionist and dismissive of a large body of research (Graham & Iyer, 2012).

In attempting to reconcile these two competing theories, scholars have begun investigating the possibility that mind perception, while still predictive of moral judgments in general, might function differently across the domains of morality identified by moral foundations theory (Chakroff & Young, 2015a; Young & Saxe, 2011). We are going to use this interesting possibility as grounds for providing a detailed example of the social-moderation-of-process perspective's application. We are not claiming that the hypothesis laid out below is true, nor are we claiming that the experiment we propose is the best way to test the hypothesis. Rather, our purpose is to illustrate, via example, how incorporating an understanding of social influence into research on moral cognition can be beneficial. To do so, we will refer to the conditions laid out in Figure 1 for when and how the social-moderation-of-process perspective should be utilized.

As detailed above, dyadic morality theory argues that when making moral judgments, the mind simulates a moral agent and moral patient. Our minds judge right and wrong by determining the level of agentic mind the moral agent possess (i.e., is the agent capable of intention harm), and how much experiential mind the moral patient has (i.e., is the patient capable of experiencing suffering; Gray & Wegner, 2009). In order for mind perception to function differently in some moral domains, this dyadic relationship must not work exactly as described above across all contexts. To intuit a potential domain of morality where this may be the case, we are going to consider an immoral act that arguably is judged immoral only on intentions, but not on whether there is a negative outcome. One such possibility is the moral domain of loyalty. If someone attempts to betray their in-group, but is unsuccessful in their act of betrayal, does that make the attempted betrayal any less immoral? There is some evidence to support the possibility that the action of betrayal is more relevant than the outcome of betrayal in moral judgments (Hannikainen, Miller, & Cushman, 2017), along with evidence that people have a strong "betrayal aversion" (Bohnet, Greig, Herrmann, & Zechhauser, 2008) that leads them to judge acts of betrayal more harshly than harmful acts with identical outcomes but no aspect of betrayal (Koehler & Gershoff, 2003). From this evidence, we can infer a tentative hypothesis: The level of experiential mind perception attributed to the victim of a loyalty violation is less relevant to judgments of wrongness than it is to judgments to wrongness in the harm and fairness domains (because these domains typically have clearer victims). Put more plainly, attempted betrayal may be just as wrong as successful betrayal, whereas attempted harm or cheating is viewed as less wrong than successful harm or cheating.

So now we have stated our hypothesis and our mechanism of experiential mind perception. Because mind perception is difficult to measure, our social-moderation-of-process perspective argues that one should find a social factor that affects our proposed process. Within the mind perception literature, there is a social factor that affects experiential mind perception: the need for social affiliation and connection (Waytz & Young, 2014). When individuals feel lonely, and desire affiliation with others, they attribute more experiential mental states to those around them. Similarly, when individuals' need for social affiliation is met, experiential mind perception attenuates (Waytz & Epley, 2012). Now that we have identified a social factor that has a relationship with our proposed mechanism, we can ask if our social factor also has an established relationship with other known moral outcomes. Interestingly, research on moral disengagement has shown similar effects of social connectedness on moral behavior. Moral disengagement is the process by which individuals decouple their internal sense of moral standards from their own actions, which can lead to post hoc rationalization of behavior the actor originally considered unethical (for review, see Moore, 2015). Research has demonstrated that the presence of a psychologically close other who commits an unethical act (e.g., cheating) increases moral disengagement, justification of the act, and the likelihood of engaging in the act (Gino & Galinsky, 2012).

Now that we have identified a social factor (social connectedness) with an established relationship to our proposed mechanism (experiential mind perception) and an outcome of interest (moral disengagement), we can utilize our social-moderation-of-process perspective.

To design a study, we would use the experimental manipulation from Waytz and Epley (2012) to test our hypothesis that increasing psychological closeness will increase moral disengagement for fairness violations (e.g., cheating), but not for a violation of loyalty. Waytz and Epley have participants bring a close friend into the lab with them, and experimentally manipulate whether the friend is with them (vs. a stranger), as the presence of a friend is an effective

manipulation of social connectedness. This would serve as our first manipulation. We would then provide participants with examples of an act of cheating (a fairness violation in moral foundations theory) and an act of betrayal (a loyalty violation in moral foundations theory). This would be our second manipulation, making for a 2×2 between-subjects design. Our dependent variable would be the extent to which participants perceive the action as wrong, as any differences in perceived wrongness between our experimental groups would be evidence for moral disengagement.

In order to control for issues of validity, we want these two violations to be as similar as possible, even though they are in different domains of morality. As such, we would have participants read about a scenario where someone working in an organization steals money from a stranger who is visiting the organization (a fairness violation), or have the act of stealing be directed towards a close coworker (a loyalty violation). This manipulation means both acts of stealing produce the same objective outcome, but one is directed at an outsider, whereas the other is directed at a coworker, making it a violation of in-group trust and loyalty. We would then ask participants the extent to which they perceive the action as wrong. Per our hypothesis, we would predict that experimentally manipulating the presence of a friend, which increases a sense of social connectedness and therefore reduces experiential mind perception, would result in participants viewing the act of stealing from a stranger as less wrong. However, we would also predict no change in the perceived wrongness of stealing from a coworker, as this act is a violation of the moral domain of loyalty, and we are hypothesizing that in the loyalty domain, a decrease in experiential mind perception towards the victim of betrayal will not lead to the act of betrayal being perceived as less wrong.

We are not claiming that the hypothesis above is true, rather that it is illustrative of the social-moderation-of-process perspective. Nonetheless, the experiment above is just a single way of testing our stated hypothesis. One could instead manipulate social connectedness with a perspective-taking task (Galinsky, Ku, & Wang, 2005), or one could make the loyalty violation more distinct from the fairness violation, potentially testing the boundary conditions related to how social connectedness (and experiential mind perception) facilitates moral disengagement. Additionally, one could change the context in which the ethical violation has taken place, as moral disengagement has already been shown to operate across multiple contexts, including in the workplace (Moore, Detert, Treviño, Baker, & Mayer, 2012), in war (Aquino, Reed, Thau, & Freeman, 2007), and in professional sports (Hodge, Hargreaves, Gerrard, & Lonsdale, 2013), among others. It is important to note here one of the limitations of the social-moderation-of-process perspective: it is testing for mechanism indirectly. We use the direct manipulation of social connectedness in the proposed experiment above because past literature strongly suggests it moderates experiential mind perception. We however have no direct measures of experiential mind perception in the experiment. Ideally, any study demonstrating the existence of a mechanism would have, if possible, a direct measure of the proposed mechanism. The social-moderation-of-process perspective simply argues that indirect tests of a mechanism, via the moderating role of social influences, will provide additional inferential validity when the proposed mechanism is difficult to measure, as is the case with mind perception.

4 | UTILIZING THE SOCIAL-INFLUENCE-OF-PROCESS MODEL IN YOUR RESEARCH

The debate between moral foundations theory and dyadic morality theory is by no means exhaustive of the debates in moral psychology. There are many other theories that debate the questions of whether morality is a unique domain of human thought, whether there are different domains of moral thought, and what cognitive processes drive moral judgments. In the Appendix, we have provided suggested readings for some prominent theories in moral cognition, although this list too is by no means exhaustive. The debates within the study of moral cognition are many, yet there have been significant advances over the past few decades. Indeed, researchers are beginning to acknowledge that multiple mechanisms need to be taken into account if we are to have a more complete understanding of how morality operates in the mind (Greene, 2015).

We encourage researchers in moral cognition psychology to consider what social factors may influence the moral behaviors and cognitive mechanisms they study. Critically, in considering these questions of the influence of the social on the moral, do not only construe this search as merely one of establishing external validity. Although we believe the social-moderation-of-process perspective does provide for more external validity in psychological experiments, this is not the central purpose of the perspective. The central purpose is to provide an alternative method of establishing a causal chain through the use of moderation. We are not the first to argue for the role of moderation in establishing a causal chain, nor does our perspective uniquely apply to moral cognition. The usage of moderation, social or otherwise, in psychology is a relatively common practice, and the prescriptions laid out by our social-moderation-of-process perspective could be applied to areas of psychology study other than morality. Nonetheless, we believe the method of moderation in establishing causal relationships is underutilized in research on moral cognition. We believe that looking to research on the social influences on moral behavior can help researchers in moral cognition identify social factors they can use in testing for causal mechanisms. Our example experiment above is illustrative of this point. Although we drew from the literature on dyadic morality to identify a social factor (social connectedness) that affected our proposed mechanism (experiential mind perception), we then drew from the behavioral ethics literature to identify a moral behavior (moral disengagement) that has an established relationship with social connectedness. It is this type of collaborative thinking across research traditions in morality that we wish to foster.

Regardless of one's theoretical disposition toward the nature of moral cognition, the social-moderation-of-process perspective encourages researchers in moral psychology to consider how they can utilize our understanding of social influence to test specific hypotheses related to the cognitive mechanism driving moral judgments and behaviors. We view the social-moderation-of-process perspective as one tool in the moral psychologist's tool belt. It is not going to replace tightly controlled laboratory experiments, the usage of neurological measures, or the development of formal cognitive models, as we have no desire to replace such methods. Our immediate hope is to demonstrate how existing research on the social influences of moral judgments and behaviors can be utilized to inform current debates regarding the nature of and mechanisms underlying moral cognition. Our broader hope is that our perspective will inspire researchers in moral psychology to utilize the richness of real-world social contexts to test hypotheses related to the cognitive processes underlying the full breadth of moral judgments and behaviors.

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How to cite this article: Lees J, Gino F. Is the moral domain unique? A social influence perspective for the study of moral cognition. *Soc Personal Psychol Compass*. 2017;11:e12327. <https://doi.org/10.1111/spc3.12327>

APPENDIX

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