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The Cognitive and Affective Dimensions of Moral Conviction: Implications for Attitudinal and Behavioral Measures of Interpersonal Tolerance

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The present studies investigate the role of both cognitive and affective dimensions of moral conviction in contributing to negative interpersonal responses. After demonstrating that the cognitive and affective dimensions of moral conviction are distinct constructs, the studies show that the cognitive dimension is sufficient to produce many forms of interpersonal intolerance. Simply believing an issue to be moral (i.e., objectively grounded, non-negotiable) results in greater intolerance for (Study 1), less sharing with (Study 2), and greater distancing from (Study 3) people with divergent attitudes. The emotional intensity with which beliefs are experienced is not alone explanatory. Nonetheless, it interacts with moral beliefs to produce the highest levels of interpersonal intolerance, distancing from dissimilar others, and context insensitivity. This interaction pattern between moral beliefs and affect was specific to emotional intensity and not other measures of attitude strength (Study 3).

Keywords: *tolerance; attitude strength; moral conviction; moral beliefs; affect intensity; interpersonal behaviors*

Much political and social unrest involves discrepancies not only in opinions but in what people believe to be of moral value. For instance, in *An Inconvenient Truth* (Bender & Guggenheim, 2006), Al Gore asserts that we have a moral obligation to preserve the environment, whereas Pat Robertson and the late Jerry Falwell, founders of the Moral Majority, assert that abortion and gay marriage are moral wrongs.

Many disagree, viewing these issues as matters of personal choice or social convention. Such unrest is difficult to resolve: People with strong moral conviction about issues are often highly intolerant of those who disagree (Skitka, Bauman, & Sargis, 2005). Yet the mechanisms behind this intolerance are not fully understood. The present study investigates the contribution of two distinct dimensions of moral conviction—namely, the *cognitive* (what people believe) and *affective* (how strongly people feel) dimensions—to interpersonal reactions to dissimilar others.

Researchers from a variety of fields have demonstrated that people are more intolerant of divergent attitudes when they involve issues generally viewed as moral issues than when they involve issues viewed as nonmoral. For example, when asking participants to rate how supportive they would be of four types of divergent attitudes (*demographic, politico-moral, socio-sexual, and personal*), Haidt, Rosenberg, and Hom (2003) found that participants were the least supportive of those divergent attitudes that involved politico-moral issues. Similarly, Skitka and colleagues (Skitka et al., 2005; Skitka & Mullen, 2002) found that the strength of people's moral conviction about an issue predicted various interpersonal outcomes, including tolerance for,

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and desired social and physical distance from, attitudinally dissimilar others. Researchers have found children and adults to be less tolerant of divergent attitudes that involve moral considerations than those involving nonmoral considerations. They have also found children and adults to view divergent attitudes about moral issues as undesirable and intolerable while finding divergent attitudes about other sorts of issues tolerable—and, in some cases, desirable (Wainryb, Shaw, Laupa, & Smith, 2001; Wainryb, Shaw, & Maianu, 1998). The overarching conclusion of these various lines of research is that people of all ages respond differently toward divergent attitudes—as well as toward the people who hold them—when they involve moral issues than when they involve nonmoral issues.

DIMENSIONS OF MORAL CONVICTION

Why do we treat people with divergent attitudes differently when those divergent attitudes involve issues believed to be moral? With respect to this question, theory and research suggest two lines of explanation: The first is affective in nature, and the second, cognitive.¹ The former asserts that moral beliefs are highly, perhaps even essentially, affective in nature (e.g., Greene & Haidt, 2002; Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Prinz, 2006). For instance, Haidt (2001) contends that moral beliefs are experienced as immediate “gut” responses, the result of automatic processes that are accompanied by a strong affective reaction. Relatedly, Skitka et al. (2005) suggests that unlike nonmoral beliefs, people experience moral beliefs as inherently motivational and highly emotionally charged. It is a fairly common view in the literature that moral beliefs are linked (and highly responsive) to intense emotions, such as anger, disgust, and contempt (Mullen & Skitka, 2006; Rozin, Lowery, & Imada, 1999).

According to the affective explanation, moral beliefs possess more *affective strength* than nonmoral beliefs. Implicit in this sort of explanation is the view that people treat divergent attitudes about moral issues differently than divergent attitudes about nonmoral issues because their moral beliefs have stronger emotional backing—and, thus, are experienced with greater intensity—than their nonmoral beliefs. This difference in affective strength (or intensity) is thought to lead to higher levels of intolerance and other differences in interpersonal behavior toward people with divergent attitudes.

There is certainly support for this sort of explanation. Research has shown that the strength with which people experience their attitudes influences how they

perceive their “attitude objects” (i.e., other people, events, and objects; Bruner & Perlmutter, 1957; Fazio, Roskos-Ewoldsen, & Powell, 1994), form judgments about them (Lord, Ross, & Lepper, 1979), and behave toward them (Fazio & Towles-Schwen, 1999). Attitude formation facilitates social cognition, enabling rapid identification and categorization of “good” attitude objects, which merit support and acceptance, versus “bad” attitude objects, which are to be rejected and/or avoided (Allport, 1935; Fazio, 2001; Katz, 1960; Smith, Fazio, & Cejka, 1996). With respect to interpersonal behaviors, people tend to gravitate toward others with similar attitudes (Byrne, 1961; Byrne, Clore, & Smeaton, 1986) and avoid others with dissimilar attitudes (Rosenbaum, 1986; Smeaton, Byrne, & Murnen, 1989). People who have strong attitudes tend to be resistant to change—both in their attitudes and in their perceptions of, judgments about, and behaviors toward the objects of those attitudes (Fazio, Ledbetter, & Towles-Schwen, 2000; for reviews, see Krosnick & Petty, 1995; Petty & Krosnick, 1995).

In particular, emotional intensity (i.e., the strength of the emotional reaction provoked by the attitude object) has been shown to be an important aspect of attitude strength (Cantril, 1946; Krosnick, Boninger, Chuang, Berent, & Carnot, 1993). Among other things, emotional intensity increases attitude–behavior consistency (Downing, Judd, & Brauer, 1992; Kokkinaki & Lunt, 1997), suggesting that the stronger the intensity with which people experience their beliefs, the more likely they may be to behaviorally exhibit intolerance for attitudinally dissimilar others.

The cognitive explanation, on the other hand, appeals to differences in the *cognitive structure* of moral versus nonmoral beliefs. As Skitka et al. (2005) state, moral beliefs are experienced by people as objective and self-evident (i.e., experienced as “obvious” or as “truisms”; relatedly, see Maio & Olson, 1998), grounded by universal, unalterable facts that transcend personal and social boundaries. Nonmoral beliefs, on the other hand, are perceived as relative to (and dependent on) personal and/or social authority and interests.

Such is the line of explanation given by social-cognitive domain theory (SCDT; Nucci, 1981; Turiel, 1983, 1998), which argues that people view the evaluative status of nonmoral issues as dependent on domain-specific authorities (e.g., individual or social) while viewing the evaluative status of moral issues as neither alterable by nor dependent on external authority. To illustrate, we might believe that whether someone listens to classical music or eats strawberries is something that is—and should be—up to that individual while believing that driving on the left side of the road or having mandatory education through 12th grade are norms established by

the relevant social entity or group. Such norms can, under the right circumstances, be altered or rejected. On the other hand, most believe the torturing of innocent children to be objectively, universally, and non-negotiably wrong: Its evaluative status is neither dependent on nor alterable by personal or social decisions. According to this line of explanation, the difference in how people treat others with divergent moral and non-moral attitudes is generated by what people believe, rather than by how they feel, about an issue.

Thus, individuals with divergent attitudes about moral issues may be treated differently than individuals with divergent nonmoral attitudes for two general reasons. First, this difference may result from the purely cognitive difference of having moral versus nonmoral beliefs about the nature of the disagreed-upon issue. Believing an issue to be objective and/or self-evident may increase intolerance toward others with attitudes dissimilar to our own more so than believing an issue to be a matter of personal choice or social convention. Second, the difference may result from the affective intensity with which the disagreed-upon issue is experienced. The strong emotionality of moral attitudes may lead to greater intolerance toward others with attitudes dissimilar to our own.

At this juncture, it is difficult to say how the cognitive and affective dimensions of moral conviction contribute to interpersonal intolerance. Prior research on this issue has not adequately distinguished between the two (Haidt et al., 2003; Skitka et al., 2005; Skitka & Mullen, 2002; Wainryb et al., 1998, 2001). The cognitive and affective dimensions have seldom been measured separately, making it difficult to determine to what extent they each contribute to intolerance. Skitka et al.'s (2005; Skitka & Mullen, 2002) research has perhaps come the closest, demonstrating that moral conviction is distinct from several measures of general attitude strength. Nonetheless, the construct of moral conviction, defined as "strong and absolute beliefs that something is right or wrong, moral or immoral" (Skitka et al., 2005, p. 896), is itself both cognitive and affective in nature. Skitka et al. (2005) asked participants, "How much are your *feelings* about X connected to your core *moral beliefs* or convictions?" Thus, the construct clearly contains both the affective (i.e., strength of emotion experienced) and cognitive (i.e., belief that something is or is not moral) dimensions.

Given this, it remains unclear from prior research in what respect people with strong versus weak moral convictions differ. It could be that people with strong moral conviction have different beliefs with respect to particular attitudes than people with weak moral conviction. Or it could be that people with strong moral conviction share the same beliefs as people with weak moral conviction—they just experience those beliefs more

intensely. Our studies were thus designed to investigate both the cognitive structure and affective intensity associated with moral conviction to determine how each contributes to interpersonal intolerance.

SCDT (Turiel, 1983, 1998) emphasizes that people believe moral issues to be non-negotiable and objectively grounded and, therefore, as falling outside of the purview of individual or social authority. This means that individuals with divergent attitudes about moral issues should be less acceptable (and thus greeted with less tolerance) than individuals with divergent attitudes about nonmoral issues purely on the basis of one's beliefs—regardless of the affective intensity with which they are experienced. Thus, our guiding hypothesis was that belief type would be sufficient to predict significant differences in interpersonal responses.

Nonetheless, the affective dimension of moral conviction may also influence interpersonal intolerance. Prior research suggests that heightened emotional states can exacerbate people's responses. For example, Wheatley and Haidt (2005) found that hypnotically heightened emotional responses to perceived transgressions generated harsher judgments toward the transgressors. In addition, strong emotional intensity should generate behaviors more consistent with the belief that something is morally wrong than weak emotional intensity (Downing et al., 1992; Kokkinaki & Lunt, 1997). Therefore, we expect emotional intensity to interact with the cognitive dimension, exacerbating the influence that moral beliefs have on interpersonal behavior toward others with divergent attitudes.

Impact of the Cognitive and Affective Dimensions on Interpersonal Behavior

The primary goal of our research was to explore the cognitive (*belief type*) and affective dimensions (*emotional intensity*) of moral conviction to disentangle their respective influences on interpersonal intolerance. To this end, we measured belief type by asking participants to classify issues as either moral or nonmoral. We measured emotional intensity by employing two attitude-strength measures—*extremity* (Studies 1 through 3) and *importance* (Studies 2 and 3)—that have been the most reliably and strongly associated with emotional intensity (Krosnick et al., 1993). Using both within-participants (Study 1) and between-participants (Studies 2 and 3) designs, we investigated the influence of both dimensions on people's attitudinal and behavioral intolerance toward attitudinally dissimilar others.

Prior Limitations and Present Research

Our studies also sought to address several potential limitations of prior research. For example, most

research (e.g., Goodwin & Darley, in press; Haidt et al., 2003; Turiel, 1983; Wainryb et al. 1998, 2001—Miller, Bersoff, & Harwood, 1990, being an exception) has assigned the moral–nonmoral status of the issues employed in their research a priori. Yet people’s actual beliefs may or may not reflect this classification. For example, Miller et al. (1990) found clear cultural differences in the sorts of behaviors people from India versus America believed to be morally obligatory. Therefore, our studies asked participants to assign belief type for issues according to their own beliefs, thereby ensuring that differences in interpersonal responses were the result of differences in the beliefs people actually have for the issues under consideration. Another potential limitation of previous research (e.g., Miller et al., 1990; Skitka et al., 2005; Turiel, 1983; Wainryb et al. 1998, 2001) is that people have typically been asked to evaluate only a small number of issues, leaving open the possibility that their responses to divergent attitudes are specific to the issues being considered rather than a function of the cognitive structure of moral beliefs more generally. Our first study explored participants’ reactions to an extensive range of issues, helping to rule out this possibility. Additionally, Studies 2 and 3 investigated interpersonal behavior toward dissimilar others across a range of several different issues.

PILOT STUDY

Before discussing the methodologies and results of Studies 1 through 3, it is important to provide initial justification for our claim that moral conviction involves both a cognitive and an affective dimension. To this end, we conducted a pilot study in which participants provided their belief type (moral–nonmoral) for a range of issues and also filled out a separate questionnaire in which they indicated their attitudes, the emotional intensity of their attitudes, and their level of moral conviction, using Skitka et al.’s (2005) measurement, for each issue.

Method

Participants. One hundred six participants (41 males; 93% Caucasian, 1% African American, 6% Latin American) enrolled in undergraduate university courses at the University of Wyoming participated for credit.

Materials and procedure. Participants were given two questionnaires. The first collected demographic information. The second asked participants to report their attitudes and attitude strength about 41 issue statements (e.g., “women having an abortion” and

“playing violent video games”) on 8-point Likert-type scales. Participants reported their attitude (*strongly disapprove* to *strongly approve*), importance (*not very important to me* to *very important to me*), and frequency of thought (*I never think about this* to *I constantly think about this*). Using 8-point response scales prevented participants from taking completely neutral positions on an issue. Extremity scores were computed for each of the 41 reported attitudes using a standard and widely accepted technique of folding the attitude score at its midpoint to measure its extremity regardless of its valence (Krosnick et al., 1993). Participants were also asked to report their level of moral conviction by responding to the following question for each issue on an 8-point Likert-type scale: “How much are your feelings about *this issue* connected to your core moral beliefs or convictions?” Issues in the survey were counterbalanced so that half of the participants received the issues in one order and the other half received them in the opposite order.

Participants were asked to report their belief type (moral–nonmoral) for each of the 41 issues in a separate computerized task. Participants were instructed to identify an issue as *moral* if they believed the issue’s rightness or wrongness to be non-negotiable and objectively grounded and *nonmoral* if they believed the issue’s rightness or wrongness to be dependent on an individual or social decision. Furthermore, participants were instructed to rate their beliefs about each issue on the basis of what they themselves believed, regardless of how the issues may be viewed by others. Potential examples of each category were given (nonmoral, listening to classical music or driving on the right side of the road; moral, torturing innocent children for pleasure). The order in which issues were presented to participants during the computer task was randomized. Half of the participants completed the computerized task before filling out the other questionnaires, with the other half completing it after.

Results

To examine whether belief type and emotional intensity are unique dimensions of moral conviction, two multiple regression analyses were conducted, one with extremity as the emotional intensity measure and the other with importance. Belief type and emotional intensity were entered into the equation in the same step for both equations. Belief type and extremity were both independently predictive of moral conviction (standardized coefficients: belief type, $\beta = .21$, $p = .002$; and extremity, $\beta = .19$, $p = .005$). Belief type and importance were also both independently predictive of moral conviction (standardized coefficients: belief type, $\beta = .23$, $p = .001$; and importance, $\beta = .16$, $p = .019$).²

Discussion

Across the literature on moral cognition, two dimensions of interpersonal intolerance consistently emerge: the cognitive dimension, which involves structural differences in people's beliefs about certain issues (i.e., conceptualized as moral vs. nonmoral) and the affective dimension, which involves the intensity with which people experience their beliefs. Our contention is that Skitka et al.'s (2005) construct of moral conviction, which has been shown to be strongly predictive of interpersonal tolerance, contains both of these dimensions. The results of our pilot study support this, suggesting that both belief type and emotional intensity are important (and distinct) components of moral conviction. In the studies to follow, we test how these two dimensions independently and interactively predict attitudinal and behavioral intolerance.

STUDY 1

Our first study examined the impact of belief type and emotional intensity on people's tolerance for—as measured by their willingness to accept—dissimilar attitudes. This allowed us to measure the influence of the two dimensions on people's tolerance for attitudinally dissimilar others as expressed by participants' interpersonal attitudes. Studies 2 and 3 measured the influence of the two dimensions on people's tolerance for attitudinally dissimilar others as expressed by participants' interpersonal behavior.

Method

Participants. Sixty-four participants (23 males; 91% Caucasian, 1.5% African American, 1.5% Asian American, 5% Latin American, 1% Other) enrolled in upper level undergraduate university courses at the University of Wyoming participated for credit. Four participants were excluded from analysis because of incomplete data.

Materials and procedure. Participants were given two questionnaires. The first collected demographic information and asked participants to report their attitudes about 40 issues (e.g., "People should get a certain amount of exercise"; see Table 1 for list) using an 8-point scale (*strongly disagree* to *strongly agree*). Participants were then given brief descriptions and examples of the moral and nonmoral categories (see Pilot Study) and were asked to classify each issue as either moral or nonmoral, depending on what they themselves believed, regardless of how the issues may be viewed by others. Participants' classification of each

TABLE 1: List of Issues and Percentage Classified as Moral and Nonmoral

Item	Study 1	
	Nonmoral	Moral
Exercise	99	2
Abortion	76	25
Recreational drugs	87	13
Terms of respect	76	25
Tattoos/piercings	97	3
Homosexual marriage	76	25
Punishing children	67	33
Recycling	85	15
Cheating on exams/papers	31	69
Speed limit	98	2
Rape	10	90
Music preferences	100	0
Sexual promiscuity	79	21
Owning guns/dangerous weapons	96	3
Preserve/protect environment	76	25
Women/minorities given preferential consideration	79	21
Kids allowed to drink alcohol	85	15
Eating pets (e.g., cats/dogs)	49	51
Pursuing nonprofitable talents	97	3
Honesty	34	66
Clean living spaces	99	2
Euthanasia	64	36
Children playing violent video games	94	7
Vegetarianism	98	2
Incest	27	74
Masturbation	95	5
Death penalty	72	28
Believing in God	83	16
Political activism	95	5
Children going to school	97	3
Children born out of wedlock	83	18
Children with handicaps put to death	23	77
Children in day care	99	2
Reduction of pollution/consumption	87	13
Washing of bodies	96	3
Nonviolent resolution of conflict	82	18
Animals in medical research	55	46
Parents loving to children	25	75
Pornographic videos	82	18

issue as moral or nonmoral provided us with the cognitive dimension of conviction.

The second questionnaire measured participants' levels of tolerance for divergent attitudes. Participants were asked how accepting they would be encountering a peer who disagreed with them about each of the 40 issues using an 8-point scale (*not accepting at all* to *very accepting*). We wanted participants to be able to report their anticipated responses to encountering peers with divergent attitudes in real-world situations. Therefore, we asked participants to imagine encountering a peer (a fellow student) who disagreed with them about each

TABLE 2: Study 1 ANOVA Results and Means

	F	η^2		M	SE
Main effects					
Belief type	186.6***	0.76	Nonmoral	3.6	0.15
			Moral	1.7	0.16
Context	52.8***	0.48	Nonintimate	3.0	0.14
			Intimate	2.3	0.15
Interactions					
Belief Type \times Context	7.3**	0.11	Nonmoral–nonintimate	4.0	0.14
			Nonmoral–intimate	3.1	0.17
			Moral–nonintimate	2.0	0.17
			Moral–intimate	1.5	0.17
Belief Type \times Intensity	13.8***	0.19	Nonmoral–weak belief	3.6	0.20
			Nonmoral–strong belief	3.8	0.20
			Moral–weak belief	2.2	0.23
			Moral–strong belief	1.4	0.23
Context \times Intensity	5.5*	0.09	Nonintimate–weak belief	3.3	0.20
			Intimate–weak belief	2.3	0.22
			Nonintimate–strong belief	2.8	0.20
			Intimate–strong belief	2.3	0.22

* $p < .05$. ** $p < .01$. *** $p < .001$.

of the issues in three distinct contexts: at their university, in one of their seminars, and as a potential roommate. These contexts were taken directly from Haidt et al. (2003). Previous pilot testing found that all three contexts were perceived as significantly different from one another in levels of intimacy. However, our within-participants analyses of tolerance levels (reported below) failed to find a significant difference between the university, $M = 3.1$ ($SE = .15$), and seminar, $M = 2.9$ ($SE = .16$), contexts, $t(59) = 1.6$, *ns*. Therefore, we collapsed the two into one “nonintimate” context, leaving two contextual dimensions (nonintimate and intimate). The order of both issues and contexts was counterbalanced.

Including the contextual component allowed us to explore the effect of context on interpersonal intolerance. Previous findings on this issue have been somewhat mixed. Some research suggests the intimacy of the context in which others with divergent attitudes are encountered influences interpersonal responses, regardless of whether they involve moral or nonmoral issues (e.g., Haidt et al., 2003; relatedly, see Perkins & Turiel, 2007). Other research (e.g., Skitka et al., 2005) suggests context matters much less when encountering others with divergent attitudes regarding moral issues.

To capture an aspect of the affective dimension of conviction, emotional intensity scores were computed in the following manner: First, attitude extremity scores were computed using the same technique as in the pilot study (Krosnick et al., 1993) and were averaged across all of the issues participants classified as moral, creating an emotional intensity index for moral beliefs. We then divided participants into two groups: those with strong

emotional intensity and those with weak emotional intensity. Participants with emotional intensity scores below the mean were coded as weak ($n = 30$), and those above were coded as strong ($n = 30$).

Results

Of the 40 issues participants considered, none was unanimously classified as moral, and only one (music preference) was unanimously classified as nonmoral (see Table 1). This illustrates the importance of allowing participants to classify issues for themselves rather than assuming classification a priori.

Our objective was to investigate within-participant differences in tolerance levels for others with divergent attitudes about issues believed to be moral and nonmoral. Because participants classified each issue for themselves (and thus potentially differently from one another), we calculated the mean level of tolerance for divergent moral versus nonmoral attitudes separately for each participant. Thus, each participant had a mean level of tolerance expressed attitudinally for divergent moral attitudes and for divergent nonmoral attitudes. Our analyses were conducted on these means.

A 2 (belief type: moral–nonmoral) \times 2 (context: intimate–nonintimate) \times 2 (emotional intensity: weak–strong) mixed factor ANOVA was conducted with belief type and context as within-participants factors and emotional intensity as a between-participants factor (see Table 2 for results). We found a strong main effect on participants’ tolerance for divergent attitudes for both belief type and context. Participants were significantly

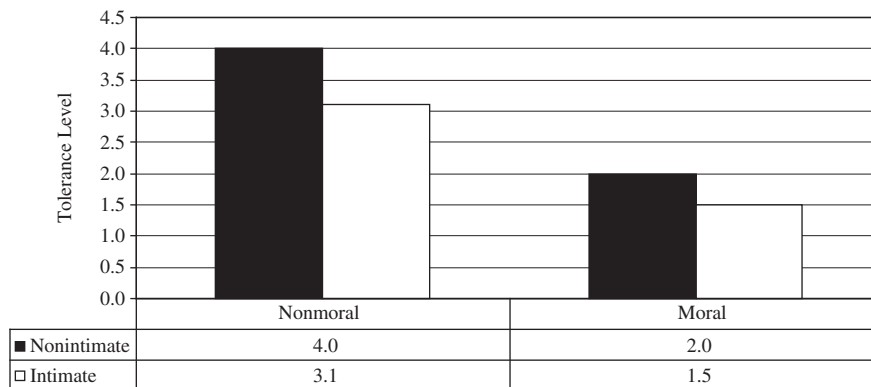


Figure 1 Study 1, Belief Type \times Context interaction.

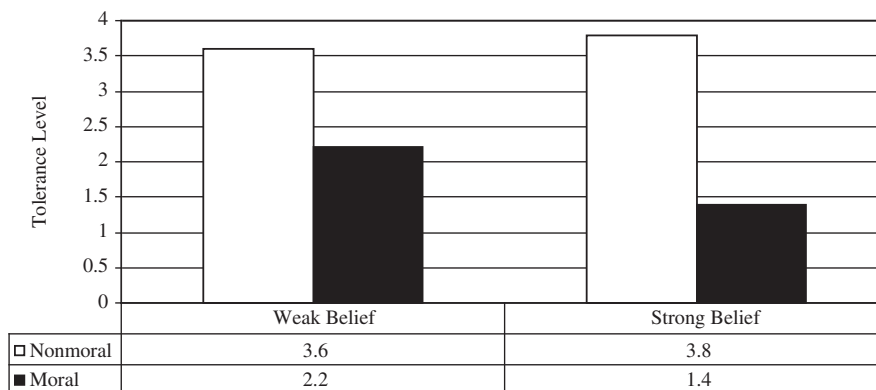


Figure 2 Study 1, Belief Type \times Intensity interaction.

more tolerant of divergent nonmoral attitudes than of divergent moral attitudes. Participants' tolerance levels for divergent attitudes were also significantly higher when encountered in the nonintimate (university and seminar) context than in the intimate (roommate) context.

These main effects were qualified by a two-way interaction between belief type and context. Tolerance levels for divergent nonmoral attitudes were more context sensitive than tolerance levels for divergent moral attitudes. Difference scores for the change in participants' tolerance levels between contexts (nonintimate-intimate) for both divergent nonmoral and moral attitudes were created for each participant. A paired-samples t test conducted on these scores revealed significantly more context sensitivity for divergent nonmoral attitudes than divergent moral attitudes, $t(59) = 2.7$, $p = .009$ (see Table 2 and Figure 1 for means).

There was no significant main effect for emotional intensity. People who reported strong emotional intensity did not differ from those who reported weak

emotional intensity in their overall tolerance levels. Nonetheless, there was a significant interaction between belief type and intensity (see Table 2). A between-participants ANOVA with emotional intensity as the fixed factor and tolerance for divergent attitudes as the dependent variable revealed that participants who experienced their moral beliefs with strong emotional intensity expressed significantly less tolerance for divergent moral attitudes, but not for divergent nonmoral attitudes, than did those with weak emotional intensity, $F(1,58) = 6.7$, $p = .012$, $\eta^2 = .10$ (see Table 2 and Figure 2 for means).

Finally, there was a two-way interaction between context and emotional intensity. Tolerance levels for participants with both strong and weak emotional intensity exhibited context sensitivity. That is, both groups demonstrated higher levels of tolerance for both moral and nonmoral divergent attitudes in the nonintimate context than in the intimate, $t_s(29)$ between 4.4 and 5.8, $p_s < .001$. Nonetheless, participants with

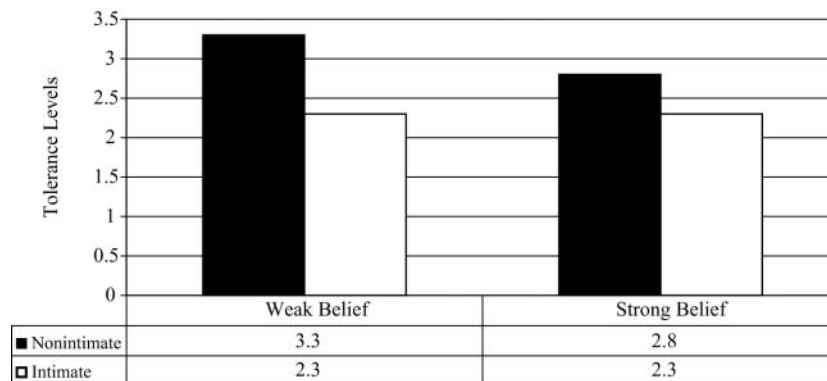


Figure 3 Study 1, Emotional Intensity \times Context interaction.

weak emotional intensity demonstrated more context sensitivity than participants with strong emotional intensity. Difference scores for participants' mean tolerance levels between contexts (nonintimate–intimate) were greater for participants with weak emotional intensity than for participants with strong emotional intensity, $F(1,58) = 5.5$, $p = .023$, $\eta^2 = .09$ (see Table 2 and Figure 3 for means). There was no significant three-way interaction.

Discussion

Study 1 confirmed that even given people's disagreement about which issues are moral, believing something to be a moral issue is sufficient to predict interpersonal intolerance toward attitudinally dissimilar others. People exhibited more tolerance when the issues involved were believed to be nonmoral than when they were believed to be moral. And this was not an issue-specific finding but was true across a wide range of issues. In addition, people who experienced their moral beliefs strongly expressed higher levels of intolerance for divergent moral attitudes than those who experienced them weakly, though both groups were similar in their tolerance for divergent nonmoral attitudes. This finding confirms that when it comes to moral conviction, although the affective dimension alone is not predictive, it nonetheless interacts with the cognitive dimension to exacerbate its effect. Although both belief type and emotional intensity are thus important mechanisms involved in intolerance for divergent moral attitudes, belief type appears to be primary.

Context sensitivity was independently influenced by belief type and emotional intensity. People's tolerance levels were generally less sensitive to the contexts in which they imagined encountering divergent attitudes

when they believed them to involve moral issues than when they believed them to involve nonmoral issues, showing the importance of the cognitive dimension. Nonetheless, people who experienced their moral beliefs strongly demonstrated significantly less context sensitivity for divergent attitudes than those who experienced them weakly, demonstrating once again the interactive influence of the affective dimension. This finding mirrors Skitka et al.'s (2005) finding of greater context insensitivity for participants with high (as opposed to low) levels of moral conviction.

Study 1 also demonstrated clear within-participants effects for the cognitive dimension of moral conviction on attitudinal tolerance to people with divergent attitudes across a wide range of issues. This helps to rule out the possibility that previous findings were driven by individual or issue-specific differences. Of course, because these findings are limited to attitudinal tolerance, they may not fully represent participants' interpersonal responses to people with divergent attitudes. It is important to investigate whether belief type and intensity will continue to be predictive of participants' responses to divergent attitudes when interaction with the dissimilar other is required.

In Study 2, we investigated the impact belief type and intensity had on sharing behavior when the people being shared with had divergent attitudes involving issues participants believed to be either moral or nonmoral. Previous research has shown that the amount people are willing to share resources with another person is influenced by a number of factors, such as their familiarity and perceived similarity with that person (Brown, 1984; Brown & Abrams, 1986; Wit & Kerr, 2002). We wanted to see if people's willingness to share resources with an unfamiliar, dissimilar other would be influenced by whether the source of dissimilarity was believed to

involve a moral or nonmoral issue. We also wanted to extend our hypothesis and the findings of Study 1 regarding the affective dimension by using importance as a second measure of emotional intensity (Krosnick et al., 1993).

STUDY 2

Method

Participants. Fifty-eight participants (35 males; 90% Caucasian, 5% African American, 3% Latin American, 2% Asian) enrolled in lower level undergraduate university courses at the University of Wyoming participated for research credit. Twelve participants were excluded from analysis, 10 for failing to complete the mass testing questions and 2 because they were roommates (and thus not unfamiliar to one another). The following analyses were run on the 46 remaining participants.

Materials and procedure. Participants answered online questions during a departmentwide mass testing session at the beginning of the semester. They classified the following six different issues as either moral or nonmoral, depending on their own beliefs: death penalty for murder, voluntary euthanasia, abortion on demand, easy access to birth control, discrimination, and castration as a punishment for sex crimes.

During the same semester (2 to 6 weeks later), participants signed up for an "argument formation" study with another participant (2 participants per time slot). Upon arrival, each participant signed an informed consent form and was instructed to fill out a general attitude questionnaire that assessed their attitudes about 17 issues, including the 6 above, on a 6-point scale (*strongly approve* to *strongly disapprove*). Extremity scores were calculated by the same technique used in the pilot study and Study 1. To explore the affective dimension more broadly than we did in Study 1, emotional intensity was also calculated using importance scores. To obtain these, participants were asked to rank all 17 issues in the order of their importance to them personally (1 = *most important*, 17 = *least important*).

Upon completion of this questionnaire, the participants were placed into separate rooms and were asked to write a short paragraph on their attitudes about one of the six issues to which they were randomly assigned. They were then given a fake writing prompt, ostensibly the other participants' written paragraph about the same issue. This prompt was designed to always present a divergent attitude. Participants were instructed to read the paragraph and then write a short response to the other participant.

At this point, participants were told that they had completed the first study and that they would now participate in an entirely different study on economic behaviors that was being conducted as a favor for a different experimenter. For this study, each participant, still separated from the other participant, was asked to select a paper slip from a container. They were told that this slip would assign them to one of two conditions: They would be either the "giver" or the "receiver" of an envelope of raffle tickets (in truth, all of the slips assigned participants to the "giver" condition). This envelope contained 10 raffle tickets for a drawing of prize items from local stores. Participants were instructed to divide the raffle tickets up between themselves and the other participant, who would not know how many raffle tickets were originally available. Participants were also told that as the giver, they could keep as many of the tickets for themselves as they wished. Once they had selected the tickets to give to their fellow participant, they placed them in a sealed envelope, which they were told would not be opened by the experimenter but would instead be delivered directly to the other participant. Once both participants had placed their tickets into the envelopes and sealed them, they were thanked for their participation and released separately so as not to interact with one another.

Results

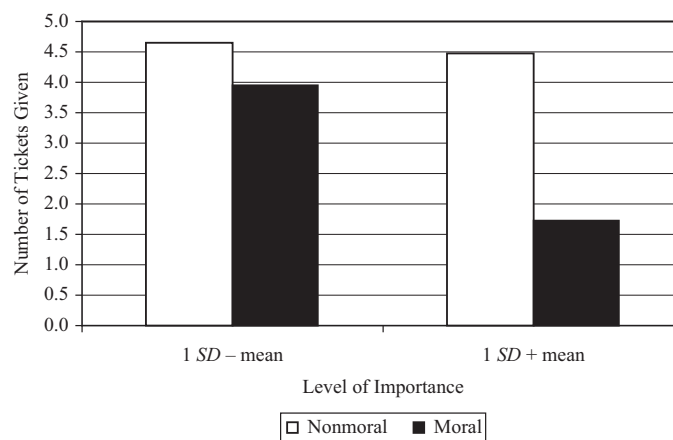
None of the six issues that participants wrote about was unanimously classified as moral during the mass testing. The death penalty and castration as a punishment for sex crimes items were evenly split between moral and nonmoral, and the rest of the issues were dominantly (more than 50%) classified as nonmoral.

Two multiple regression analyses were conducted, one with extremity as the emotional intensity measure and the other with importance. Belief type and emotional intensity were entered into the equation in the same step, followed by their interaction term (Belief Type \times Emotional Intensity). For both equations, belief type emerged as a significant predictor of the number of tickets given, controlling for extremity (unstandardized coefficient, $B = -1.6$, $p = .04$) and for importance ($B = -4.1$, $p = .003$). Emotional intensity alone was not significant when measured either as extremity ($B = -.21$, ns) or importance ($B = -.22$, ns). Although there was not a significant interaction between extremity and belief type ($B = .27$, ns), there was for importance and belief type ($B = .24$, $p = .035$; see Table 3 for correlations). The overall percentage of the variance accounted for was $R^2 = .17$ when extremity was used and $R^2 = .28$ when importance was used.

TABLE 3: Independent Variable Correlations

	<i>Pilot Study</i>		<i>Study 2</i>		<i>Study 3</i>				
	<i>Importance</i>	<i>Belief Type</i>	<i>Importance</i>	<i>Belief Type</i>	<i>Importance</i>	<i>Ambivalence</i>	<i>Certainty</i>	<i>Centrality</i>	<i>Belief Type</i>
Extremity	.22**	.32***	.31*	-.12	.30*	-.30*	.37**	.18	.17
Importance		.37***		-.30*		-.30*	.44***	.39**	-.01
Ambivalence							-.50***	-.10	.29*
Certainty								.57***	-.13
Centrality									-.06

* $p < .05$. ** $p < .01$. *** $p < .001$.

**Figure 4** Study 2, Belief Type \times Intensity interaction (importance).

Discussion

When given the opportunity to share raffle tickets with a fellow student, participants generally kept more raffle tickets for themselves when they believed the person they were sharing with had divergent moral attitudes than when they believed he or she had divergent nonmoral attitudes, regardless of the issue of divergence. This finding demonstrates that the cognitive dimension remains predictive of behavioral as well as attitudinal expressions of interpersonal intolerance.

The findings for emotional intensity were more mixed. Although neither extremity nor importance alone predicted participants' sharing behaviors, importance interacted with belief type so that an increase in emotional intensity had a greater negative impact on sharing behavior when the divergent attitudes were believed to be moral (Figure 4). When measured as extremity, however, there was no interactive effect.

These findings provide support for our claim that the cognitive dimension is predictive of both attitudinal and behavioral responses toward dissimilar others—and

that the affective dimension interacts with the cognitive to exacerbate the effect. Nonetheless, participants in this study knew that they would not have to interact directly with the other student. And it could be the case that it is easier for people to behave more negatively toward attitudinally dissimilar others when they do not expect to interact directly. Perhaps when there is direct interaction—or at least the anticipation of it—it becomes more difficult to behaviorally express one's negativity toward dissimilar others. If so, this would provide an even stronger test of our hypothesis. Therefore, our final study (Study 3) investigated whether belief type and emotional intensity would continue to predict behavioral outcomes even in situations where participants expected to directly interact with a dissimilar other. Specifically, we investigated whether belief type and intensity would have the same effect on behavioral outcomes when participants believed that they were going to have a 10-min debate with a fellow student about an issue on which they disagreed. For this study, we limited the topics of discussion to abortion and euthanasia, because these two issues emerged as the

most evenly split between moral and nonmoral classification during a mass testing session in which we pilot tested issues.

The interpersonal behaviors measured in Study 3 were participants' orientation toward and distance from their dissimilar discussion partners. By *orientation*, we mean how directly the participant faced (vs. turned away from) his or her discussion partner. Past research suggests that the extent to which people orient away from their interaction partner may be an indicator of higher levels of discomfort or dislike (Word, Zanna, & Cooper, 1974). In addition, Skitka et al. (2005) found that when participants anticipated discussing abortion with a dissimilar other, those participants with high moral conviction sat farther away from their discussion partner than participants with low moral conviction. Thus, we hypothesized that people would both orient less directly toward and sit farther away from their conversation partner when they believed the divergent attitude of their partner to involve a moral issue.

In addition to measuring emotional intensity in terms of attitude extremity and importance, we also included other attitude-strength measures—specifically, centrality, certainty, and ambivalence—to confirm that the interactive effect of the affective dimension was specific to those attitude measures most strongly linked to emotional intensity and not attitude strength more generally.

STUDY 3

Method

Participants. Sixty-two participants (23 males; 95% Caucasian, 1% African American, 3% Latin American, 1% Asian) enrolled in lower level undergraduate university courses at the University of Wyoming participated in the study for credit. In a departmentwide mass testing session, roughly half the participants expressed attitudes in favor of, and the other half in opposition to, abortion and euthanasia. Also, roughly half viewed these issues as moral, the other half as nonmoral. One participant was excluded from analysis for failing to follow instructions during the study.

Materials and procedure. Only participants who had completed the mass testing at the beginning of the semester were eligible to sign up for the second part of the study (which took place 2 to 6 weeks later). Upon signing up, participants were informed that they would be having a discussion about a potentially controversial issue with a fellow student. Participants were not told what issue they would be discussing until after they arrived. The “fellow student” in the study was a confederate, who always arrived for the study after the

participant to minimize interaction with the participant before the study. When the study began, the experimenter moved the confederate and participant into separate rooms to complete questionnaires. Participants were told that after they completed the questionnaires, they would move into a third room with the other student to begin the discussion phase of the study. Once in the separate rooms, half of the participants were assigned to abortion for their discussion issue, the other half to euthanasia.

The participants were told that one objective of the study was to investigate how writing down their thoughts about the discussion topic beforehand facilitated discussion. Participants were given 10 min to complete questionnaires that asked them to write about the assigned issue and also to rate their attitudes using conventional Likert-type scale measures (Krosnick et al., 1993; Skitka et al., 2005). Participants' emotional intensity was once again calculated using both the extremity and importance scores. After 10 min, the participants were asked for the written portion of their attitude questionnaire. They were then given a written attitude statement, ostensibly from the other participant, which was designed to always present a divergent attitude about the issue. Participants were given 5 min to review this written statement before moving to the third room to begin the discussion.

While the participant was reviewing his or her discussion partner's mock written attitude statement, the confederate placed a backpack or jacket on a chair set up at the far end of the discussion room and then left. The confederate's chair was located in a stationary spot that remained constant across all participants. When the participant was finished reviewing the written statement, he or she was asked to move to the room where the discussion would be held. Upon arriving in this room, the participant was told that their discussion partner had left to use the restroom but had already set up his or her chair. The participant was then asked to pull up a chair. There was always only one other chair in the room, which was placed up against the wall near the entrance. Participants were told that the discussion would begin when their discussion partner returned. The participant was allowed to sit in the chair for a few minutes before being told that by accident, the discussion room had been scheduled for a departmental meeting that was due to start shortly and therefore there would not be enough time to complete the discussion phase of the study. Placing his or her hand on the back of the participant's chair to prevent it from being moved when the participant stood, the experimenter told the participant that the remainder of the study was cancelled but that he or she would receive full credit for participation.

Attitude and attitude-strength measures. To measure attitudes for the discussion issue, participants indicated how favorable they were using a 7-point Likert-type scale (*strongly oppose* to *strongly favor*). The midpoint (4) for each item was labeled as neutral. Extremity scores were computed using a 4-point scale in a similar manner as in Studies 1 and 2, by folding the attitude score over at its midpoint and coding increasing distance from the midpoint as more extreme. Once again, this technique created an index of attitude strength independent of valence (Cantril, 1946; Krosnick et al., 1993).

In addition to extremity, the attitude-strength measures of importance, certainty, ambivalence, and centrality were also measured using 5-point Likert-type scales. To measure importance, participants were asked how important the discussion issue was to them personally (*highly unimportant* to *highly important*). Centrality was measured using four items (Cronbach's $\alpha = .78$), for example, How certain are you of your attitude toward X? How sure are you that your opinion on X is correct? (*very uncertain* or *very unsure* to *very certain* or *very sure*). Attitudinal ambivalence was measured using two items (Cronbach's $\alpha = .80$): How conflicted do you feel about the issue of X? To what extent are your feelings on the issue of X mixed? (*not conflicted* or *no mixed feelings* to *very conflicted* or *very mixed feelings*). Last, attitude centrality was measured using two items (Cronbach's $\alpha = .78$): How related is your attitude on X to how you see yourself personally? How central is your attitude on X to your self-concept relative to other issues? (*very unrelated* or *not very central* to *very related* or *very central*).

Distancing from discussion partner. Two measures of participants' interpersonal behavior were calculated: their distance apart from and their degree of orientation toward their discussion partner. These measures were calculated by first measuring the distance in inches between (a) the front left leg of the participant's chair and the front right leg of the discussion partner's chair and (b) the front right leg of the participant's chair and the front left leg of the discussion partner's chair. Then the raw distance between the two chairs was computed by averaging these two measurements. The degree of orientation toward (i.e., how directly participants faced) the discussion partner was calculated by subtracting the larger of the two measurements from the smaller. Smaller numbers indicated a more direct orientation toward, whereas larger numbers indicated a greater degree of turning away from, the discussion partner.

Results

Two sets of multiple regression analyses were conducted: the first set for orientation toward and the second

set for distance apart from the discussion partner. For the orientation set, separate equations were calculated using each attitude-strength variable. In each equation, belief type and one attitude-strength variable, followed by the (Belief Type \times Attitude Strength) interaction variable, were entered into the equation. This procedure allowed us to determine how belief type interacted with each type of attitude strength and to determine if the pattern of results in Studies 1 and 2 were specific to those most associated with emotional intensity or could be accounted for using other features of attitude strength.

As in Study 2, extremity and importance were being used as measures of emotional intensity. In both of these regression equations, belief type emerged as a significant predictor of participants' degree of orientation toward their discussion partner: unstandardized coefficient, belief type with extremity, $B = 9.7$, $p = .006$; with importance, $B = 14.5$, $p = .007$. Neither measure of emotional intensity alone predicted additional variance (extremity, $B = .70$, *ns*; importance, $B = 1.2$, *ns*), though the interactions between belief type and both measures of intensity were significant (Belief Type \times Extremity, $B = -3.1$, $p = .06$; Belief Type \times Importance, $B = -3.2$, $p = .03$). The overall percentage of variance accounted for was $R^2 = .39$ and $.40$, respectively.

Equations were also run using the other attitude-strength measures (centrality, certainty, and ambivalence), but none was predictive of participant orientation, either alone (unstandardized coefficients: B s = from $-.21$ to $.17$, $ps > .79$) or interacting with belief type (B s = from -1.5 to 1.5 , $ps > .29$). Belief type for each of these equations remained significant even when controlling for each attitude-strength measure (B s = from 3.5 to 3.6 , $ps = .03$).

For the distance regression set, once again separate regression equations were run containing belief type and one attitude-strength variable, followed by the (Belief Type \times Attitude Strength) interaction variable. As before, the first two equations used extremity and importance, respectively, as measures for emotional intensity. For the equation that used extremity, belief type was marginally significant (unstandardized coefficient, $B = -15.2$, $p = .06$), whereas emotional intensity was not ($B = -3.9$, *ns*). In addition, the interaction between belief type and intensity proved to be significant ($B = 8.2$, $p = .026$). The overall percentage of variance accounted for was $R^2 = .29$. For the equation that used importance, none of the variables (belief type, intensity, or the interaction) was a significant predictor of participants' distance from their discussion partner (unstandardized coefficients: belief type, $B = -4.8$, *ns*; importance, $B = 1.2$, *ns*; interaction, $B = -1.6$, *ns*).

Equations were also run using the other attitude-strength measures (centrality, certainty, and ambivalence),

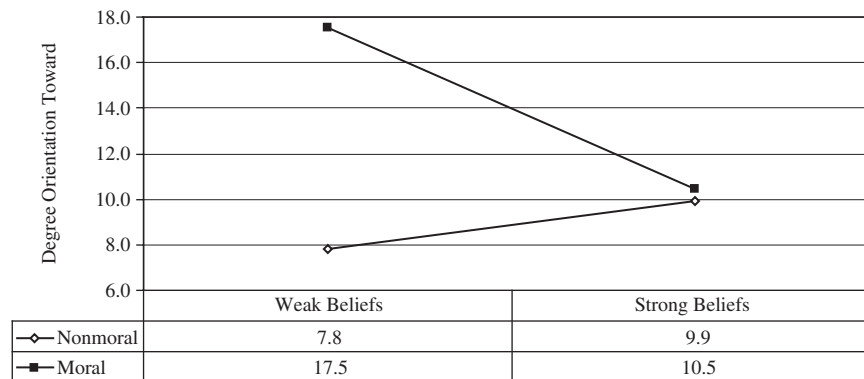


Figure 5 Study 3, Belief Type \times Intensity interaction for orientation.

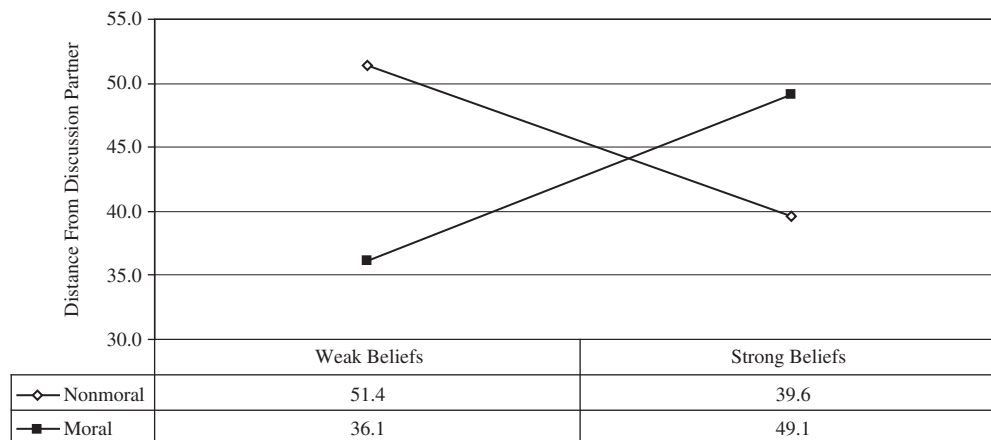


Figure 6 Study 3, Belief Type \times Intensity interaction for distance.

but none was predictive of participant's distance, either alone (unstandardized coefficients: B_s = from -1.1 to 4.1 , $p_s > .10$) or interacting with belief type (B_s = from -5.2 to 5.1 , $p_s > .19$). Belief type for each of these equations remained nonsignificant (B_s = from 1.2 to 1.8 , $p_s > .61$; see Table 3 for correlations).

Discussion

When asked to discuss a disagreed-upon issue with another student, participants generally oriented themselves less directly toward and sat farther way from their discussion partner when he or she had a divergent attitude about an issue participants believed to be moral than when he or she had a divergent attitude about an issue believed to be nonmoral. Thus, once again, the cognitive dimension was highly predictive of differences in

interpersonal behaviors toward dissimilar others. In addition, the affective dimension interacted with the cognitive to explain additional variance in people's orientation toward their discussion partner. Results for distance from a discussion partner were more mixed, with only the extremity measure of emotional intensity interacting with belief type to predict interpersonal behavior.

Interestingly, emotional intensity influenced participants with nonmoral beliefs differently than those with moral beliefs. Participants with intense moral beliefs sat farther away from but oriented more directly toward their discussion partner than those with weak moral beliefs—and the reverse happened for participants with intense nonmoral beliefs (Figures 5 and 6). This mirrors yet another of Skitka et al.'s (2005) findings, namely, that participants with strong moral conviction distanced themselves from their discussion partner to a

greater extent than those with weak moral conviction. Study 3 also demonstrated predictive and divergent validity for our predictions regarding emotional intensity. Only emotional intensity measures of attitude strength interacted with belief type to predict interpersonal behavior. No other attitude-strength variables predicted interpersonal behavior, either independently or in interaction with belief type.

GENERAL DISCUSSION

Strong moral conviction has been shown to predict a variety of attitudinal and behavioral forms of interpersonal intolerance toward others with divergent attitudes. Our primary objective was to explore the mechanisms behind moral conviction that result in these outcomes. To do this, we investigated the influence of two distinct dimensions of moral conviction on interpersonal responses to divergent attitudes. These were the cognitive and affective dimensions, that is, the type (moral vs. nonmoral) of people's beliefs and the emotional intensity (strong vs. weak) with which they experience them.

On the face of it, it would make sense that the emotional intensity with which people experience their beliefs would be the central force behind negative interpersonal responses to dissimilarity. Yet our findings suggest that the cognitive dimension is a much more important mechanism—indeed, it alone is sufficient to predict most of the negative interpersonal responses to divergent moral attitudes that we examined. Emotional intensity, on the other hand, plays only an interactive role, combining with moral (though not nonmoral) beliefs to exacerbate their influence. This is consistent with the view that moral beliefs negatively affect interpersonal tolerance primarily because they involve issues viewed as being objective, non-negotiable, and self-evident rather than as authority contingent (Turiel, 1983).

These studies represent a unique contribution to the literature in several respects. First, they further our understanding of the mechanisms behind attitudinal and behavioral intolerance and the social isolation of dissimilar others. Across three studies, believing an issue to be moral resulted in higher levels of intolerance for divergent attitudes as well as less willingness to share resources with and the tendency to sit and orient farther away from attitudinally dissimilar discussion partners. And the effect of belief type on interpersonal behavior was found for those issues that the participants themselves viewed as being moral or nonmoral, an important fact, considering that there was substantial disagreement about issue classification (see Table 1).

Emotional intensity also had a negative influence on participants' interpersonal behavior. Those participants

who experienced their moral beliefs intensely were the most intolerant of, and the least willing to share or interact with, others with divergent moral attitudes. Mirroring Skitka et al.'s (2005) findings, they also demonstrated a significantly higher level of context insensitivity and sat farther away from discussion partners who had divergent moral attitudes than participants who experienced their moral beliefs less intensely. This lends credence to the view that the negative influence of moral beliefs on interpersonal tolerance is at least partially explained by the affective strength with which those beliefs are experienced. Although belief type appears to be the primary mechanism behind intolerant interpersonal responses, emotional intensity functions to magnify these responses.

Second, these studies used a methodological combination of within- and between-participants designs, multiple-issue and single-issue measurements, and attitudinal and behavioral responses, all of which involved issues that participants themselves classified as moral or nonmoral. This methodological breadth provides strong converging evidence for the distinct roles of the cognitive and affective dimensions of moral conviction in explaining intolerance for attitudinally dissimilar others. And it confirms that these effects are robust across a wide range of interpersonal issues, contexts, and outcomes, thus helping to rule out alternative explanations.

Limitations

There are two important limitations of this research. First, it is important to acknowledge that the complex structure of attitudes makes it difficult to treat any particular attitudinal construct as purely affective (or cognitive) in nature (for discussion, see Crites, Fabrigar, & Petty, 1994). Given this, research that more clearly distinguishes between the cognitive and affective dimensions of moral conviction is clearly warranted. In addition, there are several standard measures of emotional intensity that were not employed: for example, physiological indicators, self-report scales, open-ended measures, and measures that separate different types of affect. It will thus be important for future research to test whether the interactions obtained here are robust across other measures of emotional intensity. Nonetheless, previous literature on attitude-strength measures (Krosnick et al., 1993) provides some theoretical and empirical precedence for our use of extremity and importance as measures of emotional intensity. And our findings using these measures of emotional intensity in combination with measures of belief type not only significantly predicted moral conviction in the pilot study but also replicated several of Skitka et al.'s (2005) results, when other attitude-strength measures (e.g., centrality, certainty, ambiguity) did not.

Second, participants' interpersonal responses could have been inflated by forcing them to classify issues as either moral or nonmoral. Some issues may not have clearly fallen into one belief type. If this were the case, however, we would expect this to decrease the effect of belief type rather than increase it. Alternately, forcing participants to classify belief type beforehand could have increased demand characteristics by priming participants to view certain issues as objectively grounded and non-negotiable, thereby artificially decreasing interpersonal tolerance. We find this unlikely, however, for the following reasons: First, given the number of issues that participants responded to (Study 1), it is unlikely that they would remember all their belief-type assignments when later reporting their interpersonal responses for each issue; additionally, there was a significant lag time of 2 to 6 weeks (Studies 2 and 3) between when participants originally classified issues during a mass testing session and when they participated in the studies. Particularly in Study 2, the behaviors participants engaged in were completely unrelated to the issues they had written about, and at no point in this study were participants reminded of their earlier belief type assignments.

Implications

Overall, our findings demonstrate that the influence of moral conviction on interpersonal responses to people with divergent attitudes is mostly a function of the cognitive structure of moral beliefs—namely, that they involve issues perceived to be non-negotiable and objectively grounded (and, thus, not dependent on personal or social authority)—but also of the emotional intensity with which those beliefs are experienced. These findings, viewed in conjunction with previous research (e.g., Haidt et al., 2003; Skitka et al., 2005; Wainryb et al., 1998, 2001), have important social and educational implications. For one, they shed light on why people react to those with divergent attitudes, allowing us to focus and refine our social and educational practices to support the responsible development of tolerance. Because tolerance for divergent attitudes depends in large part on how the issues involved are viewed, education aimed at influencing people's belief types about these issues may help to increase (or, in some cases, decrease) tolerance.

Conclusion

Understanding how the cognitive and affective mechanisms behind moral conviction interact to influence attitudinal and behavioral intolerance provides important insight into the power of moral conviction to polarize groups and/or bond people together through shared

value systems. It is easy to see how such polarization could occur, especially when even paradigmatic examples of moral issues are not in fact universally viewed as moral. Indeed, for many of the topics of current social debate (e.g., homosexual marriage, abortion, euthanasia, protecting the environment, etc.), people are strongly divided—a fact that sheds light on the nature of society's most entrenched and hostile disagreements. As our findings would suggest, many of these debates are being fueled as much by disagreements about whether the issues are moral or nonmoral as by other disagreements in attitudes regarding these issues.

NOTES

1. In making this distinction, we do not mean to discount any cognitive theories of emotion.

2. To capitalize on the emotional intensity aspect of extremity and importance, we computed a residual score that extracted covariance with frequency of thought (a more cognitive attitude-strength measure). These residualized extremity and importance scores were then entered with belief type separately into their respective regression equations. Regression equations using the unresidualized extremity and importance scores in conjunction with belief type showed the same pattern (standardized coefficients: belief type, $\beta = .16$, $p = .016$, and extremity, $\beta = .29$, $p < .001$; belief type, $\beta = .11$, $p = .10$, and importance, $\beta = .41$, $p < .001$; see Table 3 for correlations).

REFERENCES

- Allport, G. W. (1935). Attitudes. In *A handbook of social psychology* (pp. 798-844). Worcester, MA: Clark University Press.
- Bender, L. (producer), & Guggenheim, D. (director). (2006). *An inconvenient truth* [Motion picture]. Los Angeles: Paramount Pictures.
- Brown, R. (1984). The effects of intergroup similarity and cooperative vs. competitive orientation on intergroup discrimination. *British Journal of Social Psychology*, 23(1), 21-33.
- Brown, R., & Abrams, D. (1986). The effects of intergroup similarity and goal interdependence on intergroup attitudes and task performance. *Journal of Experimental Social Psychology*, 22(1), 78-92.
- Bruner, J. S., & Perlmutter, H. V. (1957). Compatriot and foreigner: A study of impression formation in three countries. *Journal of Abnormal and Social Psychology*, 55, 253-260.
- Byrne, D. (1961). The influence of propinquity and opportunities for interaction on classroom relationships. *Human Relations*, 14, 63-69.
- Byrne, D., Clore, G. L., & Smeaton, G. (1986). The attraction hypothesis: Do similar attitudes affect anything? *Journal of Personality and Social Psychology*, 51, 1167-1170.
- Cantril, H. (1946). The intensity of an attitude. *Journal of Abnormal and Social Psychology*, 41, 1-12.
- Crites, S. L., Fabrigar, L. R., & Petty, R. E. (1994). Measuring the affective and cognitive properties of attitudes: Conceptual and methodological issues. *Personality and Social Psychology Bulletin*, 20(6), 619-634.
- Downing, J. W., Judd, C. M., & Brauer, M. (1992). Effects of repeated expression on attitude extremity. *Journal of Personality and Social Psychology*, 63, 17-29.
- Fazio, R. H. (2001). On the automatic activation of associated evaluations: An overview. *Cognition and Emotion*, 15(2), 115-141.
- Fazio, R. H., Ledbetter, J. E., & Towles-Schwen, T. (2000). On the cost of accessible attitudes: Detecting that the attitude object has changed. *Journal of Personality and Social Psychology*, 78(2), 197-210.

- Fazio, R. H., Roskos-Ewoldsen, D. R., & Powell, M. C. (1994). Attitudes, perception, and attention. In P. M. Niedenthal & S. Kitayama (Eds.), *The heart's eye: Emotional influences in perception and attention* (pp. 197-216). New York: Academic Press.
- Fazio, R. H., & Towles-Schwen, T. (1999). The MODE model of attitude-behavior processes. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 97-116). New York: Guilford.
- Goodwin, G. P., & Darley, J. M. (in press). The psychology of meta-ethics: Exploring objectivism. *Cognition*.
- Greene, J. D., & Haidt, J. (2002). How (and where) does moral judgment work? *Trends in Cognitive Sciences*, 6(12), 517-523.
- Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment. *Science*, 293, 2105-2108.
- Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, 108(4), 814-834.
- Haidt, J., Rosenberg, E., & Hom, H. (2003). Differentiating diversities: Moral diversity is not like other kinds. *Journal of Applied Social Psychology*, 33, 1-36.
- Katz, D. (1960). The functional approach to the study of attitudes. *Public Opinion Quarterly*, 24(2), 163-204.
- Kokkinaki, F., & Lunt, P. (1997). The relationship between involvement, attitude accessibility, and attitude-behavior consistency. *British Journal of Social Psychology*, 36, 497-509.
- Krosnick, J. A., Boninger, D. S., Chuang, Y. C., Berent, M. K., & Carnot, C. G. (1993). Attitude strength: One construct or many related constructs? *Journal of Personality and Social Psychology*, 65, 1132-1151.
- Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 1-24). Hillsdale, NJ: Lawrence Erlbaum.
- Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology*, 37(11), 2098-2109.
- Maijo, G. R., & Olson, J. M. (1998). Values as truisms: Evidence and implications. *Journal of Experimental Social Psychology*, 31(3), 266-285.
- Miller, J. G., Bersoff, D. M., & Harwood, R. L. (1990). Perceptions of social responsibilities in India and in the United States: Moral imperatives or personal decisions? *Journal of Personality and Social Psychology*, 58(1), 33-47.
- Mullen, E., & Skitka, L. J. (2006). Exploring the psychological underpinnings of the moral mandate effect: Motivated reasoning, group differentiation, or anger? *Journal of Personality and Social Psychology*, 90, 629-643.
- Nucci, L. (1981). Conceptions of personal issues: A domain distinct from moral or societal concepts. *Child Development*, 52, 114-121.
- Perkins, S. A., & Turiel, E. (2007). To lie or not to lie: To whom and under what circumstances. *Child Development*, 78(2), 609-621.
- Petty, R. E., & Krosnick, J. A. (Eds.). (1995). *Attitude strength: Antecedents and consequences*. Hillsdale, NJ: Lawrence Erlbaum.
- Prinz, J. (2006). The emotional basis of moral judgments. *Philosophical Explorations*, 9(1), 29-43.
- Rosenbaum, M. E. (1986). The repulsion hypothesis: On the nondevelopment of relationships. *Journal of Personality and Social Psychology*, 51, 1156-1166.
- Rozin, P., Lowery, L., & Imada, S. (1999). The CAD triad hypothesis: A mapping between three moral emotions (contempt, anger, disgust) and three moral codes (community, autonomy, divinity). *Journal of Personality and Social Psychology*, 76, 574-586.
- Skitka, L. J., Bauman, C. W., & Sargis, E. G. (2005). Moral conviction: Another contributor to attitude strength or something more? *Journal of Personality and Social Psychology*, 88, 895-917.
- Skitka, L. J., & Mullen, E. (2002). The dark side of moral conviction. *Analyses of Social Issues and Public Policy*, 7, 35-41.
- Smith, E. R., Fazio, R. H., & Cejka, M. A. (1996). Accessible attitudes influence categorization of multiply categorizable objects. *Journal of Personality and Social Psychology*, 71(5), 888-898.
- Smeaton, G., Byrne, D., & Murnen, S. K. (1989). The repulsion hypothesis revisited: Similarity irrelevance or dissimilarity bias? *Journal of Personality and Social Psychology*, 56, 54-59.
- Turiel, E. (1983). *The development of social knowledge: Morality and conventions*. New York: Cambridge University Press.
- Turiel, E. (1998). The development of morality. In N. Eisenberg (Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 701-778). New York: Wiley.
- Wainryb, C., Shaw, L. A., Laupa, M., & Smith, K. R. (2001). Children's, adolescents', and young adults' thinking about different types of disagreements. *Developmental Psychology*, 37, 373-386.
- Wainryb, C., Shaw, L. A., & Maianu, C. (1998). Tolerance and intolerance: Children's and adolescents' judgments of dissenting beliefs, speech, persons, and conduct. *Child Development*, 69(6), 1541-1555.
- Wheatley, T., & Haidt, J. (2005). Hypnotic disgust makes moral judgments more severe. *Psychological Science*, 16(10), 780-784.
- Wit, A. P., & Kerr, N. L. (2002). "Me versus just us versus us all" categorization and cooperation in nested social dilemmas. *Journal of Personality and Social Psychology*, 83(3), 616-637.
- Word, C. O., Zanna, M. P., & Cooper, J. (1974). The nonverbal mediation of self-fulfilling prophecies in interracial interaction. *Journal of Experimental Social Psychology*, 10(2), 109-120.

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