

The Effect of Moral Interactions on Self-Regulation

BY

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This thesis is dedicated to Remy, for his unwavering support and comfort through many long nights and early mornings.

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TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
I. INTRODUCTION	1
A. Executive Function	2
B. Interracial Interactions	3
C. Self-Regulating Disclosure vs. Dislike	4
D. The Present Research	6
II. Method.....	7
A. Participants	7
B. Design	7
C. Pre-Interaction Attitudes	7
1. Support/Opposition.	7
2. Moral conviction.	8
3. Importance.	8
D. The Experimental Session	8
1. Executive function measure.....	9
2. Attitude detection.	10
3. Attitude disclosure.	11
4. Partner dislike.	12
5. Negative/Positive impressions.	12
6. Motivation to appear tolerant.....	13
III. Results.....	14
A. Attitude Detection and Disclosure	16
1. Attitude detection.	16
2. Moral conviction detection.	18
3. Attitude disclosure.	18
4. Attitude disclosure time.....	19
B. Dislike and Consequences for Executive Functioning	22
1. Partner dislike.	22
2. Negative/Positive impressions.	23

3. Motivation to appear tolerant.....	26
4. Executive functioning.....	27
C. Mediation.....	29
D. Summary	29
IV. Discussion	31
REFERENCES	38
APPENDIX A.....	41
APPENDIX B.....	44
APPENDIX C.....	46
CURRICULUM VITA.....	49

LIST OF TABLES

<u>TABLE</u>		<u>PAGE</u>
I.	PARTICIPANTS' LIKELIHOOD OF CORRECTLY IDENTIFYING THEIR PARTNER'S OPINION.....	17
II.	PARTICIPANTS' LIKELIHOOD OF EXPRESSING THE SAME ATTITUDE DURING THE INTERACTION AS THEY REPORTED PRIOR TO THE INTERACTION.....	20
III.	MULTILEVEL MODELS PREDICTING PARTNER DESCRIPTION FACTORS, CONTROLLING FOR DISCUSSION TOPIC AND ATTITUDE IMPORTANCE	24
IV.	MEANS AND STANDARD DEVIATIONS OF PARTNER DESCRIPTORS FOR THE MORAL CONVICTION AND AGREEMENT MAIN EFFECTS.....	25

SUMMARY

The current research examined how people engage in moralized versus non-moralized political discourse. Participants took part in an interpersonal interaction where both participants either (a) felt high or low moral conviction about the discussion issue and (b) agreed or disagreed about the issue. The current research tested the hypothesis that participants would engage in self-regulatory processes when they disagreed with their partner and were high rather than low in moral conviction in order to avoid potential conflict. Specifically, I tested whether participants would regulate both the timing and expression of their attitude as well as their dislike and negative impressions of their partner. The current research also tested the hypothesis that engagement in these self-regulatory processes during such interactions would deplete participants' executive function abilities, as measured by the antisaccade task. Results did not support the hypotheses that people who participated in a discussion where they disagreed about an issue high rather than low in moral conviction would regulate their timing and expression of their attitude nor did they indicate that they felt more dislike for or had more negative impressions of their partner. However, participants were motivated to appear tolerant of their partner in order to avoid conflict when they disagreed about a high versus low morally convicted attitude. Contrary to hypotheses, this self-regulatory effort did not result in subsequent executive functioning depletion. The findings are discussed in terms of the limits to the interpersonal consequences of moral conviction.

I. INTRODUCTION

There are some topics we know we should not discuss over the dinner table; hot-button issues of the day are often considered impolite topics in casual conversation. For instance, discussing one's views on abortion or capital punishment seems inappropriate when first meeting someone. These topics have a sense of danger associated with them because of the strong reactions they often elicit, and to bring them up around the dinner table violates social norms of avoiding conflict in casual conversation. Why are these topics so dangerous? Why do we avoid them?

I propose that these topics are dangerous because they are sometimes held with moral conviction, that is, a strong, absolute belief that something is right or wrong, moral or immoral (Skitka & Mullen, 2002). To believe that something is fundamentally right means that, by definition, somebody who disagrees with you must be fundamentally wrong. Research thus far has demonstrated the interpersonal consequences of interacting with individuals who hold opposing moral convictions (Skitka, Bauman & Sargis, 2005). Some of these consequences include greater social and physical distancing, lower levels of cooperativeness and goodwill, and more difficulties agreeing on solutions when heterogeneous groups discuss morally convicted as opposed to strong, but non-moral, attitudes. Most notably, when discussing possible procedural solutions to resolve disagreements about a particular issue, such as abortion, morally convicted participants in attitudinally heterogeneous groups took longer to share their position on the issue than those whose position was strong, but not morally convicted (Skitka et al., 2005). Thus, people may want to avoid discussing issues held with strong moral conviction with strangers when they sense that not everyone is likely to agree with their position.

To examine why individuals avoid these topics in casual conversation, I propose to investigate the cognitive consequences of what I term “moral interactions.” Moral interactions are when two (or more) individuals who have strong moral convictions about a specific issue interact. More specifically, I will investigate how moralized conflict influences executive functioning and what self-regulatory behavior might mediate the relationship between moral convictions and executive function.

A. Executive Function

Executive functions are broadly applicable mechanisms that control the operation of various lower level cognitive processes (Miyake, Friedman, Emerson, Witzki, Howerter, & Wager, 2000). Although many types of cognitive functioning fall under the umbrella of executive functions, some research has argued these different subcomponents of executive functioning draw on a common depletable resource (Schmeichel, 2007). Engaging in a behavior that requires executive resources hinders performance on secondary tasks that also require executive control (e.g. Baddeley, Emslie, Kolodny, & Duncan 1998; Lavie, Hirst, de Fockert, & Viding, 2004).

The limited capacity of the central executive system may also influence people’s ability to regulate their own behavior. Similar to executive resources, self-regulation is thought to be a limited resource (Engle, Conway, Tuholski, & Shisler, 1995; Muraven & Baumeister, 2000) because of the well-replicated finding that people do worse on subsequent inhibitory tasks after tasks that require significant self-regulation (e.g. Baumeister, Muraven, & Tice, 2000). Only higher order cognitive activities such as logic, reasoning, and cognitive extrapolation are hindered by prior instance of self-regulation (Schmeichel, Vohs, & Baumeister, 2003), linking self-regulation depletion to executive functioning depletion. If moral interactions require self-

regulation, such as controlling the timing and expression of a specific position on a given issue (as found in Skitka et al., 2005), the resource model of self-regulation predicts that individuals should do worse on a subsequent executive functioning task than when they are not engaging in a moral disagreement. I now turn my attention to other research that has investigated the effect of interpersonal interactions on self-regulatory abilities.

B. Interracial Interactions

Research on interracial interactions has investigated how attitudes, in this case prejudice, can influence interpersonal interactions, and result in decreased executive functioning as a result of self-regulatory processes. When prejudiced White participants take part in interracial interactions, they perform worse on subsequent executive functioning tasks than they do in same race interactions (Richeson & Shelton, 2003; Trawalter & Richeson, 2005). These results are consistent with the hypothesis that prejudiced White individuals regulate their self-presentation when interacting with Black confederates to avoid the conflict that could arise from appearing racist. This hypothesized self-regulatory effort, therefore, depletes participants' regulatory resources and results in poorer performance on the subsequent executive functioning task.

Previous research on prejudice and interracial interaction is relevant to the current study for at least two reasons. First, one way to understand previously observed interpersonal consequences of moral conviction is to posit that people are prejudiced against those who do not share their moral point of view. Consistent with this idea, when given the opportunity to divide a set of 10 raffle tickets for desirable prizes between themselves and an attitudinally dissimilar partner, participants who saw the issue as moral kept most of the raffle tickets for themselves (on average, 8.5 tickets), but divided the tickets equally between themselves and the other participant when the attitude domain was not one participants moralized (Wright, Cullum, & Schwab,

2008). In short, people behaviorally discriminated against attitudinally dissimilar others when that dissimilarity was in a morally convicted domain. If moral convictions are associated with prejudice against attitudinally dissimilar others, then we should observe very similar effects in moral and interracial interactions.

Second, the interpretation that Whites must be engaging in considerable impression management during interracial interaction given the depleting effects on their cognitive capacity is certainly plausible, but has not been explicitly tested. Therefore, one goal of the proposed research will be to test whether heightened concerns about impression management mediate the relationship between stressful interactions (and in this case, moral interactions in particular) and executive functioning.

C. Self-Regulating Disclosure vs. Dislike

Evidence of impression management when interacting with someone one feels prejudiced toward could emerge in a number of possible forms. One way individuals could impression manage during a moral interaction is to control whether and when to disclose their position on the morally imbued topic. Avoidance of an “elephant in the room” in interpersonal interactions is cognitively depleting. For example, participants who were instructed to withhold disclosure of their sexual orientation showed decreased self-regulatory abilities following the interaction compared to those who were given no instructions (Critcher & Ferguson, 2013). Furthermore, these depletion effects are due to the self-regulatory effort of monitoring one’s speech. In sum, one explanation for why some interactions are more depleting than others is that people are actively monitoring their relative degree of disclosure in the former.

Another way individuals may self-regulate during a moral interaction is to attempt to reduce conflict by monitoring the public image they present to their partner. Those with moral

convictions prefer more physical distance from those who hold opposing opinions on the issues they feel are morally relevant, as well as more social distance, such as not wanting them as a roommate, or to marry into their family (Skitka et al, 2005). This finding is also consistent with the idea that morally convicted individuals hold some level of prejudice against those who have different attitudes than their own, given that social distancing has been used as a proxy measure of prejudice in the past (e.g. Wilson, 1996). In an effort to avoid conflict when interacting with a disliked other, individuals may regulate the public image they present, concealing their dislike for their interaction partner. The externally motivated self-regulatory effort of concealing their dislike for their partner could in turn lead to poorer performance on a subsequent measure of executive functioning relative to those who do not dislike their discussion partner. Indeed, research has demonstrated that interacting with a generally disliked other results in decreased self-regulatory abilities (Gilbert, Pelham, & Krull, 1988). Furthermore, Vohs, Ciarocco and Baumeister (2004) found that atypical self-presentation during interpersonal interactions led to decreases in self-regulatory and executive functioning abilities. In sum, I test whether stronger moral convictions are associated with greater external motivation to conceal one's dislike of an attitudinally dissimilar discussion partner, and whether external motivation to control dislike in turn decreases executive function.

In summary, the current research tested whether the effects of interacting with an attitudinally dissimilar other leads to motivated impression management when the attitude dissimilarity is high rather than low in moral conviction. Increased concerns about managing one's impression could be motivated by concerns about disclosure (and subsequent perceived risks of interpersonal conflict), by a desire to conceal one's dislike of an attitudinally dissimilar other, or a combination of both processes.

D. The Present Research

I hypothesize that participants in agreeing dyads will demonstrate no difference in post interaction executive functioning as a function of moral conviction. In contrast, participants in disagreeing dyads will perform worse on a subsequent measure of executive functioning if both participants are high rather than low in moral conviction about the discussion topic. Furthermore, I hypothesize two potential mediational self-regulatory processes that might account for the predicted effect: avoiding disclosure of one's true attitude and concealing one's dislike and negative impression of one's discussion partner.

II. Method

A. Participants

One hundred and forty participants (70 dyads) were recruited from the UIC subject pool. Two dyads were excluded from the analyses because they contained a participant who was neutral in the topic of discussion due to a participant recruitment error. The final sample consisted of a total of 136 participant and 68 dyads, 38 of which were female dyads and 30 were male dyads.

B. Design

The core experiment was a 2(moral conviction: high, low) x 2(dyad: agree, disagree) x 2(executive function: pre-interaction, post-interaction) design, with moral conviction and dyad type as between-subjects factors and executive functioning as a within-subjects factor. The main effect of discussion topic was included to remove any variance due to the different discussion issues from the error term. Attitude importance was also included as a control variable so that we can investigate the unique effect of the moral conviction independent of attitude importance.

C. Pre-Interaction Attitudes

During a mass pretesting session, participants were asked about their attitudes about political issues of the day. Specifically they were asked about their support or opposition, importance, and moral conviction about four topics: “the availability of legalized abortion in the United States”; “capital punishment (i.e. the continued use of the death penalty)”; “the building of new nuclear power plants”; and “stronger gun control laws.”

1. Support/Opposition. Support versus opposition to each of these issues was asked directly as: Do you support or oppose X? Participants were given three response options, specifically, *support*, *oppose*, or *uncertain*. Next, participants were asked: “If you support or

oppose X, how strong is your position on X?” Participants had three response options: *slightly strong*, *moderately strong*, or *very strong*.

2. Moral conviction. Moral conviction associated with each issue was measured with four items, prefaced with the stem “To what extent is your position on X...” and with the completions of “...a reflection of your core moral beliefs and convictions,” “a reflection of your fundamental beliefs about right and wrong,” “a moral stance,” and “...based on strong personal principles?” Participants responded on 5-point scales, with the point labels of *not at all*, *slightly*, *moderately*, *much*, and *very much*. Responses on these four questions were averaged to create a reliable scale, ($\alpha = .97$). Participants were classified as having high moral conviction if their average on the moral conviction scale was 4 or higher. Participants with a score of 2 or lower were classified as having low moral conviction about the topic.

3. Importance. Attitude importance associated with each issue was measured with two items, prefaced with the stem “To what extent is your position on X...” and with the completions of “...something that you care a lot about?” and “personally important to you?” Participants responded on 5-point scales, with the point labels of *not at all*, *slightly*, *moderately*, *much*, and *very much*. Responses on these two questions were averaged to create a reliable scale ($\alpha = .87$).

D. The Experimental Session

Participants were recruited to the lab in gender-matched pairs, as a function of whether they had a morally vested interest in a given topic, and as a function of whether they had the same (agreeing dyads) or opposing positions (disagreeing dyads) on one of the pre-test issues. First, participants completed a baseline measure of executive function prior to the interaction. Participants then moved to pre-positioned chairs angled toward each other, across from a discreetly placed video camera. The experimenter let one participant choose an index card

containing a discussion topic from a basket of cards. Based on participants' pre-measures, the topics in the basket were ones that both participants felt high or low moral conviction about, depending on the experimental condition. The experimenter read the topic aloud, "Discuss your opinions about [topic]. Do you support or oppose it? Talk about some reasons you are for or against it. Is this issue important to you? Is it something you feel strongly about?", and then left the topic card on a table between the participants so that they could reference it during the interaction. Next, the experimenter instructed the participants to "Please try to stay on topic," and then left the room. After seven minutes had elapsed, the experimenter returned to the room and asked the participants to return to their computer station. Participants then completed the measure of executive functioning again followed by a variety of self-report measures.

1. Executive function measure. Participants completed an antisaccade task (Hallet, 1978; Kane, Bleckley, Conway, & Engle, 2001) both before and after the interaction as a measure of pre- and post-executive functioning. The antisaccade task requires participants to identify a masked target stimulus and press the key that corresponds as quickly and accurately as possible. The targets used were the capital letters *B*, *P*, or *R*. To identify these letters participants pressed the *1*, *2*, or *3* keys on the number pad, which were labeled with stickers, *B*, *P*, and *R*, respectively. The task was comprised of four trial blocks: two response mapping practice blocks, an antisaccade practice block, and an antisaccade experimental block.

The response mapping practice blocks were comprised of 18 computerized trials, six trials for each target letter, presented in a randomized order. Each block began with the presentation of a yellow "*READY?*" on a black background that remained until the participant pressed the spacebar. Following a 400-ms black screen, a fixation signal ("+") appeared in the center of the screen for an interval that varied unpredictably between 200 and 2,200 ms. Each

target letter was preceded by the fixation signal lasting 200, 600, 1,000, 1,400, 1,800, or 2,200 ms once in random order. A 100-ms black screen followed the fixation signal and then the target stimulus appeared in white in the center of the screen for 100-ms. Backward masking stimuli followed the target: an *H* for 50-ms, and then an 8 that remained until the participant pressed a response key. The next trial then began with the 400-ms blank screen.

The antisaccade practice block contained 18 trials that proceeded in the same sequence as the response mapping blocks with the exception that the target now appeared on the right or left side of the screen, and the target was cued by a flashing white “=” symbol. Immediately after the fixation signal (“+”) disappeared, a 50-ms blank screen was followed by the “=” cue for 100-ms on the left or right side of the screen. A second 50-ms black screen was followed by the target stimulus in the opposite location as the “=” cue. Target duration and masking sequence matched the response mapping block. After the antisaccade practice block, the antisaccade experimental block proceeded in the same way for 72 trials. Every combination of three target stimuli (*B*, *P*, *R*), six durations (200, 600, 1,000, 1,400, 1,800, or 2,200 ms), and two locations (left, right) occurred twice during the 72 trials. Participants’ executive functioning was operationalized as the percentage of correct letter identifications and the natural log transformed average response latencies on the experimental antisaccade trials (Kane et al., 2001).

2. Attitude detection. Participant’s ability to detect their partner’s stance on the issue was measured with the item, “Did your partner support or oppose (topic)?” with the response options *support*, *oppose*, *neutral/uncertain*. The participant’s report of their partner’s attitude was compared to the partner’s pre-interaction attitude and recoded a *correct* or *incorrect*. Participants who identified their partner’s attitude as neutral/uncertain were coded as incorrect, since all participants reported either supporting or opposing their discussion topic on the attitude

pre-measure. Participant's ability to detect their partner's moral conviction about the issue was measured by asking participants the four moral conviction items regarding their partner's stance on the issue, e.g. "To what extent was your partner's position on (topic) a reflection of his/her core moral beliefs and convictions?" Responses on these four questions were averaged to create a reliable scale, ($\alpha = .95$).

3. Attitude disclosure. Disclosure was assessed in two ways. First, whether participants expressed a stance on the issue that was consistent with their self-reported pre-interaction stance was assessed by first coding the participant's first expressed stance on the issue during the videotaped interaction, *support*, *oppose*, or *no stance*. These stances expressed during the interaction were then compared to participants' self-reported pre-interaction attitude and coded as *consistent* or *inconsistent*. Second, the extent to which participants withheld their position on the target issue during the interaction was measured as the time delay between the beginning of the interaction and when they revealed their opinion on the issue. Two research assistants blind to the hypotheses measured how many seconds each participant took to disclose their position on their assigned discussion topic. If participants did not reveal their attitude during the interaction, their disclosure time was recorded as the maximum time (7 minutes; this happened for only three participants). A two way mixed model intraclass correlation (McGraw & Wong, 1996) revealed adequate reliability between the two raters' measurements, $\alpha = .71$, therefore their measurements were averaged to create an index for disclosure time.

The three participants who did not reveal their attitude during the interaction and had a recorded disclosure time of seven minutes were not included in the analysis of disclosure time since they were more than three standard deviations larger than the mean disclosure time. One dyad's video recording and one dyad's video and audio recording were lost due to equipment

malfunction. For the dyad where only the audio recording was available, both participants supported the topic on the pre-interaction measure, and both reported supporting the issue during the interaction. This allowed the experimenter to record their attitude disclosure but not their attitude disclosure time. Therefore, analyses of attitude disclosure are based on 67 rather than 68 dyads and analyses of attitude disclosure time are based on 63 rather than 68 dyads.

4. Partner dislike. The extent to which participants reported disliking their partner was measured with one item: “How much did you like/dislike your interaction partner?” Participants responded on a 7-point scale, with the point labels of *very much like*, *moderately like*, *slightly like*, *neutral/neither*, *slightly dislike*, *moderately dislike*, and *very much dislike*.

5. Negative/Positive impressions. Next, participants were asked “Please indicate the extent to which your partner has the following characteristics...” followed by 25 adjective completions, including: *friendly*, *rude*, *unkind*, *arrogant*, *smart*, *trustworthy*, *intelligent*, *privileged*, *open-minded*, *qualified*, *aggressive*, *prejudiced*, *moral*, *sociable*, *slightly*, *lazy*, *insensitive*, *well-spoken*, *competent*, *confident*, *independent*, *competitive*, *tolerant*, *warm*, *good-natured*, and *sincere*.

A principal axis factor analysis with varimax rotation explored what adjectives could be reduced to factors. Results indicated that the 25 adjectives loaded on six factors (eigenvalues > 1). Specifically, the items tolerant, warm, good-natured, sincere, friendly, and moral loaded on a factor corresponding with warmth, eigenvalue = 8.64. These six items were averaged to form a reliable partner warmth scale ($\alpha = .85$). The items smart, trustworthy, intelligent, and qualified loaded onto a factor corresponding with intelligence, eigenvalue = 2.00. These four items were averaged to form a reliable partner intelligence scale ($\alpha = .86$). The items well-spoken, competent, confident, independent, and sociable loaded onto a factor corresponding with

competence, eigenvalue = 1.75. These five items were averaged together to form a reliable partner competence scale ($\alpha = .86$). The items rude, unkind, and arrogant loaded onto a factor, eigenvalue = 1.56. However, the reliability of these three items was poor, $\alpha = .55$ and reliability analysis indicated dropping the arrogance item increased Cronbach's alpha to .89. Therefore, the items rude and unkind were averaged together to create a partner rudeness scale. The items lazy and insensitive loaded on a single factor, eigenvalue = 1.10. These two items were average to create a partner insensitivity scale ($\alpha = .62$). Finally, the items aggressive and prejudiced loaded on a single factor, eigenvalue = 1.04. These two items were averaged to form a measure of partner aggressiveness ($\alpha = .47$).

6. Motivation to appear tolerant. I adapted the External Motivation to Respond without Prejudice scale (Plant & Devine, 1998) scale to measure the extent to which participants felt external motivation to appear tolerant of their partner. Specifically, external motivation to appear tolerant was measured with four items using the stem "During the conversation with your partner, to what extent..." followed by the completions: "Did you try to hide negative thoughts about your partner to avoid a negative reaction from him/her?" "Did you try to act tolerant of your partner so he/she would not be angry?" "Did you attempt to appear tolerant to avoid the disapproval of others?" and "Did you feel pressured to act tolerant of your partner?" The four external motivation to appear tolerant items were averaged together to form a reliable scale ($\alpha = .83$).

III. Results

The current study tested the hypothesis that people would self-regulate the expression of their attitude and dislike for their discussion partner during moralized disagreements. I further hypothesized that this self-regulatory effort would result in subsequent cognitive depletion. First, I describe how dyad agreement and moral conviction influenced participants' ability to detect their partner's attitude and moral conviction. Second, I test if participant's attitude disclosure differed as a function of moral conviction and agreement condition. Specifically, if participants expressed a different stance on the issue during the interaction compared to the stance they reported prior to the interaction, and the amount of time it took to admit their stance, two potential impression management strategies. Third, I examined the extent to which participants disliked their partner, had negative impressions of them, and felt motivated to appear tolerant of their partner to minimize potential conflict. Finally, I test whether post-interaction cognitive functioning differed due to dyad moral conviction and agreement.

In general, results did not support the hypothesis that participants high versus low in moral conviction would engage in impression management by regulating the disclosure of their attitude. Also contrary to my predictions, disagreeing dyads did not dislike their partner more or have more negative impressions as a function of whether they were high or low in moral conviction. Results did support the hypothesis that participants would be motivated to appear tolerant of their partner when they disagreed about the issue and felt high versus low moral conviction. However, this self-regulatory effort did not deplete participants' executive functioning abilities. The results are described in more detail below.

To test the hypotheses, Multilevel Modeling with restricted maximum likelihood was used to estimate the dyadic interdependence (Kenny, Kashy, & Cook, 2006) and to assess the

hypothesized fixed effects. Each participant discussed his or her assigned issue with another participant. Because each member of the discussion dyad could influence the other participant's subsequent behavior, observations taken within a dyad were statistically dependent (potentially correlated). Estimating the degree of dyadic interdependence (the inter-class correlation between partners' scores) corrects for the statistical biases in the variance estimates and degrees of freedom created by non-independent observations in dyadic designs. Significant inter-class correlations indicate that dyad partners' scores were related to each other, and indicate that a multilevel model approach is needed to correct for any bias these dependence could create in the significance tests. The fixed effects in the model included high versus low morally convicted dyads, agreeing versus disagreeing dyads, as well as the interaction between moral conviction and agreement, all of which were between dyads predictors. Discussion topic was also included as a between-dyads fixed effect to exclude any variance due to the four different discussion topics from the error term. Finally, the mixed predictor attitude importance was included as a covariate¹ so that the effects of dyad moral conviction could be estimated controlling for participant differences in attitude importance.

Analyses were based on 68 dyads with the following exceptions. Analysis of attitude disclosure was based on 67 dyads; one dyad was removed because there was neither video nor audio recording of the interaction. Analysis of attitude disclosure time was based on 63 dyads; two dyads were removed because there was no video recording and three dyads were removed because participants' times to disclose were outliers. Finally, analysis of anti-saccade mean reaction time was based on 67 dyads, because one dyad member's mean reaction time was more

¹ The pattern of results across all dependant variables did not differ when either topic, importance, or both were excluded from the analyses.

than three standard deviations above the mean. The pattern of results across all dependant variables did not differ when only dyads with full data ($N = 63$) were included in the analyses.

A. Attitude Detection and Disclosure

1. Attitude detection. If people with strong moral convictions about an issue are especially motivated to avoid conflict in the morally convicted domain, then people in high as compared to low morally convicted dyads should be less likely to fully disclose their true attitudes. Moreover, if people are in fact hesitant to share their attitudes in high versus low morally convicted dyads, participants should be less likely to correctly identify their partner's stance when the dyad is high rather than low in moral conviction. Of the 136 participants, 72 (52.94%) correctly identified their partner's opinion and 64 (47.06%) incorrectly identified their partner's opinion. Using the mixed model described above, I conducted a logistic analysis to test whether participants identified their partner's attitude correctly or incorrectly (dummy coded) as a function of dyad moral conviction and agreement.

Participants were more likely to correctly identify their partner's pre-interaction attitude when the dyad was high versus low in moral conviction (see Table 1). The interaction of agreement and moral conviction did not affect whether participants were able to correctly identify their partner's pre-interaction attitude. In sum, participants were better at detecting their

TABLE I

PARTICIPANTS' LIKELIHOOD OF CORRECTLY IDENTIFYING THEIR PARTNER'S
OPINION

	B (SE)	95% CI for Odds Ratio		
		Lower	Odds Ratio	Upper
Constant	-0.99 (0.88)			
Attitude Importance	-0.01 (0.19)	0.69	0.99	1.43
Topic				
Abortion v GC	0.18 (0.76)	0.37	1.20	3.93
CP v GC	-0.49 (0.44)	0.18	0.61	2.13
NP v GC	0.20 (0.76)	0.34	1.23	4.48
Dyad Agreement (0 = Disagree, 1 = Agree)	1.07 (0.54)	0.99	2.92	8.60
Dyad Moral Conviction (0 = Lo, 1 = Hi)	1.42* (0.71)	1.01	4.12	16.92
Agreement X Moral Conviction	-0.04 (0.92)	0.21	1.05	5.30

Note. The main effect of topic condition was not significant, $F(3, 60) < 1$. None of the topic coefficients are significant, regardless of which topic is used as the reference group. GC = Gun Control; CP = Capital Punishment; NP = Nuclear Power. ICC = .14, $p = .30$. AIC = 602.91, BIC = 608.52. * $p < .05$.

partner's attitude regardless of whether they agreed or disagreed, when they were high in moral conviction. Contrary to the attitude disclosure hypothesis that high moral conviction participants would conceal their true attitude to avoid conflict, participants in high moral conviction dyads were more likely to correctly identify their partner's position on the discussion issue.

2. Moral conviction detection. To check whether participants were aware that they were part of a high or low moral conviction dyad, participants were also asked to identify the extent to which their partner felt moral conviction about the discussion issue. The multilevel model described above revealed significant dyad interdependence, $ICC = .38, p < .001$. Participants in high moral conviction dyads correctly reported their partners had higher moral conviction about their assigned topic ($M = 3.57, SD = 0.95$) than participants in low moral conviction dyads ($M = 1.93, SD = .95$), $F(1, 79.07) = 41.73, p < .001$. Participants also perceived their partner as having higher moral conviction about the discussion issue when they agreed on the issue ($M = 3.18, SD = 1.21$) than when they disagreed ($M = 2.70, SD = 1.22$), $F(1, 62.21) = 10.69, p = .002$. There was no interaction between dyad agreement and dyad moral conviction, $F(1, 60.19) = 3.19, p = .08$. The combined main effect of moral conviction, agreement, and their interaction explained a significant amount of the variance in perceived partner moral conviction, Pseudo $R^2 = .23, \chi^2(3) = 39.72, p < .001$. This finding suggests my manipulation of high versus low moral conviction dyads was successful: Participants were able to perceive others' sense of moral conviction about an issue even when they are not explicitly told to discuss if their attitudes are rooted in moral beliefs.

3. Attitude disclosure. If people with strong moral convictions about an issue are especially motivated to avoid conflict in the morally convicted domain, then people in high as compared to low morally convicted dyads should be less likely to disclose their true attitude on

the issue. To examine this hypothesis, I tested whether participants were more likely to express their pre-interaction attitude during the interaction as a function of moral conviction and agreement. Of the 134 participants with video recordings, 105 (78.36%) expressed the same opinion to their partner as they reported prior to the interaction and 29 (21.64%) expressed a different opinion during the interaction. Using the mixed model described above, I conducted a logistic analysis on whether participants reported the same or different attitude (dummy coded) to their partner compared to their pre-interaction attitude as a function of dyad moral conviction and agreement.

Participants were more likely to express the same attitude during the interaction that they had reported prior to the interaction when the dyad agreed versus disagreed on the issue (see Table 2). Contrary the attitude disclosure hypothesis, participants high and low in moral conviction were equally likely to express the same attitude to their partner as they reported prior to the interaction. This null effect indicates that high versus low moral conviction did not motivate participants to regulate their behavior by not disclosing fully their pre-interaction attitude.

4. Attitude disclosure time. Another way participants may have self-regulated in moral versus non-moral interactions is by controlling the timing of when they expressed their opinion on their assigned discussion topic. If people in high moral versus low moral conviction dyads were motivated to avoid conflict, then they in should have taken longer to express their attitude in an attempt to discover whether they agreed with their partner before revealing their potentially controversial stance. Participants, on average, waited just over a minute to tell their partners their stance on the issue ($M = 75.72$ seconds, $SD = 98.51$). To test whether dyads' moral conviction and agreement affected the number of seconds participants took to disclose their position on the

TABLE II

PARTICIPANTS' LIKELIHOOD OF EXPRESSING THE SAME ATTITUDE DURING THE
INTERACTION AS THEY REPORTED PRIOR TO THE INTERACTION

	B (SE)	95% CI for Odds Ratio		
		Lower	Odds Ratio	Upper
Constant	-1.12 (1.06)			
Attitude Importance	-0.26 (0.22)	0.50	0.77	1.20
Topic				
Abortion v GC	0.25 (0.73)	0.30	1.28	5.48
CP v GC	-1.21 (0.14)	0.06	0.30	1.51
NP v GC	-1.20 (0.15)	0.06	0.30	1.53
Dyad Agreement (0 = Disagree, 1 = Agree)	1.51* (0.67)	1.18	4.51	17.22
Dyad Moral Conviction (0 = Lo, 1 = Hi)	0.55 (0.94)	0.27	1.73	11.23
Agreement X Moral Conviction	0.41 (1.04)	0.19	1.51	12.03

Note. The main effect of topic condition was not significant, $F(3, 62) = 1.42$, $p = .24$. None of the topic coefficients are significant, regardless of which topic is used as the reference group. GC = Gun Control; CP = Capital Punishment; NP = Nuclear Power. ICC = .15, $p = .26$. AIC = 646.22, BIC = 651.79. * $p < .05$.

topic, I ran a 2(Moral conviction: high, low) by 2(Agree, Disagree) multilevel model with moral conviction and agreement as between dyads variables, with a fixed effect of dyad topic and controlling for participant attitude importance. There was significant interdependence within dyads, $ICC = .25, p = .04$, indicating multilevel modeling was appropriate for this dependent variable. The combined effects of dyad moral conviction, agreement, and their interaction did not explain a significant amount of the variance in attitude disclosure time, Pseudo $R^2 = .02, \chi^2(3) = 3.19, p = .36$. Participants in disagreeing dyads took the same amount of time to share their position on the issue ($M = 90.79, SD = 109.51$) as those who agreed on the issue ($M = 65.62, SD = 89.71$), $F(1, 57.24) = 1.81, p = .18$. The time to disclose highly morally convicted attitudes ($M = 59.18, SD = 91.12$) did not differ from low morally convicted attitudes ($M = 106.94, SD = 105.25$), $F(1, 72.64) = 2.14, p = .15$. Nor was attitude disclosure time predicted by the moral conviction by agreement interaction, $F(1, 55.59) = 0.07, p = .79$. Contrary to my hypothesis, participants did not take longer to express their attitude in high rather than low morally convicted dyads.

In sum, the hypothesis that people high in moral conviction would regulate the expression of their attitude to avoid potential conflict by being less likely to express their pre-interaction opinion to their partner and taking longer to report their opinion was not supported by the data. Only dyad agreement predicted a greater likelihood of expressing one's pre-interaction attitude during the discussion. Furthermore, neither agreement, moral conviction, nor their interaction predicted the amount of time people took to disclose their attitude to their partner. Also inconsistent with the hypothesis, people in high moral conviction dyads were more likely to correctly detect their partner's attitude instead of less likely as predicted. People were however

accurate at detecting their partner's moral conviction about the issue, indicating people were good at perceiving others' moral convictions when discussing politicized issues.

B. Dislike and Consequences for Executive Functioning

I hypothesized that people in disagreeing dyads would report greater dislike for their partner, more self-regulatory behavior, and lower executive functioning when both participants were high rather than low in moral conviction. In contrast, I predicted that there would be no difference in dislike, self-regulation, and executive functioning when people agreed about the issue as a function of moral conviction condition.

1. Partner dislike. I hypothesized that in addition to concealing their attitude, one way participants may have self-regulated during the moralized interactions when they disagree versus agree was by attempting to control their expression of dislike for their partner. First, I tested the hypothesis that participants who discussed attitudes high in moral conviction in disagreeing dyads would report disliking their partner more than those in disagreeing dyads with attitudes low in moral conviction with the 2(Moral conviction: high, low) by 2(Agree, Disagree) multilevel model described above. Participants' dislike for their partner was not related to their partner's dislike for them, $ICC = -0.09$, $p = .47$. Participants' dislike for their partner did not differ as a function of whether they discussed a topic they felt high moral conviction ($M = 2.30$, $SD = 1.03$) versus low moral conviction ($M = 2.71$, $SD = 1.07$), $F(1, 79.83) = 0.01$, $p = .95$. Participants who interacted with a disagreeing other marginally disliked their partners more ($M = 2.63$, $SD = 0.98$) than those who agreed with their partner ($M = 2.11$, $SD = 1.02$), $F(1, 62.55) = 3.61$, $p = .06$. Contrary to my hypothesis, this main effect for agreement was not qualified by a significant agreement by moral conviction interaction, $F(1, 60.51) = 0.56$, $p = .46$. The combined effects of dyad moral conviction, agreement, and their interaction did not explain a significant

amount of the variance in partner dislike, Pseudo $R^2 = .03$, $\chi^2(3) = 5.72$, $p = .13$. In sum, although disagreement leads to marginally more dislike of one's partner, this effect was independent of whether dyads discussed a high or low morally convicted topic.

2. Negative/Positive impressions. Next, I tested whether disagreeing high moral conviction dyad participants had more negative and less positive perceptions of their partners than agreeing dyad participants, in contrast to low moral conviction dyads where I predicted no differences in negative or positive impressions. To test this hypothesis I ran the multilevel model described above on the six factors the exploratory factor analysis extracted from the 25 partner adjectives: warmth, intelligence, competence, rudeness, aggressiveness, and insensitivity (see Table 3 for test statistics, see Table 4 for means and standard deviations). Attitude agreement had broader effects on impressions than did moral conviction. Participants rated their partner as less competent, and more rude and insensitive when they disagreed rather than agreed. Moral conviction, in contrast, was associated with perceptions of aggressiveness. Participants in high moral conviction dyads perceived their discussion partner as more aggressive than those in low moral conviction dyads. There was no support for the hypothesis that the effect of agreement on negative partner perceptions was moderated by moral conviction. Perceptions of partner warmth and intelligence did not differ for participants in agreeing versus disagreeing or high versus low moral conviction dyads.

In sum, participants disliked their partner marginally more, viewed them as less competent, and more rude and insensitive when they disagreed with their partner than when they agreed. Participants in high moral conviction dyads viewed their partner as more aggressive than participants in low moral conviction dyads. None of these effects were qualified by the predicted moral conviction by agreement interaction.

TABLE III

MULTILEVEL MODELS PREDICTING PARTNER DESCRIPTION FACTORS,
CONTROLLING FOR DISCUSSION TOPIC AND ATTITUDE IMPORTANCE

Predictor		Warmth	Intelligence	Competence	Rude	Aggressive	Insensitive
Importance	<i>F</i>	0.61	1.37	0.90	0.94	0.55	0.77
	<i>df</i>	1, 126.59	1, 122.43	1, 120.62	1, 116.73	1, 127.13	1, 127.87
Topic	<i>F</i>	1.42	1.96	0.96	1.43	2.41 [^]	0.39
	<i>df</i>	3, 61.64	1, 60.39	1, 60.98	1, 61.05	1, 61.68	1, 61.70
Moral Conviction (MC)	<i>F</i>	0.32	0.02	0.21	0.04	5.06*	0.49
	<i>df</i>	1, 81.04	1, 79.59	1, 79.94	1, 79.47	1, 80.37	1, 80.71
Agreement	<i>F</i>	2.84 [^]	2.42	8.54**	8.48**	1.98	6.16*
	<i>df</i>	1, 62.74	1, 61.44	1, 62.01	1, 62.03	1, 62.80	1, 62.82
MC X Agreement	<i>F</i>	1.16	1.58	0.79	0.45	0.03	0.76
	<i>df</i>	1, 60.73	1, 59.51	1, 60.12	1, 60.22	1, 60.76	1, 60.77
ICC		.13	.21 [^]	.28*	.32**	.24*	.00
<i>Pseudo R</i> ²		.03	.03	.08*	.08*	.06*	.05*

[^]*p* < .10, **p* < .05, ***p* < .01

TABLE IV

MEANS AND STANDARD DEVIATIONS OF PARTNER DESCRIPTORS FOR THE
MORAL CONVICTION AND AGREEMENT MAIN EFFECTS

Predictor	Warmth <i>M (SD)</i>	Intelligence <i>M (SD)</i>	Competence <i>M (SD)</i>	Rude <i>M (SD)</i>	Aggressive <i>M (SD)</i>	Insensitive <i>M (SD)</i>
High MC	3.80 (0.68)	3.73 (0.68)	3.73 (0.68)	1.05 (0.20)	1.33 (.57)	1.28 (0.56)
Low MC	3.47 (0.82)	3.46 (0.79)	3.46 (0.79)	1.05 (0.21)	1.14 (0.34)	1.31 (0.54)
Agree	3.80 (0.71)	3.75 (0.66)	3.75 (0.66)	1.01 (0.11)	1.23 (0.49)	1.19 (0.44)
Disagree	3.50 (0.78)	3.45 (0.80)	3.45 (0.80)	1.11 (0.29)	1.32 (0.52)	1.45 (0.67)

3. Motivation to appear tolerant. Next, I addressed the hypothesis that participants would feel greater external motivation to appear tolerant of their partner when they felt morally convicted about the topic and disagreed with their partner than when they agreed, as a way to conceal negative perceptions about their partner. Furthermore, agreement was not predicted to have an effect on external motivation to appear tolerant for dyads that were low in moral conviction about their assigned discussion topic. To test these hypotheses I conducted the same analysis as above on external motivation to appear tolerant of one's partner.

There was significant dyadic interdependence for external motivation to appear tolerant, $ICC = 0.24, p = .05$. Dyads high in moral conviction did not differ in external motivation to appear tolerant ($M = 1.30, SD = 0.58$) than those low in moral conviction ($M = 1.23, SD = 0.54$), $F(1, 80.31) < 1, p = .39$. There was a marginal effect for dyad agreement. Participants who disagreed on the topic felt more external motivation to appear tolerant ($M = 1.42, SD = 0.66$) than those who agreed on the topic ($M = 1.19, SD = 0.48$), $F(1, 62.72) = 3.24, p = .08$. However, these effects were qualified by a significant moral conviction by agreement interaction, $F(1, 60.67) = 4.84, p = .03$. Although overall levels of motivation to appear tolerant were quite low, consistent with our hypothesis, when participants discussed a low moral conviction topic, there was no difference in external motivation to appear tolerant between those who agreed with their partner ($M = 1.24, SD = 0.63$) and those who disagreed with their partner ($M = 1.21, SD = 0.43$), $F(1, 60.99) < 1, p = .95$. In contrast, when participants felt high moral conviction about their discussion topic, they felt greater external motivation to appear tolerant when they disagreed with their partner ($M = 1.54, SD = 0.75$) than when they agreed with their partner ($M = 1.16, SD = 0.39$), $F(1, 61.25) = 9.65, p = .003$. The combined effects of dyad moral conviction, agreement, and their interaction explained 7% of the variance in external motivation to appear tolerant,

Pseudo $R^2 = .07$, $\chi^2(3) = 12.11$, $p = .01$. This finding supported my hypothesis that people would feel motivated by impression management concerns to regulate their behavior by appearing tolerant of their partner to the greatest extent when engaged in moralized disagreement.

4. Executive functioning. To test the hypothesis that high moral conviction disagreeing participants' self-regulatory effort of appearing tolerant depleted their executive functioning abilities compared to agreeing dyads, I first tested whether participants' executive functioning performance was worse in high moral conviction dyads when they disagreed rather than agreed on the issue, whereas low moral conviction dyads' executive functioning performance was not affected by agreement. I assessed differences in post-interaction executive functioning operationalized as participants' accuracy and response latencies to the antisaccade experimental block. Specifically, I ran a 2(Moral conviction: high, low) by 2(Agree, Disagree) multilevel model with moral conviction and agreement as between dyads variables as well as discussion topic, controlling for participant attitude importance, as well as pre-interaction accuracy and response latencies respectively.

a. Antisaccade accuracy. Analysis of participants' accuracy on the antisaccade experimental trials revealed significant interdependence within dyads, with an intraclass correlation (ICC) = 0.23, $p = .05$, suggesting multilevel analysis is appropriate for this dependent variable. Post interaction antisaccade accuracy for participants who discussed a topic they felt high moral conviction about ($M = .90$, $SD = .12$) was not significantly different from those who discussed a topic they felt low moral conviction about ($M = .89$, $SD = .12$), $F(1, 79.90) = 2.96$, $p = .09$. Nor was post interaction antisaccade accuracy different in agreeing ($M = .89$, $SD = .13$) versus disagreeing dyads ($M = .90$, $SD = .09$), $F(1, 66.91) = 0.22$, $p = .64$. Contrary to my hypothesis, the interaction of moral conviction and agreement was also not significant, $F(1,$

61.05) = 0.85, $p = .36$. Taken together, the combined effects of dyad moral conviction, agreement, and their interaction did not explain a significant amount of the variance in antisaccade accuracy, Pseudo $R^2 = .04$, $\chi^2(3) = 4.85$, $p = .18$. In sum, participants' executive functioning, as measured by their antisaccade accuracy, did not differ as a function of whether dyads discussed a high versus low in moral conviction topic, a topic they agreed versus disagreed about, nor the interaction of those two variables. These null results suggest that morally vested disagreement did not deplete participants' executive functioning as hypothesized.

b. Antisaccade reaction times. Analysis of participants' natural log transformed reaction times revealed marginally significant interdependence between discussion partners, ICC = .22, $p = .06$. Participants' reaction times did not differ as a function of whether they discussed a topic about which they held high moral conviction ($M = 595.96$, $SD = 104.04$) compared to low moral conviction ($M = 556.00$, $SD = 142.01$), $F(1, 77.67) = 1.04$, $p = .31$. Nor did their reaction time vary as a function of whether they agreed ($M = 581.45$, $SD = 142.96$) or disagreed ($M = 581.96$, $SD = 150.74$) with their discussion partner, $F(1, 59.67) = 0.52$, $p = .48$. Again, contrary to my hypothesis, the interaction of moral conviction and agreement on antisaccade reaction times was also not significant, $F(1, 57.58) = 0.17$, $p = .66$. The combined effects of dyad moral conviction, agreement, and their interaction did not explain a significant amount of the variance in antisaccade reaction time, Pseudo $R^2 = .02$, $\chi^2(3) = 2.21$, $p = .53$. Taken together, the lack of differences in antisaccade accuracy and reaction time due to moral conviction, dyad agreement, or the interaction between the two suggests that participants did not experience any depletion in their executive functioning following moralized disagreement.

C. Mediation

There were no direct effects of agreement, moral conviction, or the interaction of these two variables on partner dislike, post interaction antisaccade accuracy or reaction times, therefore I did not test whether the (non) effect of these variables on executive functioning was mediated by attitude disclosure or dislike and external motivation to appear tolerant.

D. Summary

In general, my central hypothesis that dyad agreement and moral conviction would affect the degree to which participants engaged in self-regulatory efforts that were subsequently cognitively depleting, was unsupported by the data with a few notable exceptions. Only slightly over half of the participants were able to correctly identify their partner's pre-interaction stance on the discussion issue. Contrary to the attitude disclosure hypothesis that participants may self-regulate during moralized interaction by controlling the rate, degree, and timing of expressing their attitude, participants in high versus low moral conviction dyads were more likely to correctly identify their partner's attitude, suggesting that high moral conviction participants did not withhold their attitudes. Consistent with this interpretation, the likelihood of participants expressing their pre-interaction attitude to their partner and amount of time participants took to disclose their attitude did not differ due to dyad moral conviction.

The second way participants may have self-regulated during moralized disagreements was to control their expression of dislike for their partner. Although disagreement versus agreement led participants to report marginally more dislike for their partner and have more negative impressions of them, these effects were not qualified by whether participants were in high or low moral conviction dyads. High versus low moral conviction participants also felt their

partners were more aggressive, but this was independent of whether they agreed on the issue they discussed.

One piece of evidence that participants engaged in some form of self-regulation during moralized disagreement was participants reported greater motivation to appear tolerant of their partner in high versus low moral conviction dyads when they disagreed. However, overall levels of motivation to appear tolerant were quite low. In sum, there was some evidence that participants had negative impressions of their partner when they disagreed and the moral nature of the discussion motivated them to attempt to appear more tolerant of their partner. However, inconsistent with the central hypothesis, this self-regulatory effort did not result in depletion of participants' executive functioning abilities.

IV. Discussion

The current research investigated how people interact with those who disagree with their closely held moral beliefs and the consequences of those interactions. I proposed that because taboos against discussing moral topics in everyday situations exist, participants would engage in various self-regulatory processes to ease the interaction when forced to discuss such topics with a disagreeing other. Specifically, I hypothesized that participants would attempt to control disclosure of their attitude and conceal their dislike for their partner. These self-regulatory efforts would then result in decreased executive functioning abilities for participants in disagreeing but not agreeing pairs.

My first finding was that people were not particularly good at identifying their partner's stance on the discussion issue, despite being good at identifying whether the partner's position was a moral conviction. Only slightly over half correctly identified their partner's position. Contrary to my hypothesis, people in high moral conviction pairs were better at detecting their partner's attitude than people in low moral conviction pairs. I originally hypothesized that people in high moral conviction dyads would be worse at detecting their partner's attitude because of how the moral nature of the interaction affected their partner. Specifically, when both were morally convicted about the issue, the partner would regulate their expression of their attitude, which would lead people to be unsure of their partner's stance. However, neither the likelihood of expressing one's pre-interaction attitude during the discussion nor the amount of time it took to share one's attitude was related to dyad moral conviction. Another possibility, however, is that the moral conviction of the dyad influenced how vigilant people were to their partner's stance. Specifically, when people engage in high (versus low) moral conviction discussion they may be more vigilant to their partner's stance because of the potential dangerous nature of moral

disagreement. Consistent with this interpretation, people in high versus low moral conviction dyads did accurately perceive the moral nature of their partner's stance.

However, one possibility is that people use their own moral conviction about a topic as an anchor for judging others' moral conviction. Because both members of a dyad were either high or low in moral conviction, it is unclear if participants were accurate in perceiving their partner's moral conviction or if they were basing the judgment of their partner's moral conviction on their own feelings of moral conviction. Using a fully crossed participant moral conviction by partner moral conviction design can disentangle both how moral conviction influences people's vigilance toward other's attitudes, on the one hand, versus their partners' desire to conceal their attitude, on the other and how accurate people are at perceiving others moral conviction independent of their own.

As mentioned briefly above, the current research failed to replicate the Skitka et. al. (2005) finding that people took longer to disclose their attitude in disagreeing groups that were high compared to low in moral conviction. I see two potential reasons for this failure to replicate. First, participants in Skitka et. al. (2005) were not told to discuss their stance on the issue, only to discuss procedures for resolving conflict about the issue. Although most participants did disclose their preferred outcome (91%), there were no specific instructions to do so. In contrast, in the current research participants were instructed to discuss with their partner whether they supported or opposed the issue. Because they were specifically told to discuss their stance, participants may have found it more difficult to conceal their attitude even if they would have preferred to do so. Second, participants in the current research discussed the issue in pairs and not in four person groups as in Skitka et. al. (2005). In a larger four person group with a secret ballot procedure, participants had the opportunity to participate in social loafing and allow the other group

members to discuss the issue without them. These methodological differences gave participants in Skitka et al (2005) more room to strategically decide when to disclose their opinion compared to the current research.

When partners discussed an issue in a dyadic interaction with a partner with a different position on the issue, they marginally disliked their discussion partner, and perceived the partner as less competent, and more rude and insensitive than when they agree with their partner. However, contrary to the hypotheses, these effects were independent of whether participants discussed a topic held with high or low moral conviction. The only effect for moral conviction condition emerged with perceived aggression. Participants high but not low in moral conviction about their assigned discussion topic viewed their partner as more aggressive, even when their discussion partner shared the perceiver's position on the issue. This finding may reflect that people expect moralized interactions to be dangerous or particularly unpleasant, which may lead people to see their discussion partners as more aggressive..

Results revealed that participants in high moral conviction dyads who talked about an issue with someone who disagreed with them expressed greater external motivation to appear tolerant of their partner than those who talked with a partner who agreed with them. In contrast, when participants were part of low moral conviction dyads, there was no difference in external motivation to appear tolerant due to agreement. Further research is needed to address to whom participants were trying to appear tolerant. Specifically, who was the source of the external motivation: did participants want to hide their dislike from just their partner or from the others as well? The external motivation to appear tolerant scale consisted of both items where the partner was the source of the external motivation (During the conversation with your partner, to what extent did you try to act tolerant of your partner so he/she would not be angry?) and items where

others where the source of external motivation (During the conversation with your partner, to what extent did you attempt to appear tolerant to avoid the disapproval of others?). It is possible that participants felt external motivation to control their dislike of their discussion from both their partner and the experimenter. Consistent with this idea, participants did not report more dislike for disagreeing partners when they were high versus low in moral conviction. One interpretation of this finding is participants continued to regulate their expression of dislike even after the interaction was over, and therefore did not report to the experimenter that they disliked their partner. Future research should also include implicit measures of dislike to determine if participants regulate their expression of dislike to the experimenters as well as their discussion partners.

Regardless of the source of the external motivation, the motivation to appear tolerant finding suggests that people may engage in some forms of self-regulatory behavior during contentious moralized interactions. However, the results did not support the notion that this self-regulatory effort would be cognitive depleting; there was no difference in post discussion executive functioning due to dyad moral conviction or agreement. One possible reason for not finding the expected effects on executive functioning ability may be the measurement procedure. Participants completed the same anti-saccade task as a measure of executive function both before and after the interaction. This method was used to estimate individual differences in executive functioning and therefore reduce error in the analyses. Having participants complete the same task twice, however, may have resulted in practice effects that might have canceled out any depleting effects of the social interaction. Consistent with this interpretation, the mean accuracy on the pre interaction antisaccade task was 86% ($SD = .14$) and post interaction antisaccade task accuracy was 90% ($SD = .12$) - in other words, it was very close to ceiling. Future research

should explore other measures of post-interaction self-regulatory ability as well as executive functioning measures that use a different task as an individual difference control.

One could also argue that there were too few dyads (68) to have sufficient power to detect differences between experimental conditions. Given the relatively new techniques for analyzing dyadic data, methods for conducting power analysis for the current study have yet to be fully developed. That said, traditional methods can still be used to calculate an approximate estimate of the sample size necessary for detecting difference based on the effects sizes found in the current research. Specifically, I conducted a power analyses using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) for repeated measures ANOVA, with Pseudo R squared estimating the effect size, four groups (2[Moral conviction] by 2[Agreement]), two observations (two participant observations within a dyad), and the inter-class correlation between participants within dyads as the correlation between observations. The results estimated that a sample size of 6,552 would be needed to detect differences in executive function as operationalized by antisaccade accuracy, and 37,962 observations to detect differences in executive function as operationalized by antisaccade accuracy response latency. These very large estimated sample sizes suggest that moral conviction and attitude agreement do not interactively affect executive functioning operationalized as antisaccade accuracy or response latency.

This lack of cognitive depletion stands in contrast to the interracial interaction literature's findings. Although prejudiced White participants show cognitive depletion following interracial interactions compared to same race interactions, no such depletion was found in disagreeing high versus low moral conviction interactions. One possible difference between these types of interpersonal interactions is the social norms surrounding them. The current research provided some evidence that people may perceive moralized interactions as dangerous (participants

perceived their partner as more aggressive in high versus low dyads). However, this concern may be much smaller in magnitude compared to social norms against discriminatory behavior toward racial minorities. Future research should compare interracial and inter-moral interactions more directly to investigate where there are different regulatory mechanisms people engage in, as well as what people perceive are the social norms for such interactions.

The lack of an effect of dyad moral conviction and agreement on participants' perceptions of their partner stands in contrast to how participants *think* a moral interaction will play out. Some of my other research indicates that people who are asked to anticipate how an interaction with a disagreeing other would go have more negative expectations when they feel more morally convicted about the topic they anticipate discussing. People who hold strong moral conviction about issues also report stronger desires to avoid the conversation and expected the interaction to be more demanding the more they disagree with their prospective partner. This disconnect between how people forecast how moralized conflict will play out and how they actually experience it may also be reflected at a more macro level. The media often depicts American politics as embattled over hot-button moral issues, and although there is evidence of polarization among political elites (McCarty, Poole, & Rosenthal, 2006), issue stance polarization is rarely found in the broader electorate (Fiorina & Abrams, 2008).

One interpretation of these findings is that, although moralized conflict requires some forms of self-regulation, such as controlling the expression of people's negative impressions by appearing tolerant, these interactions are not as depleting as people may think. One potential reason why people are not depleted by moral conflict over these issues is that people may be practiced at avoiding or softening their position on these issues that are normatively considered controversial (e.g., abortion). Future research should investigate whether moralized discussion

about more novel or less mainstream issues differs from moralized discussion about more rehearsed political debate topics.

The current research also demonstrates constraints on the morally convicted's intolerance of disagreeing others. Although people prefer more social distance from abstract individuals that disagree with their moral convictions and even sit further away from an anticipated disagreeing partner (Skitka et. al., 2005), this effect does not translate to more dislike or negative perceptions of disagreeing others in actual face-to-face discussions about morally convicted issues.

In conclusion, the current research demonstrated that moralized conflict during novel interactions leads people to engage in at least one form of self-regulation, that is, they are more externally motivated to appear tolerant of disagreeing others. However, this self-regulatory effort did not result in cognitive deficits following the interaction. Combined with my previous research about how people forecast morally laden interpersonal interactions will go, this suggests people are better equipped to deal with moral conflict than they anticipate.

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APPENDIX A

Baseline Attitude Measures

Gender (Circle one): Male Female

Do you support or oppose the availability of legalized abortion in the United States?

- Oppose
 Neutral/Uncertain
 Support

If you support or oppose, how strong is your position on the availability of legalized abortion in the United States?

- Slightly strong
 Moderately strong
 Very strong

To what extent is your position on the availability of legalized abortion in the United States ...					
	Not at all	Slightly	Moderately	Much	Very much
something that you care a lot about?	<input type="radio"/>				
personally important to you?	<input type="radio"/>				
a reflection of your core moral beliefs and convictions?	<input type="radio"/>				
a reflection of your fundamental beliefs about right and wrong?	<input type="radio"/>				
a moral stance?	<input type="radio"/>				
based on strong personal principles?	<input type="radio"/>				

Do you support or oppose capital punishment (i.e. the continued use of the death penalty)?

- Oppose
 Neutral/Uncertain
 Support

If you support or oppose, how strong is your position on capital punishment?

- Slightly strong
 Moderately strong
 Very strong

To what extent is your position on capital punishment ...					
	Not at all	Slightly	Moderately	Much	Very much
something that you care a lot about?	<input type="radio"/>				
personally important to you?	<input type="radio"/>				
a reflection of your core moral beliefs and convictions?	<input type="radio"/>				
a reflection of your fundamental beliefs about right and wrong?	<input type="radio"/>				
a moral stance?	<input type="radio"/>				
based on strong personal principles?	<input type="radio"/>				

Do you support or oppose the building of new nuclear power plants?

- Oppose
- Neutral/Uncertain
- Support

If you support or oppose, how strong is your position on the building of new nuclear power plants?

- Slightly strong
- Moderately strong
- Very strong

To what extent is your position on the building of new nuclear power plants ...					
	Not at all	Slightly	Moderately	Much	Very much
something that you care a lot about?	<input type="radio"/>				
personally important to you?	<input type="radio"/>				
a reflection of your core moral beliefs and convictions?	<input type="radio"/>				
a reflection of your fundamental beliefs about right and wrong?	<input type="radio"/>				
a moral stance?	<input type="radio"/>				
based on strong personal principles?	<input type="radio"/>				

Do you support or oppose stronger gun control laws?

- Oppose
- Neutral/Neither
- Support

If you support or oppose, how strong is your position on stronger gun control laws?

- Slightly strong
- Moderately strong
- Very strong

To what extent is your position on stronger gun control laws...					
	Not at all	Slightly	Moderately	Much	Very much
something that you care a lot about?	<input type="radio"/>				
personally important to you?	<input type="radio"/>				
a reflection of your core moral beliefs and convictions?	<input type="radio"/>				
a reflection of your fundamental beliefs about right and wrong?	<input type="radio"/>				
a moral stance?	<input type="radio"/>				
based on strong personal principles?	<input type="radio"/>				

APPENDIX B

Experimental Session Questionnaire

Did your partner support or oppose [topic]?

- Oppose
- Neutral/Uncertain
- Support

If your partner supports or opposes, how strong is your partner's position [topic]?

- Slightly Strong
- Moderately Strong
- Very Strong

To what extent is your partner's position on [topic]...					
	Not at all	Slightly	Moderately	Much	Very much
something that you care a lot about?	<input type="radio"/>				
personally important to you?	<input type="radio"/>				
a reflection of your core moral beliefs and convictions?	<input type="radio"/>				
a reflection of your fundamental beliefs about right and wrong?	<input type="radio"/>				
a moral stance?	<input type="radio"/>				
based on strong personal principles?	<input type="radio"/>				

During the conversation with your partner, to what extent did you...					
	Not at all	Slightly	Moderately	Much	Very much
try to appear tolerant of your partner?	<input type="radio"/>				
try to hide negative thoughts about your partner to avoid a negative reaction from him/her?	<input type="radio"/>				
try to act tolerant of your partner so he/she would not be angry?	<input type="radio"/>				
attempt to appear tolerant to avoid the disapproval of others?	<input type="radio"/>				
feel pressured to act tolerant of your partner?	<input type="radio"/>				

How much did you like/dislike your partner?

- Strongly Disliked
- Moderately Disliked
- Slightly Disliked
- Neutral/ Neither
- Slightly Liked
- Moderately Liked
- Strongly Liked

Please indicate the extent to which <u>your partner</u> has the following characteristics....					
	Not at all	Slightly	Moderately	Much	Very much
friendly	<input type="radio"/>				
rude	<input type="radio"/>				
unkind	<input type="radio"/>				
arrogant	<input type="radio"/>				
smart	<input type="radio"/>				
trustworthy	<input type="radio"/>				
intelligent	<input type="radio"/>				
privileged	<input type="radio"/>				
open-minded	<input type="radio"/>				
qualified	<input type="radio"/>				
aggressive	<input type="radio"/>				
prejudiced	<input type="radio"/>				
moral	<input type="radio"/>				
sociable	<input type="radio"/>				
slightly	<input type="radio"/>				
lazy	<input type="radio"/>				
insensitive	<input type="radio"/>				
well-spoken	<input type="radio"/>				
competent	<input type="radio"/>				
confident	<input type="radio"/>				
independent	<input type="radio"/>				
competitive	<input type="radio"/>				
tolerant	<input type="radio"/>				
warm	<input type="radio"/>				
good-natured	<input type="radio"/>				
sincere	<input type="radio"/>				

APPENDIX C

Institutional Review Board Documentation

UNIVERSITY OF ILLINOIS AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice

Initial Review (Response To Modifications)

December 22, 2010

Linda J. Skitka, PhD
Psychology
1007 W. Harrison St.
1009 B.S.B., M/C 285
Chicago, IL 60612
Phone: (312) 996-4464 / Fax: (312) 413-4122

RE: Protocol # 2010-0937

“The Effects of Morally Convicted Interactions on Executive function, Affect, and Behavior”

Dear Dr. Skitka:

Your Initial Review (Response To Modifications) was reviewed and approved by Members of IRB #2 by the Expedited review process on December 13, 2010. You may now begin your research

Please note the following information about your approved research protocol:

Protocol Approval Period: December 13, 2010 - December 12, 2011

Approved Subject Enrollment #: 500

Additional Determinations for Research Involving Minors: The Board determined that this research satisfies 45CFR46.404, research not involving greater than minimal risk. Therefore, in accordance with 45CFR46.408, the IRB determined that only one parent's/legal guardian's permission/signature is needed. Wards of the State may not be enrolled unless the IRB grants

specific approval and assures inclusion of additional protections in the research required under 45CFR46.409. If you wish to enroll Wards of the State contact OPRS and refer to the tip sheet.

Performance Sites: UIC

Sponsor: None

Research Protocol(s):

- a) The Effects of Morally Convicted Interactions on Executive function, Affect, and Behavior, Version #1, 9/27/10

Recruitment Material(s):

- a) Recruitment Flyer, Version 2, 12/1/2010
- b) Recruitment Email, Version 2, 12/1/2010

Informed Consent(s):

- a) Interpersonal Interaction Study Agreement Form, 12/1/2010, Version 3
- b) Interpersonal Interaction Study Agreement Form (videotape), 12/1/2010, Version 3
- c) Debriefing, Version 3, 12/1/2010

Parental Permission(s):

- a) A waiver of parental permission has been granted under 45 CFR 46.116(d) and 45 CFR 46.408(c); however, as per UIC Psychology Subject Pool policy, at least one parent must sign the Blanket Parental Permission document prior to the minor subject's participation in the UIC Psychology Subject Pool.

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category:

(6) Collection of data from voice, video, digital, or image recordings made for research purposes., (7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
10/27/2010	Initial Review	Expedited	11/02/2010	Modifications Required
11/15/2010	Response To Modifications	Expedited	11/18/2010	Modifications Required
12/01/2010	Response To Modifications	Expedited	12/13/2010	Approved

Please remember to:

→ Use your **research protocol number** (2010-0937) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,
"UIC Investigator Responsibilities, Protection of Human Research Subjects"

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 355-2939. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Jewell Hamilton, MSW

IRB Coordinator, IRB # 2

Office for the Protection of Research Subjects

Enclosure(s):

1. UIC Investigator Responsibilities, Protection of Human Research Subjects

2. Informed Consent Document(s):

- a) Interpersonal Interaction Study Agreement Form, 12/1/2010, Version 3
- b) Interpersonal Interaction Study Agreement Form (videotape), 12/1/2010, Version 3
- c) Debriefing, Version 3, 12/1/2010

3. Recruiting Material(s):

- a) Recruitment Flyer, Version 2, 12/1/2010
- b) Recruitment Email, Version 2, 12/1/2010

cc: Gary E. Raney, Psychology, M/C 285

CURRICULUM VITA

BRITTANY HANSON

University of Illinois at Chicago

Department of Psychology (M/C 285)

1007 West Harrison Street

Chicago, IL 60607-7137

bhanso5@uic.edu

Education

University of Illinois at Chicago - (2010 – Present)

Major: Social and Personality Psychology

Minor: Statistics, Methods, and Measurement

University of Arizona - (2006 – 2010)

Major: Psychology, B.S., Cum Laude

Conference Presentations:

Hanson, B.E. & Skitka, L. J. (2013). The “Culture Wars” in Everyday Life: Investigating Moral Conflict in Anticipated Social Interactions. Poster presented at the annual meeting of the Society for Personality and Social Psychology, New Orleans, LA.

Hanson, B.E. & Skitka, L. J. (2013). Approaching Good or Avoiding Bad? Understanding Morally Motivated Collective Action. Paper presented at the annual meeting of the Midwestern Psychological Association. Chicago, Illinois.

Aguilera, R., Hanson, B.H., & Skitka, L. J. (2013). Understanding Regulatory Fit's Role in Morally Motivated Collective Action. Poster presented at the annual meeting of the Society for Personality and Social Psychology, New Orleans, LA.

Teaching:

Instructor

Introduction to Computing in Psychology (Fall 2012)

Teaching Assistant (Graduate level)

Research Design and Analysis I (Univariate Statistics) (Fall 2012)

Teaching Assistant (Undergraduate level)

Introduction to Research Methods in Psychology (Fall 2010, Fall 2011, Fall 2013)

Introduction to Social Psychology (Spring 2011, Summer 2012)

Social Psychology Lab (Fall 2011, Spring 2012, Spring 2013)

Statistical Methods in Behavioral Science (Summer 2011, Spring 2013, Summer 2013)

Guest Lectures

Research Design and Analysis I Lecture on Conducting Planned Comparisons in ANOVA

(September 9, 2012)

Honors and Awards

University of Arizona Wildcat Excellence Award

University of Arizona National Hispanic Honors Student

Association Membership

Society for the Psychological Study of Social Issues

Society for Personality and Social Psychology

Psi Chi Psychology Honors Society

Midwestern Psychological Association

Professional Experience

Linda Skitka, PhD, Aug, 2010- August 2011

Research Assistant Appointment

Self and Attitudes Lab, Jan. 2008-May 2010

Jeff Stone, PhD

Research Assistant

Terror Management Lab, Aug. 2009- May 2010

Jeff Greenberg, PhD

Research Assistant