# Outgroup Similarity as a Source of Cognitive Dissonance:

# An Investigation of the Turncoat Effect

by

Deborah L. Hall

Department of Psychology & Neuroscience
Duke University

Date:_____
Approved:

_____
Wendy Wood, Supervisor

_____
Mark Leary

_____
Laura Smart Richman

_____
John Aldrich

Dissertation submitted in partial fulfillment of
the requirements for the degree of Doctor of Philosophy in the Department of
Psychology & Neuroscience in the Graduate School
of Duke University

2010

ABSTRACT

Outgroup Similarity as a Source of Cognitive Dissonance:

An Investigation of the Turncoat Effect

by

Deborah L. Hall

Department of Psychology & Neuroscience
Duke University

Date:_____
Approved:

_____
Wendy Wood, Supervisor

_____
Mark Leary

_____
Laura Smart Richman

_____
John Aldrich

_____
An abstract of a dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Psychology & Neuroscience in the Graduate School of Duke University

2010

## Abstract

A long tradition of social psychological research suggests that perceptions of similarity and common ground can promote more harmonious relations among otherwise diverse social groups. Yet perceived similarity with and empathy for members of an outgroup can also intensify intergroup bias by threatening the positive distinctiveness of one's group. In the present research, cognitive dissonance theory is used as a framework for understanding how people experience and react to similarity with members of a rival outgroup and for clarifying the conditions under which outgroup similarity reduces or intensifies intergroup prejudice. Four studies tested the hypothesis that outgroup similarity elicits subjective feelings of cognitive dissonance, including psychological discomfort and negative self-evaluation. Study 1 was a pilot test in which similarity to an outgroup member was associated with negative self-evaluation but not psychological discomfort. Study 2 strengthened the interpretation of the turncoat effect as cognitive dissonance by demonstrating that the effect varies as a function of a classic dissonance moderator—perceived choice. Participants induced to experience outgroup similarity reported psychological discomfort and negative self-evaluation, but only when they believed their feelings of similarity resulted from a high degree of personal choice. Study 3 identified strength of ingroup identification as another key moderator of the effect: Only participants who were highly identified with their ingroup reported feelings of dissonance after an induction of outgroup similarity. Finally, Study 4 investigated the implications of three dissonance reduction strategies for intergroup prejudice.

# Dedication

To Albert Libbey and Ginny Hall.

# Contents

# List of Tables

# List of Figures

## Acknowledgements

I would like to thank Fade Eadeh, Shelley Lanpher, and Rachael Winchester for their invaluable contributions to this research. I would also like to thank my advisor, Wendy Wood, and the members of my dissertation committee for the insight and feedback they provided along the way. Finally, I thank my parents, Bill and Judy Hall, my sister, Rebecca Hall, and my fiancé, Kevin Earle, for their love and support throughout my years of graduate school.

# 1. Introduction

We live in a world where perceived differences among social groups can have tragic consequences. As an extreme example, Hitler's belief that Jewish people were an "alien race" that was the "exact opposite" of the Aryan race led to the deaths of roughly six million Jews in Europe during the Holocaust (Hitler, 1943; Martin, 1988). A long tradition of social psychological research suggests that the opposite set of cognitions—recognition of the commonalities among different groups—can lead to more harmonious intergroup relations (Allport, 1954; Sherif, Harvey, White, Hood, & Sherif, 1961; Gaertner & Dovidio, 2000). For example, in *The Nature of Prejudice*, Allport (1954) argued that prejudice could be reduced through "equal status contact between majority and minority groups…that leads to the perception of common interests and common humanity" (p. 281).

Yet, perceived similarity with and empathy for outgroup members does not always promote intergroup harmony. Similarity among groups can intensify intergroup bias by threatening the positive distinctiveness of a group, and thereby threatening the self-esteem associated with group identification (Tajfel & Turner, 1982; Brown, 1984). Perceived similarity between hostile or rival groups might especially exacerbate these negative effects, as group members confront the derogated traits of the outgroup and the implications of similarity for their ingroup.

Cognitive dissonance theory provides a useful framework for understanding these diverse intergroup effects (Festinger, 1957). From this perspective, *outgroup similarity*—or the perceived similarity to a member or members of an outgroup—can instigate cognitive dissonance, an aversive psychological state caused by holding two or more logically inconsistent cognitions (Festinger, 1957). The crux of the present argument is the following: Whether perceived similarity to an outgroup member

ultimately reduces or intensifies intergroup prejudice depends on how people resolve the apparent inconsistency between outgroup membership and feeling close or similar. Whereas similarity to any derogated outgroup should be sufficient to invoke cognitive dissonance, outgroup similarity may be particularly threatening when the ingroup and outgroup are viewed as rivals. In this paper, I will use the term, *turncoat effect*, to refer to the feelings of psychological threat and ingroup betrayal that arise from identification with members of such outgroups.

If the present argument is correct that outgroup similarity elicits cognitive dissonance, then similarity should produce psychological discomfort and negative self-evaluation, two indicators of the subjective experience of dissonance (Elliot & Devine, 1994; Kenworthy, Miller, Collins, Read, & Pollock, 2009), and this reaction should diminish after people have an opportunity to resolve the dissonance. Furthermore, the present research investigates three group-oriented strategies for reducing dissonance that may influence intergroup prejudice in different ways: Reducing dissonance by bolstering one's ingroup identity might exacerbate intergroup conflict. Reducing dissonance by viewing similar outgroup targets as exceptions to the norm might have little impact on intergroup conflict. Finally, reducing dissonance by reflecting on a superordinate identity that subsumes both in- and outgroup might alleviate intergroup conflict. This research therefore uses cognitive dissonance theory to identify conditions under which intergroup contact and resulting empathy for outgroup members can be beneficial for or detrimental to intergroup relations.

## *1.1 Cognitive Dissonance as an Intergroup Phenomenon*

Although Festinger (1957) formally defined cognitive dissonance as a negative tension that arises when people hold two cognitions that are logically inconsistent, he also identified a broader range of situations in which dissonance can be invoked. In

addition to a logically inconsistent relation between cognitions—which results when one cognition implies the opposite of the other—he maintained that cognitive dissonance can also be elicited by knowledge that runs counter to one's expectations, past experiences, views of what is appropriate or usual, or cultural mores. In fact, the earliest investigation of cognitive dissonance involved the rationalizations of members of a doomsday cult after an apocalypse predicted by its leader failed to transpire (Festinger, Riecken, & Schacter, 1956). Put simply, cult members experienced dissonance when their expectations of a cataclysm were not met. Outgroup similarity may thus elicit cognitive dissonance because identifying with an outgroup member sets up a logical inconsistency between cognitions, but also because similarity to the outgroup member violates people's expectations or marks a departure from their previous experiences in intergroup encounters.

Speaking more directly to the case of outgroup similarity, Festinger (1957) interpreted dissonance as an inherently interpersonal phenomenon. In his classic book, he asserted that "the social group is at once a major source of cognitive dissonance for the individual and a major vehicle for eliminating and reducing the dissonance which may exist in him" (p. 177). Although the interpersonal nature of cognitive dissonance has received less attention than the *intra*personal aspects of the theory, researchers have more recently begun to investigate dissonance processes within group contexts.

Three group-based dissonance phenomena offer preliminary support for the prediction that outgroup similarity elicits cognitive dissonance. First, disagreement within one's social group can be a powerful source of cognitive dissonance. In a study by Matz and Wood (2005), participants who disagreed with an opinion held by fellow group members experienced psychological discomfort that motivated them to try and

restore group consensus. If attitudinal dissimilarity within one's ingroup leads to dissonance, so, too, might attitudinal similarity with members of an outgroup.

A second piece of evidence comes from research on *intragroup dissonance*, or dissonance that occurs when the behavior of one's ingroup violates an important personal value. To illustrate, Americans who identified strongly with the U.S. and who supported universal healthcare experienced cognitive dissonance after reading a report stating that the U.S. had done little to help millions of Americans with no health insurance (Glasford, Pratto, & Dovidio, 2008; see also Glasford, Dovidio, & Pratto, 2009). Intragroup dissonance builds on the assumption that ingroup members have beliefs and values that are similar to the self, as this form of dissonance was not elicited when a personal value was violated by the actions of Australia, an outgroup.

Research on a third group-based dissonance phenomenon suggests that people experience discomfort when they witness the inconsistency of a member of their ingroup (Norton, Monin, Cooper, & Hogg, 2003). Participants in studies of *vicarious dissonance* changed their own attitudes in response to the attitude-behavior inconsistency of an ingroup member in an effort to reduce a type of vicarious discomfort they experienced (Norton et al., 2003). Importantly, attitude change only occurred when people witnessed the counterattitudinal behavior of an ingroup member—witnessing attitude-behavior inconsistency on the part of outgroup members had no such effect. What each of these group-based dissonance phenomena indicates is that group identification provides a strong cognition in relation to which dissonance can arise and that when violated, assumptions about similarity to one's ingroup can intensify these effects.

Theoretical refinements of Festinger's original theory, particularly those that implicate the self in the dissonance process, also help to explain why outgroup similarity may elicit cognitive dissonance. For instance, self-consistency theory, which posits that

inconsistency must implicate the self in order to pose a psychological threat, suggests that outgroup similarity may elicit dissonance because it threatens the coherence of a person's self-concept (Aronson, 1968; Swann & Read, 1981). Self-affirmation theory postulates that dissonance is caused by behavior that challenges a positive view of the self as a moral, rational, and intelligent human being (Steele, 1988). Consistent with this reasoning, outgroup similarity may lead to dissonance because it reduces one's feelings of connectedness to or acceptance within an ingroup, which may, in turn, result in decreased feelings of self-worth for people with a strong ingroup identification. Finally, according to the self-standards model, dissonance can occur when people fall short of their personal standards or violate a group norm (Cooper & Stone, 2001). From this perspective, outgroup similarity should elicit dissonance when being a prototypical ingroup member is a personal standard or an important group norm (Schmitt & Branscombe, 2001).

Alternative consistency-based theories also predict that outgroup similarity is experienced as cognitive inconsistency. Most notably, balance theory posits that people strive to maintain attitudes that are congenial with those held by other people they view favorably (Heider, 1946, 1958). When a person shares an attitude with a disliked other (e.g., a member of a derogated outgroup), the relation between self, other, and attitude object is imbalanced. Like cognitive dissonance theory, balance theory suggests that people strive to maintain cognitive consistency. Yet cognitive dissonance theory is distinct from balance theory and other consistency-based models (e.g., Newcomb, 1953; Osgood & Tannenbaum, 1955; Rokeach, 1960) in its emphasis on arousal as a factor that motivates people to restore consistency (Kiesler & Pallack, 1976). Because intergroup interactions are often characterized by anxiety and arousal (Stephan & Stephan, 1985; Richseon & Shelton, 2003; Blascovich, Mendes, Hunter, Lickel, & Kawai-Bell, 2001),

cognitive dissonance may be especially appropriate for understanding reactions to threats that emerge in an intergroup context. Therefore, whereas other consistency-based models provide additional support for the hypotheses tested in this dissertation, I draw primarily on cognitive dissonance as a theoretical framework for investigating outgroup similarity.

To summarize, outgroup similarity may elicit cognitive dissonance for several reasons. The knowledge of someone's outgroup membership might be psychologically inconsistent with feelings of similarity and closeness, violate expectancies about the outgroup, or mark a departure from past experience. The prediction that outgroup similarity elicits cognitive dissonance also is consistent with more recent theoretical elaborations emphasizing the role of self-consistency, self-threat, self-standards, and group norms in the dissonance process, as well as research on group-based dissonance phenomena.

## *1.2 Outgroup Similarity as Dissonance*

In this dissertation, I investigate three key pieces of evidence that should emerge if outgroup similarity does, in fact, instigate cognitive dissonance. First, outgroup similarity should yield indicators of the subjective experience of dissonance, including feelings of psychological discomfort and negative self-evaluation (Elliot & Devine, 1994; Kenworthy et al., 2009). Second, these reactions should be intensified by factors that increase the magnitude of the cognitive inconsistency or self-threat, such as the belief that one's similarity to an outgroup member results from a high degree of personal choice, or a strong identification with one's ingroup. Third, people should be motivated to respond to outgroup similarity in ways that help them alleviate the subjective experience of dissonance. Each of these indicators of dissonance is discussed below.

### 1.2.1 Subjective Experience

#### 1.2.1.1 Psychological Discomfort

Although Festinger (1957) conceptualized cognitive dissonance as a psychologically aversive state, the subjective experience of dissonance was assumed rather than tested in early dissonance research. In the first empirical demonstration of the phenomenology of dissonance, participants reported increased feelings of uneasiness and discomfort after advocating a counterattitudinal viewpoint, and a subsequent decrease in these feelings after restoring attitude-behavior consistency via attitude change (Elliot & Devine, 1994).

Relevant to the present research, evidence that dissonance is subjectively experienced as psychological discomfort has been found in studies of group-based dissonance phenomena. For instance, participants reported feelings of uneasiness, discomfort, tension, and bother when they held an opinion that deviated from the opinion of their group and when their group's behavior contradicted a personal standard (Matz & Wood, 2005; Glasford et al., 2008). Furthermore, in both instances, the psychological discomfort was eliminated after participants were able to employ a dissonance reduction strategy. It stands to reason, then, that if outgroup similarity elicits cognitive dissonance, people should report increases in psychological discomfort after learning about or reflecting on their similarity to an outgroup member and a subsequent decrease in feelings of discomfort after they have an opportunity to resolve the dissonance.

#### 1.2.1.2. Negative Self-Evaluation

Negative feelings about the self also should be central to the subjective experience of the turncoat effect. Previous research has yielded mixed results, with some studies showing that negative self-evaluation—and guilt, in particular— is a key

component of the experience of dissonance (e.g., Stice, 1992; see Kenworthy et al., 2009, for a review) and others finding that dissonance is experienced as a more general type of negative affect (i.e., discomfort; Elliot & Devine, 1994). For example, in the study by Elliot and Devine (1994), negative self-evaluation was measured but not found to increase in response to counterattitudinal advocacy. These researchers did, however, recognize that negative self-evaluation might emerge as an indicator of dissonance in other paradigms. Specifically, they suggested that the "violation of well-internalized, self-defining standards generates general negative affect (e.g., discomfort) and a more specific self-directed aversiveness (e.g., guilt and self-criticism), whereas inconsistent responding to less internalized standards evokes general negative affectivity" (p. 392). In fact, others have identified guilt as a predominant aspect of cognitive dissonance (Stice, 1992; Kenworthy et al., 2009). In a meta-analytic review of 110 experimental studies that spanned a number of classic dissonance paradigms (e.g., induced compliance, free choice, insufficient justification), feelings of guilt emerged as the strongest predictor of the magnitude of dissonance effects when compared with other factors such as the forseeability of negative consequences, psychological discomfort, and internal or external attributions (Kenworthy et al., 2009). Because outgroup similarity should elicit feelings of ingroup betrayal, negative self-evaluation—including feelings of guilt—should emerge as an indicator of the turncoat effect.

### 1.2.2 Factors Promoting Dissonance

Dissonance is known to vary with perceived choice to engage in the dissonance-inducing behavior and the strength of the dissonant cognitions (Eagly & Chaiken, 1993). If the turncoat effect is, in fact, a form of cognitive dissonance, then the subjective indicators of dissonance described above should vary as a function of these well-established dissonance moderators. That is, the magnitude of the turncoat effect should

be influenced by the degree to which people believe their similarity to an outgroup member results from a high degree of personal choice and the strength of their identification with the ingroup. Following their classic effects, greater perceived choice and stronger ingroup identification should result in a heightened experience of the turncoat effect.

#### 1.2.2.1 Perceived Choice

Early research on cognitive dissonance identified perceived behavioral choice as a crucial moderator in studies of counterattitudinal advocacy. In the pioneering study demonstrating this effect, participants wrote a counterattitudinal essay advocating a tuition hike at their college under conditions of high or low perceived choice (Linder, Cooper, & Jones, 1967). Only participants who felt they had a high degree of choice in writing the essay experienced cognitive dissonance. The perception of low behavioral choice prevented dissonance from occurring for participants in the low choice condition by providing them with a strong external justification for their attitude-behavior discrepancy (Cooper, 2007). This early finding has since become a standard manipulation of cognitive dissonance.

To bolster the interpretation of outgroup similarity as cognitive dissonance, the magnitude of the turncoat effect should vary as a function of the perceived level of choice people have in reflecting on their similarity to outgroup members. Indicators of the subjective experience of dissonance should be particularly evident when people believe that they have freely chosen to reflect on their similarity to an outgroup member.

#### 1.2.2.2 Strength of Ingroup Identification

A second factor that should influence the magnitude of the turncoat effect is the strength of a person's identification with the ingroup. According to Festinger (1957), the magnitude of the dissonant relation between two cognitions is determined partly by the

value a person places on each cognition, with highly important cognitions producing the greatest amount of dissonance. Because strength of identification with one's ingroup can be conceptualized as the degree to which people view their ingroup membership as important to the self, the turncoat effect should be heightened for people who are highly identified with their ingroup.

This prediction also is consistent with the self-based interpretations of cognitive dissonance theory (Aronson, 1968; Steele, 1988; Cooper & Stone, 2001): Outgroup similarity should pose a greater threat to feelings of self-consistency, self-worth, or one's personal standards, and potential threats to one's acceptance by the ingroup should be more aversive to the extent that people are highly identified with the ingroup. In support, people highly identified with an ingroup have been shown to adhere more strongly to the group's norms (e.g., Terry & Hogg, 1996) and place greater value on being a prototypical group member (Marques, Yzerbyt, & Leyens, 1988; Schmitt & Branscombe, 2001).

## *1.3 Dissonance Reduction in an Intergroup Context*

Because of its aversiveness, people experience a strong motivation to reduce cognitive dissonance. On a basic level, dissonance can be reduced by changing one of the dissonant cognitions, adding new cognitions to create more consonance, or decreasing the relative importance of one or both of the cognitions (Festinger, 1957; see also Abelson, 1959). Which method people choose depends on the relative ease with which a strategy can be employed and the opportunities that may be available at that time (Festinger, 1957; Marchand-Gotz, Gotz, & Irle, 1974; Steele, 1988). Importantly, because cognitive dissonance can be caused or intensified by social forces, groups can serve as a vehicle for resolving it.

In the present research, I investigate three specific strategies for reducing dissonance invoked by outgroup similarity: bostering one's ingroup identity, viewing similar outgroup members as exceptions to the norm, and shifting to a superordinate identity so that the similar outgroup member is conferred ingroup status. In the section below, I discuss why each of these strategies may be effective for reducing dissonance and their potential implications for intergroup relations.

### 1.3.1 Bolstering Ingroup Identity

One method for reducing cognitive dissonance elicited by outgroup similarity may be to strengthen one's ingroup identity in response to the perceived threat. To implement this strategy, people may seek out opportunities to affirm their ingroup identity to themselves and to others. This may be accomplished by emphasizing one's similarity to the ingroup or by demonstrating ingroup loyalty (e.g., showing ingroup favoritism and outgroup derogation, to the extent that outgroup derogation also is a group norm).

Support for the idea that people may bolster their ingroup identity in the face of perceived identity threat comes from research on identity misclassification, or the fear that performing a behavior prototypical of an outgroup will lead others to erroneously assume one's membership in the outgroup (Bosson, Prewitt-Freilino, & Taylor, 2005). For example, heterosexual men who performed a braiding task that was portrayed in feminine terms (as hairstyling) reported significantly higher levels of self-consciousness and discomfort than men who were cued to view braiding as a masculine task (as knot-tying), and this was mediated by a fear of being misclassified as gay. Heterosexual men who had an opportunity to assert their (hetero)sexual identity, however, showed no signs of threat (Bosson et al., 2005; Experiment 2). Based on these findings, it seems reasonable to expect that reaffirming one's prototypicality as an ingroup member or

demonstrating one's allegiance to the ingroup, more generally, may help reduce the threat elicited by outgroup similarity.

Bolstering one's ingroup identity may be an especially effective method for reducing dissonance in light of the role played by social validation and group-enhancement motives in a number of dissonance phenomena. For instance, in the case of the doomsday cult that predicted the apocalypse that never transpired, cult members sought to reduce the dissonance they experienced after publicly committing to an erroneous belief (Festinger et al., 1956). They did this by creating the consonant cognition that their preparations for the apocalypse had actually prevented it from taking place. The success of this strategy, however, relied on their ability to convince those outside of the group of the legitimacy of this belief (Festinger, 1957; Festinger et al., 1956; Cooper, 2007). This strategy alleviated dissonance by providing social validation for a cognition that would help restore a positive image of the group. Dissonance reduction through social validation was also demonstrated in the research of Matz and Wood (2005). Participants reduced the dissonance caused by within-group disagreement by changing their own attitude to be more congenial with the group's, by attempting to make the group's view more congenial with one's own, or by joining a new group that would provide greater validation for their own attitudes (Matz & Wood, 2005; Experiment 3). The effectiveness of group-enhancement as a method for reducing dissonance was found in the research on intragroup dissonance, in which *group affirmation*, or reflecting on the positive attributes of one's group, eliminated feelings of psychological discomfort (Glasford et al., 2008).

Bolstering one's ingroup identity as a compensatory strategy in response to the turncoat effect should result in ingroup favoritism and increased social distance from members of the outgroup. Moreover, this intensification of intergroup bias should lead

to more negative feelings towards the outgroup that extend beyond the similar target. Although ingroup favoritism does not always correlate with outgroup prejudice (Brewer, 1999), there are two reasons to expect that bolstering one's ingroup identity might result in less favorable attitudes towards the outgroup in the context of the turncoat effect. First, to the extent that an ingroup and outgroup share a history of conflict, derogation of the outgroup may be a well-established ingroup norm (cf., Stephan, Ybarra, & Morrison, 2009). Furthermore, derogation of outgroups, itself, has been shown to be an effective mechanism for reducing cognitive dissonance (Cooper & Mackie, 1983). When other dissonance-reducing mechanisms were not viable (e.g., attitude change), members of a group defined by their support for a political candidate resolved their dissonance by derogating people who supported a different candidate. In sum, bolstering one's ingroup identity should produce negative evaluations of the similar outgroup target and intensify existing prejudices towards the outgroup more broadly.

### 1.3.2 Viewing Similar Outgroup Members as Exceptions to the Norm

A second group-based dissonance reduction strategy may be to differentiate the similar outgroup member from the outgroup at large, thereby creating the rationalization that the similar outgroup member is the exception to the norm. This strategy may reduce dissonance through a mode of resolution referred to as *differentiation*, whereby a cognitive element is "split into two parts with a strong dissociative relation between the parts" (Abelson, 1959, p. 345). Differentiating similar outgroup targets from the norm also creates an external justification for specific instances of outgroup similarity, as the similarity can be attributed to the atypicality of the targets.

Support for the prediction that people may discount similar outgroup members as exceptions to the norm comes from research on the persistence of stereotypes in the face of stereotype-disconfirming information (Weber & Crocker, 1983; Kunda & Oleson, 1995). According to the *subtyping model*, people preserve stereotypes they hold when confronted with disconfirming evidence by creating a subcategory of the stereotyped group that accommodates the few exceptions to the norm (Weber & Crocker, 1983).

Why might people be inclined to individuate, or subtype, similar outgroup targets? Stereotypes are enduring, stable cognitive structures that are relatively resistant to change (Lippman, 1922). Although stereotypes can change gradually over time (Weber & Crocker, 1983), they may be particularly resistant to change in intergroup contexts that are characterized by uncertainty and perceived threat (Stephan, 1985). Furthermore, group identities—particularly those examined in the present research—also tend to be relatively enduring and resistant to change (e.g., Layman & Carsey, 1999). Because this strategy allows people to maintain a coherent identity (Swann & Read, 1981) and preserve their existing stereotypes of the outgroup at large, it should be particularly effective as a response to perceptions of outgroup similarity.

This strategy may promote a favorable view of the similar outgroup member, as the person may be evaluated on the basis of his or her personal identity rather than outgroup membership (see Byrne, Clore, & Smeaton, 1986, for a review of the positive relation between similarity and interpersonal attraction), but because this dissonance reduction strategy is employed in the service of preserving the stereotypes a person already holds, people's attitudes towards the outgroup should remain unchanged. An interesting possibility is that this strategy may actually cause people to view the outgroup *less* favorably. This prediction is supported by research demonstrating that perceived contrast between subtyped information and the broader stereotype a person

holds can reinforce and actually strengthen the overall stereotype (Kunda & Oleson, 1997).

To summarize, viewing a similar outgroup member as an exception to the norm should produce more positive evaluations of and interactions with the specific outgroup member, but this positivity should be limited to the case of the single target. Evaluations of the outgroup as a whole should remain unchanged or even become less favorable, with the degree of preferred social distance in future interactions varying depending on which of these outcomes occurs.

### 1.3.3 Shifting to a Superordinate Identity

A third method for reducing dissonance may be to reflect on a superordinate identity that subsumes both ingroup and outgroup. By adopting a more global level of identification, the distinction formerly drawn between ingroup and outgroup is replaced with a more inclusive representation of one's identity (Gaertner, Dovidio, Anastasio, Bachman, & Rust, 1993; Gaertner & Dovidio, 2000). This strategy should be effective as a response to outgroup similarity not only because it provides a rationalization for experiencing feelings of similarity to the outgroup target (i.e., "*They are actually members of my ingroup.*"), but also because it eliminates the source of the dissonance altogether by replacing the dissonant relation between cognitions (e.g., "*I feel similar to this person despite our membership in different groups*.") with one that is entirely consonant (e.g., "*I feel similar to this person* because *we belong to the same group*.").

A considerable body of research suggests that reflecting on a superordinate identity promotes more positive intergroup relations (Gaertner & Dovidio, 2005). For example, when a common ingroup identity is made salient, people are much more likely to cooperate with, self-disclose personal information to, and help individuals they would otherwise have responded to as members of an outgroup (Gaertner et al., 1996;

Nier, Gaertner, Dovidio, Banker, & Ward, 2001; Dovidio, Gaertner, Validzic, Matoka, Johnson et al., 1997).

The primary mechanism by which a superordinate identity facilitates positive intergroup relations is by increasing the favorability of attitudes towards people formerly conferred outgroup status (Gaertner & Dovidio, 2005). As a strategy for reducing cognitive dissonance, shifting to a superordinate identity should therefore lead to a more favorable evaluation of the similar outgroup member, more favorable attitudes towards the outgroup at large, and a more positive orientation towards new outgroup members in future intergroup interactions.

## *1.4. Present Research*

Four studies were conducted to investigate whether outgroup similarity elicits cognitive dissonance, and, if so, whether group-based strategies for reducing such dissonance differentially predict prejudice in intergroup interactions. Study 1 served as a pilot test of the turncoat effect in which psychological discomfort and negative self-evaluation were measured as responses to perceived similarity to a member of a political outgroup. Study 2 was designed to strengthen the interpretation of the turncoat effect as a dissonance phenomenon by investigating similarity to a rival university using a classic dissonance paradigm. Specifically, it used counterattitudinal advocacy under conditions of high or low perceived choice to demonstrate that the turncoat effect is intensified when the choice to reflect on one's similarity to an outgroup is high. Study 3 tested the key hypothesis that the magnitude of the turncoat effect varies as a function of how strongly people identify with their ingroup. Finally, Study 4 examined the impact of three dissonance reduction strategies on prejudice directed towards a religious outgroup.

## 2. Study 1: Pilot Test

To investigate the initial plausibility of the idea that outgroup similarity elicits cognitive dissonance, a pilot study was conducted in the months leading up to the 2008 U.S. Presidential election. Registered voters reported their perceived similarity to Democratic Presidential nominee, Barack Obama, and their levels of subjective feelings of cognitive dissonance after watching a film clip of Obama giving a speech. The election provided an ideal context for an initial test of the proposed theoretical framework because political affiliation tends to be experienced as a strong and stable group identification (Green, Palmquist, & Shickler, 2002) and the relationship between the Republican and Democratic parties is characterized by realistic as well as symbolic threat (e.g., competition for power and resources, divergent values; Sherif et al., 1961; Stephan, Ybarra, & Morrison, 2009). The election thus provided a zero-sum competition among groups in a context in which identification with the opposing party's candidate could have meaningful consequences. The pilot study examined two indicators of cognitive dissonance, feelings of psychological discomfort and negative self-directed affect, and tested the following hypotheses:

Hypothesis 1: Republican voters who feel more similar to Barack Obama should report higher levels of psychological discomfort after watching Obama give a speech than those who feel less similar, whereas Democratic voters should not.

Hypothesis 2: Republican voters who feel more similar to Obama should report higher levels of negative self-evaluation after watching Obama give a speech than those who feel less similar, whereas Democratic voters should not.

Furthermore, to the extent that outgroup similarity elicits an affective response that is specific to the experience of cognitive dissonance, it should not be correlated with

changes in positive affect or the general positivity or negativity of one's overall mood. Therefore, the additional hypothesis was tested:

Hypothesis 3: Greater perceived similarity to Obama among Republicans should *not* be associated with higher levels of positive affect or changes in the general positivity or negativity of one's overall mood.

## *2.1 Methods and Results*

### 2.1.1 Participants and Procedure

The sample was drawn from a larger study examining political attitudes and voting behavior among Duke University students.[1] All participants were White/Caucasian registered voters who had yet to cast their ballot in the election. Only participants who identified themselves as Republican ($n$ = 23), Democrat ($n$ = 37), Independent with a Republican leaning ($n$ = 14), or Independent with a Democratic leaning ($n$ = 21) were selected for the pilot study. The pilot sample was comprised of 95 voters (53 women) who received partial course credit for completing the study.

Participants first reported their political affiliation and then were randomly assigned to watch one of three film clips of Democratic Presidential nominee, Barack Obama, giving a speech. Each clip was approximately three minutes long and featured Obama delivering a speech at a podium in an auditorium. Three different clips were used to increase the generalizability of the findings. Immediately after watching the speech clip, participants reported their level of perceived similarity to Obama, psychological discomfort, and negative self-evaluative affect.

[1] A small subset of the sample was recruited through a community subject pool and received $12 for their participation. The results of all analyses were comparable with and without these additional participants. They were included to increase the statistical power of the test for moderation.

## 2.1.2 Measures of Cognitive Dissonance, Positive Affect and Overall Mood

### 2.1.2.1 Psychological Discomfort

To measure psychological discomfort, participants were asked to report on a 9-point scale anchored at *not at all* and *extremely* the extent to which they were currently feeling *uneasy, uncomfortable, bothered, tense, anxious, jittery,* and *nervous.* These items represented a combination of items used by previous researchers to capture the more general discomfort component of the experience of dissonance (Elliot & Devine, 1994; Matz & Wood, 2005; Harmon-Jones, 2000). These items showed good reliability (alpha = .84) and were combined to create an overall index of psychological discomfort.

### 2.1.2.2 Negative Self-Evaluation

To capture the sense of betrayal outgroup similarity was expected to induce, participants reported on a 9-point scale anchored at *not at all* and *extremely* the extent to which they were currently feeling *guilty* and *ashamed*. These items were highly correlated ($r = .64$, $p < .01$) and were averaged to create an index of negative self-evaluation.

### 2.1.2.3 Positive Affect

To measure positive affect, participants reported on a 9-point scale anchored at *not at all* and *extremely* the extent to which they were currently feeling *calm, interested, excited, enthusiastic, proud, inspired,* and *determined*—items taken from the Positive Affect subscale of the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). These items demonstrated good reliability (alpha = .87) and were averaged to create an index of positive affect.

#### 2.1.2.4 Overall Mood

On an 11-point scale anchored at *extremely negative* and *extremely positive*, participants reported the degree of positivity versus negativity of their current overall mood.

## 2.2 Results

A dummy variable reflecting whether Obama was a member of one's political ingroup or outgroup was created, with Republicans and Independents with a Republican leaning comprising the key outgroup condition (coded as 1) and Democrats and Independents with a Democratic leaning comprising the ingroup condition (coded as 0). Four sets of hierarchical regression models were tested in which ingroup/outgroup status and level of perceived similarity to Obama were entered as predictors of psychological discomfort, negative self-evaluation, positive affect, and overall mood at Step 1, and the Ingroup/Outgroup Status x Similarity interaction term was entered at Step 2.[2]

Evidence of the turncoat effect emerged in the hierarchical regression on negative self-evaluation (see Table 1). The only significant effect was the Ingroup/Outgroup Status x Similarity interaction entered in Step 2, $\beta = .35$, $t(91) = 3.50$ $p < .01$. As shown in Figure 1, simple slopes analyses revealed that for Democrats, greater similarity to Obama was associated with lower levels of negative self-evaluation, $\beta = -.25$, $t(91) = -7.01$ $p < .01$. For Republicans, however, greater similarity was correlated with higher levels of negative self-evaluation, $\beta = .24$, $t(91) = 2.17$, $p < .05$.

[2] A three-level categorical variable representing which film clip participants viewed was initially included in all regression models. No significant main effect, two- or three-way interactions emerged for film clip. For ease of presentation, film clip was excluded as a predictor from the analyses reported here.

In the hierarchical regression on psychological discomfort, only a significant Ingroup/Outgroup Status x Similarity interaction emerged. The interaction was not, however, consistent with the turncoat effect, as similarity and psychological discomfort were uncorrelated for Republicans (see Table 2).

In the hierarchical regression on positive affect, significant main effects for similarity to Obama and ingroup/outgroup status emerged in Step 1, such that greater perceived similarity to Obama, $\beta = .48$, $t(91) = 5.40$, $p < .01$, and Democratic status, $\beta = -.22$, $t(91) = -2.42$, $p < .05$, each predicted higher levels of positive affect (see Table 3). As predicted, evidence of an Ingroup/Outgroup Status x Similarity interaction, however, was not obtained in Step 2. Although caution should be exercised when interpreting null results, the absence of a significant Ingroup/Outgroup Status x Similarity interaction is consistent with the prediction that greater perceived similarity to Obama among Republicans would not be associated with changes in positive mood.

In the hierarchical regression on overall mood, the only significant effect to emerge in Steps 1 or 2 of the model was a main effect for similarity, such that greater perceived similarity to Obama was associated with more positive overall mood, $\beta = .34$, $t(91) = 3.33$, $p < .01$, (see Table 4). Again, although caution should be exercised when interpreting a null effect, the absence of a significant Ingroup/Outgroup Status x Similarity interaction supports the hypothesis that greater perceived similarity to Obama among Republicans would not be associated with changes in overall mood. Rather, the outgroup similarity seemed to elicit a more circumscribed type of negative self-evaluative affect consistent with the experience of cognitive dissonance.

## *2.3 Discussion*

This preliminary study provided partial support for the turncoat effect. For Democrats, higher levels of perceived similarity to Obama were associated with lower

levels of psychological discomfort and negative self-evaluation. Yet for Republicans, for whom Obama held outgroup status, a different pattern emerged. Similarity to Obama was unrelated to psychological discomfort, but higher levels of similarity did predict greater feelings of negative self-evaluation. Put simply, Republicans who felt similar to Obama felt bad about themselves.

To the extent that similarity to Obama elicited cognitive dissonance for Republican voters, it is unclear why such dissonance was not evident in reports of psychological discomfort. The election was one in which issues surrounding race were particularly salient due to Obama's historic candidacy as the first African American Presidential nominee on a major party ticket. One possibility is that participants in this study, White students at a liberal university, may have been reluctant to report feelings of discomfort in response to Obama for fear that such a reaction might paint them in a racially prejudiced light. Such concerns would have less of an impact on participants' reports of negative self-evaluation.

Important goals for Study 2 were to obtain support for both negative self-evaluation and psychological discomfort as components of the turncoat effect, and to do so in a context in which social desirability concerns would not inhibit participants from reporting heightened feelings of discomfort. Furthermore, Study 2 sought to strengthen the interpretation of the turncoat effect as cognitive dissonance by adopting a classic dissonance paradigm and testing a known moderator of dissonance effects: perceived choice. Finally, instead of simply measuring perceived similarity to an outgroup member, Study 2 employed an experimental induction of outgroup similarity to isolate more clearly the effects of this construct.

# 3. Study 2

Previous research has shown that advocating a counterattitudinal view elicits cognitive dissonance only when people believe they have a high degree of choice in doing so (Linder, Cooper, & Jones, 1967). In Study 2, participants wrote an essay under conditions of high or low perceived choice in which they described their similarity to an outgroup member. It was predicted that participants would report subjective feelings of cognitive dissonance when outgroup similarity was made salient, but only to the extent that their description of such similarity resulted from high perceived choice. Study 2 also provided an initial test of whether strength of ingroup identification moderates the turncoat effect as well. Finally, to increase the generalizability of the findings from Study 1 beyond feelings of guilt and shame—social emotions that are distinct in their moral and self-conscious nature (see Tangney & Dearing, 2002)—additional items capturing more basic feelings of negative self-evaluation were included in Study 2.

## *3.1 Method*

### 3.1.1 Participants

Thirty Duke students (16 women) participated in exchange for partial course credit.

### 3.1.2 Procedure

Participants first reported the strength of their identification with Duke and then were asked to write a brief essay describing the ways in which they felt similar to students at a rival institution, the University of North Carolina at Chapel Hill. They were randomly assigned to one of two choice conditions. In the *low choice* condition, participants were informed that they had been assigned to write about their similarity to UNC students. In the *high choice* condition, participants were asked to write an essay on

the same topic, but were instead told that the choice of essay topic was ultimately up to them. If participants in the high choice condition chose not to write about their similarity to UNC students, they were given the option of writing about their perceived differences from UNC students. All participants in the high choice condition agreed to write the essay reflecting on their similarity. Upon completion of the essay, participants reported their levels of psychological discomfort and negative self-evaluation. Study 3 tested the following hypotheses:

Hypothesis 1: Participants in the high choice condition should report higher levels of psychological discomfort and negative self-evaluation than participants in the low choice condition.

Hypothesis 2: For participants in the high choice condition, strength of ingroup identification (with Duke) should moderate the effects described in Hypothesis 1 such that participants who more strongly identify with Duke should experience heightened levels of psychological discomfort and negative self-evaluation.

## 3.1.3 Materials

### 3.1.3.1 Manipulation Check

To determine the effectiveness of the manipulation of perceived choice, participants reported along a 9-point scale anchored at *no choice at all* and *an extremely high degree of choice* how much choice they felt they had in writing on the essay topic.

### 3.1.3.2 Psychological Discomfort

Psychological discomfort was measured using the same seven items (*uneasy, uncomfortable, bothered, tense, anxious, jittery,* and *nervous*) and 9-point response scale used in Study 1. These items showed good reliability (alpha = .80) and were combined to create an overall index of psychological discomfort.

#### 3.1.3.3 Negative Self-Evaluation

Participants reported on a 9-point scale anchored at *not at all* and *extremely* the extent to which they were currently feeling seven types of affect reflecting a negative self-evaluation (*angry with oneself*, *disappointed with oneself*, *disgusted with oneself*, *guilty*, *embarrassed*, *ashamed*, and *annoyed with oneself*). The additional items used in Study 2 were selected on the basis of previous research investigating negative self-evaluation as a component of cognitive dissonance (Elliot & Devine, 1994; Matz & Wood, 2005). Together, the seven items showed good reliability (alpha = .94) and were combined to create an overall index of negative self-evaluation.

#### 3.1.3.4 Ingroup Identification

As a measure of strength of ingroup identification with Duke, participants reported on a 9-point scale anchored at *extremely unimportant* and *extremely important* the extent to which being a student at Duke was an important part of who they were.

## *3.2 Results*

Evidence of the effectiveness of the manipulation of perceived choice was secured, with participants in the high choice condition reporting that they had a higher degree of choice ($M$ = 6.17, $SD$ = 1.95) than participants in the low choice condition ($M$ = 1.42, $SD$ = 1.17) in writing about their similarity to UNC students, $F(1, 28) = 57.28$, $p <$ .01.

To test the hypotheses that participants in the high choice condition would report higher levels of cognitive dissonance and that this effect would be moderated by their strength of identification with Duke, separate hierarchical regression models were constructed in which choice condition (coded as low choice = 0, high choice = 1), strength of ingroup identification, and their interaction term were regressed on psychological discomfort and negative self-evaluation.

When choice condition and strength of ingroup identification were regressed on psychological discomfort in Step 1, a significant main effect for condition emerged such that greater psychological discomfort was reported by participants in the high choice condition ($M$ = 2.98, $SD$ = 1.03) than in the low choice condition ($M$ = 2.10, $SD$ = .80), $\beta$ = .41, $t(27) = 2.39$, $p < .05$ (see Table 5). When the Choice x Ingroup Identification interaction was added to the model in Step 2, a significant main effect for choice, $\beta = .41$, $t(26) = 2.55$, $p < .05$ and a significant interaction emerged, $\beta = .37$, $t(26) = 2.05$, $p < .05$. As shown in Figure 2, simple slopes analyses revealed that in the high choice condition, strength of ingroup identification was positively correlated with psychological discomfort, $\beta = .25$, $t(26) = 6.21$, $p < .01$, whereas these variables were unrelated for participants in the low choice condition.[3]

In the regression predicting negative self-evaluation, choice condition once again emerged as a significant predictor in Step 1, with participants in the high choice condition reporting greater negative self-evaluation ($M$ =2.75, $SD$ = 1.32) than participants in the low choice condition ($M$ = 1.52, $SD$ = .54), $\beta = .48$, $t(27) = 2.88$, $p < .01$ (see Table 6). When the Choice x Ingroup Identification interaction was added to the model at Step 2, only the main effect for choice was statistically significant. As shown in Figure 3, simple slopes analyses were, however, suggestive of a trend for participants to report greater negative self-evaluation to the extent that they identified more strongly with Duke in the high choice condition only.

## *3.3 Discussion*

Study 2 provided stronger support for the turncoat effect and bolstered the interpretation of participants' subjective reaction to outgroup similarity as cognitive

[3] All simple slopes analyses were performed at the critical values of 1 *SD* above and 1 *SD* below the mean.

dissonance. Participants were induced to feel similar to a rival outgroup, but only reported feelings of psychological discomfort and negative self-evaluation when they believed their experience of similarity resulted from a high degree of personal choice. Furthermore, preliminary support was obtained for the hypothesis that the turncoat effect is moderated by strength of ingroup identification. Under conditions of high perceived choice, participants reported higher levels of psychological discomfort to the extent that they identified more strongly with their ingroup. Although the findings for negative self-evaluation were not statistically significant, a trend towards a similar pattern emerged.

The absence of a clear interactive effect for negative self-evaluation may have resulted in part from insufficient statistical power due to the relatively small size of the sample. A critical objective of Study 3 was therefore to obtain more consistent support for the hypothesis that strength of ingroup identification moderates the turncoat effect. To this end, Study 3 adopted a well-validated measure of group identification and created a context in which feelings of intergroup rivalry would be especially salient.

# 4. Study 3

Study 3 manipulated outgroup similarity by inducing participants to feel highly similar to someone they were led to believe was either an ingroup or an outgroup member. As its primary goal, Study 3 investigated whether strength of identification with an ingroup is, in fact, a key moderator of the turncoat effect. College students induced to feel similar to a student at a rival academic institution were expected to report higher levels of discomfort and negative self-evaluation than students induced to feel similar to a student at their own academic institution. Evidence of the turncoat effect was only predicted, however, for students who were highly identified with their own university. Study 3 therefore tested the following hypothesis:

Hypothesis 1: Participants induced to feel similar to a UNC student (an outgroup member) should report higher levels of psychological discomfort and negative self-evaluation than participants induced to feel similar to a Duke student (an ingroup member), but only to the extent that they identify strongly with Duke.

## *4.1 Method*

### 4.1.1 Participants

Forty-two Duke students (16 women) participated in exchange for $6.

### 4.1.2 Procedure

Participants received a cover story about a statewide intercollegiate video competition in which submissions from their own and a rival university were finalists. They were told that during the study, they would be asked to view and rate one of the videos in contention, and that the school with the winning submission would receive a monetary prize. A situation was thus created that would challenge participants' allegiance to their own school should they be assigned to watch the video submitted by

a rival institution and should they rate the video favorably. Participants then watched a video of a college student discussing her experiences during her freshman year at school. The video stressed similarity between participants and the depicted student through her descriptions of common student experiences (e.g., roommate concerns, dining hall food, school spirit). Participants were either led to believe that the student attended Duke (*ingroup* condition) or the rival institution, the University of North Carolina at Chapel Hill (*outgroup* condition). Immediately after watching the video, participants reported on their subjective experience of dissonance-related affect.

### 4.1.3 Materials

#### 4.1.3.1 Ingroup Identification

Strength of identification with Duke was measured using three items taken from the Collective Self-Esteem Scale (Luhtanen & Crocker, 1992) that assessed along a 5-point scale (anchored at *strongly disagree* and *strongly agree*) the extent to which participants agreed with such statements as '*Being a Duke student is an important reflection of who I am*.' A fourth item was dropped to increase the reliability of the index (alpha = .77 based on 3 items).

#### 4.1.3.2 Cognitive Dissonance

Psychological discomfort and negative self-evaluation were measured using the same items and 9-point response scale used in Study 2. Both scales once again showed good reliability (alpha = .88 and .92 for psychological discomfort and negative self-evaluation, respectively).

## *4.2 Results*

To test the hypothesis that outgroup similarity would elicit cognitive dissonance in participants with a strong ingroup identification, two sets of hierarchical regression

models were created in which ingroup/outgroup condition (dummy coded as ingroup = 0, outgroup = 1) and strength of ingroup identification were entered as predictors of psychological discomfort and negative self-evaluation at Step 1, and the Ingroup/Outgroup Condition x Strength of Ingroup Identification interaction term was entered at Step 2.

In the regression model predicting psychological discomfort, a marginally significant main effect for strength of ingroup identification emerged in Step 2, $\beta = .33$, $t(38) = 1.90$, $p < .07$, that was qualified by a marginally significant interaction between ingroup/outgroup condition and strength of ingroup identification , $\beta = .34$, $t(38) = 1.98$, $p < .06$ (see Table 7). As shown in Figure 4, for participants induced to feel similar to a Duke student (an ingroup member), there was no relation between strength of ingroup identification and discomfort. For participants induced to feel similar to a UNC student (an outgroup member), however, stronger ingroup identification predicted higher levels of discomfort, $\beta = .62$, $t(38) = 2.25$, $p < .05$.

Support was once again obtained for the negative self-evaluative component of the turncoat effect. A significant main effect for strength of ingroup identification emerged in Step 2, $\beta = .48$, $t(38) = 2.88$, $p < .01$, that was qualified by a significant interaction between ingroup/outgroup condition and strength of ingroup identification, $\beta = .45$, $t(38) = 2.78$, $p < .01$ (see Table 8). As shown in Figure 5, for participants induced to feel similar to a Duke student, there was no relation between strength of ingroup identification and negative self-evaluation. For participants induced to feel similar to a UNC student, however, stronger ingroup identification predicted higher levels of negative self-evaluation, $\beta = .76$, $t(38) = 3.28$, $p < .01$.

## *4.3 Discussion*

Study 3 provided more conclusive evidence that the turncoat effect is moderated by strength of ingroup identification. Experiencing a high degree of similarity to a student at a rival university elicited feelings of cognitive dissonance, but only among students who identified strongly with their own school. Taken together, the results of Studies 1-3 support the predictions that outgroup similarity elicits cognitive dissonance and that the magnitude of the turncoat effect varies as a function of known moderators of dissonance phenomena.

The objectives of Study 4 were to investigate the effectiveness of different strategies for resolving dissonance caused by outgroup similarity and to examine the impact of such strategies on intergroup prejudice. Additionally, Study 4 tested the limits of the turncoat effect by investigating whether it occurs in the context of intergroup relations characterized primarily by symbolic rather than realistic threats. To do this, Study 4 examined whether similarity to a member of a religious outgroup would elicit feelings of cognitive dissonance for people with a strong religious identification, based on the rationale that the relations among different religious groups in the U.S. tend to be characterized by symbolic threat (e.g., divergent belief systems and values) to a greater extent than realistic threat (Stephan et al., 2007).

# 5. Study 4

College students preselected to have a religious identification underwent an experimental manipulation of perceived similarity to a member of a religious outgroup. Indicators of the subjective experience of dissonance were measured both before and after participants were given an opportunity to reduce cognitive dissonance by employing one of three different strategies: bolstering their ingroup identity, differentiating the similar outgroup member from the outgroup norm, reflecting on a superordinate identity, or after they performed a no dissonance-reduction control task. The impact of each strategy on participants' attitude toward the similar religious outgroup member, attitude toward the religious outgroup at large, and preferred physical distance in an actual interaction with another member of the religious outgroup was investigated.

## 5.1 Method

### 5.1.1 Participants

Fifty-five Duke students (19 women) participated in the study in exchange for course credit. As a prerequisite for participation, only participants who reported during a mass prescreening survey that they had a Protestant ($n$ = 29), Catholic ($n$ = 17), or Jewish ($n$ = 9) religious affiliation and that religion played at least a slightly important role in their lives qualified for the study. Data from three additional participants were excluded on account of evidence that they did not take the experimental tasks seriously.

### 5.1.2 Procedure

Participants viewed a photograph of a young male of Middle Eastern-descent wearing a keffiyeh—a headdress traditionally worn by Arab men in Middle Eastern countries—and were asked to write an essay describing their similarities to him. Results

of a pilot test ($N$ = 23) indicated that the young man was generally perceived to be of the Muslim faith (88% identified the person in the photograph as Muslim, with the remaining 12% identifying him as Hindu). Psychological discomfort and negative self-evaluation were measured immediately after participants reflected on their similarity to the religious outgroup member. Next, participants were randomly assigned to one of four experimental conditions. In the *bolster ingroup identity* condition, participants were asked to describe some of the positive attributes that characterize members of their own religious faith. In the *individuate* condition, participants were asked to list ways in which the Muslim person they wrote about probably differed from Muslim people in general. In the *superordinate identity* condition, participants were asked to reflect on the similarities of people across all religious denominations who share in common a commitment to a higher power. Participants in a fourth, control condition were asked to describe what, where, and when they planned to eat for the remainder of the day—a task that for most people should not invoke a strong sense of shared or nonshared religious identity. Following the dissonance reduction phase, participants' psychological discomfort and negative self-evaluation were once again measured.

Next, participants' attitudes towards the similar outgroup member and the outgroup at large were measured via self-report. Participants were then asked if they would be willing to be interviewed by a research assistant recruiting participants for an upcoming study while the experimenter prepared for the final stage of the experiment. All participants agreed to the interview and were led to a room at the end of a hall. Already seated in the room was a young male research assistant of Middle Eastern-descent wearing a kufi, or Muslim prayer cap, and a t-shirt with the words "MUSLIM Leadership Council 2008-2009" written across the front. As they entered the room, the research assistant asked participants to grab a folding chair that was propped against

the open door and to have a seat for the interview. The distance between the research assistant's chair and the chair placed down by the participant was surreptitiously measured after participants left the room. Following their interaction with the research assistant, participants completed an exit survey comprised of items serving as a manipulation check to ensure that they had identified the research assistant as a member of the religious outgroup, Muslims, and then were thoroughly debriefed.

Study 4 tested the following hypotheses:

Hypothesis 1: Levels of psychological discomfort and negative self-evaluation following the outgroup similarity induction should be positively correlated with participants' strength of religious ingroup identification.

Hypothesis 2: The evaluations of the Muslim person (a member of a religious outgroup) should be less favorable for participants in the *bolster ingroup identity* condition than the evaluations made by participants in the *individuate*, *superordinate identity*, and control conditions.

Hypothesis 3: The evaluations of Muslims in general should be more favorable for participants in the superordinate identity condition than for participants in the bolster ingroup identity, individuate, and control conditions.

Hypothesis 4: Participants in the superordinate identity condition should maintain less social distance (by sitting closer to the new outgroup member) in the subsequent intergroup interaction than participants in the bolster ingroup identity, individuate, and control conditions.

## 5.1.3 Materials

### 5.1.3.1 Ingroup Identification

Strength of religious ingroup identification was measured using 4-items adapted from the Collective Self-Esteem Scale (Luhtanen & Crocker, 1992) that assessed along a

5-point scale (anchored at *strongly disagree* and *strongly agree*) the extent to which participants agreed with such statements as '*My religious affiliation is an important reflection of who I am*.' These items showed good reliability (alpha = .92).

#### 5.1.3.2 Cognitive Dissonance

Psychological discomfort and negative self-evaluation were measured using the same items used in Studies 2 and 3. Both scales demonstrated good reliability (both alphas = .89).

#### 5.1.3.3 Evaluation of Similar Outgroup Member

On an 11-point scale anchored at *cold/unfavorable* and *warm/favorable*, participants reported their feelings towards the individual about whom they wrote. Participants also reported along 9-point scales anchored at *not at all* and *extremely* how much they would like to meet and could see themselves being friends with the outgroup member.

#### 5.1.3.4 Evaluation of Outgroup in General

On an 11-point scale anchored at *cold/unfavorable* and *warm/favorable*, participants reported their feelings towards a variety of social groups (e.g., senior citizens, African Americans, Republicans, liberals, Mormons) including the key group of interest, Muslims.

#### 5.1.3.5 Preferred Social Distance

The distance between the front legs of the participants' chair and the midpoint between the front legs of the research assistant's chair was averaged to create a measure of preferred physical distance. Additionally, a measure of the angle of the participant's

chair was recorded to reflect participants' preference to face the research assistant head on.[4]

**5.1.3.6 Manipulation Checks**

*Religion of outgroup target.* As a check of whether participants perceived the person in the photograph to be of the Muslim faith, participants were asked to indicate what religion the person depicted probably practiced. This question was embedded in other questions assessing participants' impressions of the target, including his age, gender, country of birth, and possible profession.

*Dissonance reduction strategy*. To ensure that participants employed the appropriate dissonance reduction strategy, two independent raters blind to experimental condition rated along a 4-point scale (anchored at *not at all* and *quite a bit*) the extent to which each dissonance reduction essay described the following: (1) ways that the person in the photo differed from people of the person's assumed religious group; (2) positive attributes of the participant's own religious group; and (3) attributes shared by all religious people, who share in common a belief in a higher power. Agreement between raters was high (agreement rate = 91%) and discrepancies were resolved through discussion.

*Religion of the new outgroup member*. As a check of whether participants perceived the research assistant to be of the Muslim faith, participants were asked to indicate which religion the research assistant probably practiced. This question was embedded among a series of questions about participants' perceptions of the research assistant (e.g., age, political affiliation) to reduce any concerns they may have with making a seemingly stereotypical judgment. Further incentive for participants to report their

[4] The angle created by the line from each of the front legs of the participant's chair and the midpoint of the research assistant's chair was recorded, with greater departures from 90 degrees reflecting sideways placement of the participant's chair.

genuine impressions was created by telling participants that whereas some people are adept at picking up social cues, others are less skillful, with the assumption that most people would act on the belief that they belonged to the group of skilled perceivers. Participants were also asked to recall the words that were written on the research assistant's shirt.

## 5.2 Results

Ninety percent of participants ($n$ = 52) identified the person in the photo as being of the Muslim faith, 9% identified the person as Hindu ($n$ = 5), and one participant failed to provide a response to the manipulation check on perceived religious affiliation of the outgroup target. Thus, virtually all participants who provided a response to this manipulation check identified the person in the photo as a member of a religious outgroup.[5]

To investigate whether participants' strength of identification with their religious ingroup predicted the magnitude of cognitive dissonance following the similarity induction, separate regression models were tested in which strength of religious identification was regressed on psychological discomfort and negative self-evaluation, respectively. Contrary to hypotheses, strength of religious identification did not predict either outcome.

Next, separate one-way ANOVAs were performed in which a 3-level variable representing dissonance reduction strategy (bolster ingroup identity vs. individuate from outgroup vs. superordinate identity) was entered as a predictor of each of the proposed dissonance reduction strategies. These included: (a) the extent to which

[5] Although the study was designed to elicit perceptions of the person in the photo as belonging to the Muslim faith, the five participants who indicated that the person was likely Hindu were included in the relevant analyses to increase statistical power. Analyses performed with and without these five participants yielded comparable results.

participants' essays described positive attributes of their own religious group, (b) ways in which the person in the photo was different from other members of his religious group, and (c) similarities shared by all religious people. Results indicated that participants did, in fact, adhere to their assigned dissonance reduction strategy. The dissonance reduction essays written by participants in the bolster ingroup identity condition described positive attributes of their own religious group to a greater extent ($M$ = 3.60, $SD$ = .91)[6] than essays written by participants in the individuate ($M$ = 1.00, $SD$ = .00) and superordinate conditions ($M$ = 1.07, $SD$ = .27), $F(2, 39) = 98.64$, $p < .01$. The dissonance reduction essays written by participants in the individuate condition described ways that the person in the photo was different from other members of his religious group to a greater extent ($M$ = 3.65, $SD$ = .43) than the essays written by participants in the bolster ingroup identity ($M$ = .93, $SD$ = .26) and superordinate identity conditions ($M$ = 1.00, $SD$ = .00), $F(2, 39) = 404.92$, $p < .01$. And, the dissonance reduction essays written by participants in the superordinate religious identity condition described similarities shared by all religious people to a greater extent ($M$ = 3.79, $SD$ = .47) than those written by participants in the bolster ingroup identity ($M$ = 1.33, $SD$ = .90) and individuate conditions ($M$ = 1.23, $SD$ = .44), $F(2, 39) = 69.03$, $p < .01$.

Repeated measures ANOVAs were next performed to investigate whether participants' levels of psychological discomfort and negative self-evaluation decreased between Time 1 (following the similarity induction) and Time 2 (following the dissonance reduction task). To examine whether the magnitude of dissonance reduction was greater in the three dissonance reduction conditions compared to the no dissonance reduction control condition, experimental condition was included in the models as a between-subjects factor.

---

[6] A score of 1 reflected that a participant's essay described a topic (e.g. positive attributes of one's own religious group) *not at all* and a score of 4 reflected *quite a bit*.

Across conditions, there was a significant decrease in psychological discomfort from Time 1 ($M = 2.27$, $SD = 1.16$) to Time 2 ($M = 2.00$, $SD = 1.06$), $F(1, 51) = 8.58$, $p < .01$, and a marginally significant decrease in negative self-evaluation from Time 1 ($M = 1.82$, $SD = .98$) to Time 2 ($M = 1.64$, $SD = .91$), $F(1, 51) = 3.76$, $p < .06$. Unexpectedly, participants in the control condition showed just as much of a decrease in psychological discomfort and negative self-evaluation as participants in each of the three dissonance reduction conditions.

To test the critical hypothesis that *how* participants reduced their dissonance would differentially predict the favorability of their evaluations of the similar outgroup target, the Muslim outgroup as a whole, and their preferred physical distance in an interaction with another (ostensible) member of the outgroup, ANOVAs were performed in which a four-level factor representing dissonance reduction strategy (bolster ingroup identity vs. individuate similar outgroup member vs. shift to superordinate identity vs. no dissonance reduction control) predicted each of these intergroup outcomes.[7] Contrary to hypotheses, no significant differences were observed between any of the four experimental conditions for the intergroup prejudice measures, all $F$s < 1 (see Table 9).

## 5.3 Discussion

Study 4 yielded a surprising lack of support for the hypothesis that similarity to a member of a religious outgroup would elicit stronger feelings of cognitive dissonance for people highly identified with their religious ingroup. One explanation for the lack of findings is that participants did not experience cognitive dissonance in response to the induction of outgroup similarity. Study 4 tested the limits of the effects secured in the

[7] Only participants who identified the research assistant as Muslim ($n = 46$) or Hindu ($n = 4$) were included in the ANOVA on preferred physical distance. Two participants perceived the research assistant to be Protestant, one participant identified him as Catholic, and two participants failed to provide an answer.

previous three studies by investigating outgroup similarity in an intergroup context characterized primarily by symbolic threat. It is possible that the perception of realistic threat, such as the threat of losing political power or a coveted college athletic championship, is a necessary precondition for the turncoat effect. As a result, this study may not have provided an appropriate context for testing whether strategies for resolving the dissonance have different consequences for intergroup prejudice.

This explanation is, however, countered by research indicating that religious identification is positively correlated with prejudice directed towards ethnic and racial minorities, who likely pose a greater symbolic than realistic threat to one's religious beliefs and values (e.g., Hall, Matz, & Wood, 2010). Furthermore, the decrease in participants' levels of psychological discomfort and negative self-evaluation that occurred between Time 1 (after the similarity induction) and Time 2 (after the dissonance reduction) suggests that the induction of outgroup similarity did produce some increase in dissonance-related affect that diminished by Time 2.

Following the induction of outgroup similarity, participants in all four dissonance reduction conditions, including the condition designed to provide a no reduction comparison, reported a decrease in cognitive dissonance. Two explanations for this finding seem plausible. First, engaging in what was designed to be a task that would prevent participants from performing one of the critical dissonance reduction strategies may have instead provided them with an opportunity to reduce their dissonance via distraction (Zanna & Aziza, 1976). As stated succinctly by Zanna and Aziza (1976), "distraction may resolve dissonance, at least temporarily, by helping the individual avoid it until he or she can, in effect, forget it" (p. 577). A second possibility is that the act of reporting their psychological discomfort and negative self-evaluative feelings immediately after the similarity induction actually served as a mechanism for

reducing dissonance itself (cf., Galinsky et al., 2000). In fact, a number of studies have found that reporting one's negative affect after dissonance is instantiated attenuates subsequent attitude change (Pyszczynski, Greenberg, Solomon, Sideris, & Stubing, 1993; Stice, 1992; Elliot & Devine, 1994; Galinsky et al., 2000).

The latter explanation offers some insight into the lack of findings with respect to the relation of the different strategies to indicators of intergroup prejudice. If reporting their feelings of psychological discomfort and negative self-evaluation resolved the dissonance of participants across experimental conditions, the drive to reduce dissonance may have been eliminated by the time participants reached the formal dissonance reduction phase of the study. The dissonance reduction prompts still could have primed different levels of identity (e.g., ingroup identity vs. superordinate identity), but in the absence of a strong motivational basis for performing these cognitive tasks, their impact may have been dramatically weakened.

Some of these methodological limitations could be addressed in the future by administering baseline measures of dissonance-related affect, by measuring dissonance indirectly after an induction of outgroup similarity, and by creating a stronger situation in which the symbolic threat presented by an outgroup is made salient. These, among other methodological considerations, are addressed further in the General Discussion.

# 6. General Discussion

General support for the hypothesis that outgroup similarity elicits cognitive dissonance was obtained. In Study 1, Republicans who felt similar to Barack Obama, the Democratic Presidential nominee, reported negative self-directed affect—one of two indicators of the subjective experience of cognitive dissonance that was measured. In Study 2, college students who reflected on their similarity to students at a rival university reported feelings of psychological discomfort and negative self-evaluation, but only when they believed the decision to reflect on the similarity was of their own choice. Support was thus garnered for the interpretation of the turncoat effect as cognitive dissonance, as participants' subjective experience of dissonance was shown to vary as a function of a classic manipulation of dissonance. Study 3 secured evidence of a second key moderator of the turncoat effect: strength of identification with the ingroup. College students induced to feel highly similar to a student at a rival university reported psychological discomfort and negative self-evaluation, but only to the extent that they identified strongly with their own university.

In Study 4, participants who identified themselves as religious were given an opportunity to reduce their dissonance in one of three ways after reflecting on their similarity to a member of a religious outgroup. Whether participants bolstered their religious ingroup identity, differentiated the similar outgroup member from the religious outgroup at large, reflected on a superordinate identity inclusive of all religious people, or performed a control task did not systematically impact the favorability of participants' attitude towards the similar outgroup member, their attitude towards the religious outgroup at large, or their preferred physical distance in an interaction with another member of the religious outgroup. A question that therefore remains is how people respond to the dissonance elicited by outgroup similarity.

The lack of findings with respect to how the dissonance invoked by outgroup similarity is ultimately resolved may have stemmed from methodological limitations of Study 4. For example, the context in which participants' religious identification was made salient may have inadvertently primed a set of egalitarian values that people associate with religious teachings. Several meta-analytic reviews have found that certain forms of religiosity are positively correlated with self-enhancement motives and concerns with socially desirable responding (e.g., Trimble, 1997; Sedikides & Gebauer, 2010; see also Hall, Matz, & Wood, 2010). This account is also supported by research demonstrating that the activation of religious concepts, even when such priming occurs subliminally, increases intentions to perform and the actual performance of prosocial behavior (Pichon, Boccato, & Saroglou, 2007; Shariff & Norenzayan, 2007). For two participants assigned to the bolster ingroup identity condition, this may have been the case. One participant listed as a positive attribute of people of his or her own religious faith "the tolerance to have friends from other faiths and to speak with them about religious matters without being reprimanded for it," and another wrote that "Christians are willing to be open and accepting." Therefore, it would be beneficial to investigate the implications of different dissonance reduction strategies for intergroup prejudice in a context in which outgroup derogation is an accepted group norm and perhaps even explicitly rewarded by members of one's ingroup. Such ideal circumstances might be found in the realm of professional sports, where zealous fans of one team may actually experience *schaudenfreude*, or pleasure when a rival team plays poorly or suffers a season-ending loss (Cikara, Botvinick, & Fiske, 2010).

Another challenge is that dissonance reduction in response to outgroup similarity may happen quickly and automatically, and may thus be hard to capture via self-report. As Festinger (1957) pointed out, "the existence of dissonance is an everyday

cognition" (p. 5). Although it is probably relatively rare that people are asked by a stranger to argue a viewpoint with which they don't agree, people learn about and confront similarities to members of outgroups frequently throughout their daily lives. Strategies that help to alleviate this common breed of dissonance may become well-rehearsed and may be automatically employed as soon as the threat of outgroup similarity emerges. There is, in fact, a good deal of evidence to suggest that some of the dissonance reduction strategies examined in the present research—shifting one's level of identity and subtyping atypical outgroup members—occur automatically and flexibly in response to situational threats. For instance, optimal distinctiveness theory (Brewer, 1991) posits that people experience simultaneous needs to feel similar to and included by others and to feel unique. Because people strive to balance these competing needs, situations that increase the salience of one's personal identity (i.e., what makes a person unique) motivate a reflexive shift to group-level identities that foster feelings of similarity and inclusion, and vice versa. Research on the subtyping model of stereotype maintenance, described earlier, suggests that the categorization of atypical targets in subcategories occurs fairly automatically in the service of maintaining one's existing stereotypes (Weber & Crocker, 1983).

One way to address this challenge might be through the use of implicit, indirect measures of dissonance-related affect. To illustrate, the affect misattribution procedure (AMP; Payne, Cheng, Govorun, & Stewart, 2005) measures people's emotional reactions indirectly, by priming people with images that elicit an emotional response (e.g., pictures of snakes) and then asking them to rate neutral, ambiguous stimuli (e.g., Chinese symbols). Because people have difficulty separating their affective responses to the primes from their evaluations of the neutral stimuli, their ratings of the neutral stimuli serve as reliable indicators of their current affective state (Payne et al., 2005).

More recently, the AMP has been used as an indirect measure of the degree to which people are experiencing specific types of emotions (Arbuckle & Payne, 2009). Using an implicit instrument like the AMP to measure dissonance-related affect would have the added benefit of preventing dissonance reduction via the mere expression of one's negative feelings. Similarly, implicit measures of self-esteem that capture unobtrusively shifts in self-evaluation might be helpful in this regard (e.g., Greenwald & Farnham, 2000; Koole, Dijksterhuis, & van Knippenberg, 2001).

Two moderators of the turncoat effect were examined in the present research: level of perceived choice and strength of ingroup identification. This list is certainly not exhaustive. For instance, the degree to which the ingroup and outgroup are viewed as rivals should also moderate the effect. Studies 1-3 focused in on groups between which perceptions of threat were generally strong (e.g., political parties vying for executive branch power) and even sought to enhance these perceptions within the context of the experiment (e.g., by creating a fictitious competition). Future research might explore the boundaries of this condition by investigating perceived similarity to members of a derogated but not oppositional outgroup, such as members of stigmatized social groups that pose no symbolic or realistic threat to one's ingroup.

Another fruitful direction for future research will be to investigate the turncoat effect within the context of other types of group and social identities. In the present studies, political, university, and religious affiliations were examined as group identities, with religious affiliation providing the weakest evidence of the turncoat effect. Still, as enduring group identities with meaningful consequences for participants, they provided a conservative test of the proposed theoretical framework. However, even membership in relatively fleeting and arbitrarily created groups can produce powerful intergroup biases (Turner, Flament, Billing, & Bundy, 1971; see Brewer, 1979,

for a review) and future research could explore whether the turncoat effect emerges in "minimal," experimentally-created groups.

Finally, the use of measures of physiological arousal would provide greater insight into the processes underlying the turncoat effect and a more complete picture of the manifestations of this form of dissonance. The role of arousal in the dissonance process has been demonstrated in studies using measures of autonomic nervous system activation. For instance, skin conductance level—an index of physiological arousal linked to emotional experience—has been shown to increase after people perform counterattitudinal behavior (Croyle & Cooper, 1983; Elkin & Leippe, 1986; Losch & Cacioppo, 1990). The present research focused on two specific aspects of the subjective experience of cognitive dissonance and relied exclusively on self-report measures of these indicators. The use of measurement tools that tap other aspects of cognitive dissonance, such as the arousal component, would complement the present findings.

# 7. Conclusion

The goal of this dissertation was to investigate whether similarity to members of a rival outgroup is experienced as a form of cognitive dissonance. Assumptions about our relative similarity to members of our ingroup and the dissimilarity of members of outgroups may influence us in countless ways as we navigate our daily lives. What I hope will be the novel contribution of the present research is its use of cognitive dissonance theory as a framework for understanding how outgroup similarity is experienced and the ways in which reactions to such instances of similarity may come to shape our views of and interactions with diverse others.

# Tables

**Table 1: Results of Regression Predicting Negative Self-Evaluation (*N* = 95)**

| Predictor | $R^2$ | $\Delta R$ | *B* | *SE B* | $\beta$ |
|---|---|---|---|---|---|
| Step 1 | .01 | | | | |
| Similarity to Obama | | | -.07 | .07 | -.10 |
| Ingroup/Outgroup Status | | | -.18 | .31 | -.06 |
| Step 2 | .13 | .12** | | | |
| Similarity to Obama | | | -.06 | .07 | -.09 |
| Ingroup/Outgroup Status | | | -.04 | .30 | -.01 |
| Similarity x Ingroup/Outgroup Status | | | .51 | .15 | .35** |

*Note*: $^{**}p < .01$

**Table 2: Results of Regression Predicting Psychological Discomfort (*N* = 95)**

| Predictor | $R^2$ | $\Delta R$ | *B* | *SE B* | $\beta$ |
|---|---|---|---|---|---|
| Step 1 | .06 | | | | |
| Similarity to Obama | | | -.10 | .05 | -.21 |
| Ingroup/Outgroup Status | | | .15 | .23 | .07 |
| Step 2 | .11 | .05* | | | |
| Similarity to Obama | | | -.10 | .05 | -.20 |
| Ingroup/Outgroup Status | | | .22 | .23 | .10 |
| Similarity x Ingroup/Outgroup Status | | | .26 | .11 | .23* |

*Note*: $^{*}p < .05$

**Table 3: Results of Regression Predicting Positive Affect (*N* = 95)**

| Predictor | $R^2$ | $\Delta R$ | *B* | *SE B* | $\beta$ |
|---|---|---|---|---|---|
| Step 1 | .34 | | | | |
| Similarity to Obama | | | .38 | .07 | .48** |
| Ingroup/Outgroup Status | | | -.74 | .31 | -.22* |
| Step 2 | .35 | .01 | | | |
| Similarity to Obama | | | .38 | .07 | .48** |
| Ingroup/Outgroup Status | | | -.78 | .31 | -.23* |
| Similarity x Ingroup/Outgroup Status | | | -.15 | .15 | -.08 |

*Note*: *$p < .05$, **$p < .01$

**Table 4: Results of Regression Predicting Overall Mood (*N* = 95)**

| Predictor | $R^2$ | $\Delta R$ | *B* | *SE B* | $\beta$ |
|---|---|---|---|---|---|
| Step 1 | .14 | | | | |
| Similarity to Obama | | | .28 | .09 | .34** |
| Ingroup/Outgroup Status | | | -.29 | .37 | -.08 |
| Step 2 | .14 | .00 | | | |
| Similarity to Obama | | | .28 | .09 | .34** |
| Ingroup/Outgroup Status | | | -.27 | .38 | -.08 |
| Similarity x Ingroup/Outgroup Status | | | .08 | .18 | .04 |

*Note*: *$p < .05$, **$p < .01$

**Table 5: Results of Regression Predicting Psychological Discomfort (*N* = 29)**

| Predictor | $R^2$ | $\Delta R$ | *B* | *SE B* | $\beta$ |
|---|---|---|---|---|---|
| Step 1 | .22 | | | | |
| Choice Condition | | | .84 | .35 | .41* |
| Strength of Ingroup Identification | | | .10 | .10 | .19 |
| Step 2 | .33 | .11 | | | |
| Choice Condition | | | .85 | .33 | .41* |
| Strength of Ingroup Identification | | | .16 | .10 | .28 |
| Condition x Ingroup Identification | | | .37 | .18 | .34* |

*Note*: *$p < .05$

**Table 6: Results of Regression Predicting Negative Self-Evaluation (*N* = 29)**

| Predictor | $R^2$ | $\Delta R$ | *B* | *SE B* | $\beta$ |
|---|---|---|---|---|---|
| Step 1 | .27 | | | | |
| Choice Condition | | | 1.18 | .41 | .48** |
| Strength of Ingroup Identification | | | .09 | .11 | .14 |
| Step 2 | .31 | .05 | | | |
| Choice Condition | | | 1.19 | .40 | .48** |
| Strength of Ingroup Identification | | | .13 | .11 | .20 |
| Condition x Ingroup Identification | | | .26 | .20 | .22 |

*Note*: **$p < .01$

**Table 7: Results of Regression Predicting Psychological Discomfort (*N* = 42)**

| Predictor | $R^2$ | $\Delta R$ | *B* | *SE B* | $\beta$ |
|---|---|---|---|---|---|
| Step 1 | .05 | | | | |
| Ingroup/Outgroup Condition | | | .30 | .34 | .14 |
| Strength of Ingroup Identification | | | .16 | .15 | .16 |
| Step 2 | .14 | .09† | | | |
| Ingroup/Outgroup Condition | | | .25 | .33 | .12 |
| Strength of Ingroup Identification | | | .32 | .17 | .33† |
| Condition x Ingroup Identification | | | .37 | .19 | .34† |

*Note*: †$p < .07$

**Table 8: Results of Regression Predicting Negative Self-Evaluation (*N* = 42)**

| Predictor | $R^2$ | $\Delta R$ | *B* | *SE B* | $\beta$ |
|---|---|---|---|---|---|
| Step 1 | .07 | | | | |
| Ingroup/Outgroup Condition | | | .10 | .29 | .05 |
| Strength of Ingroup Identification | | | .21 | .13 | .25 |
| Step 2 | .23 | .16** | | | |
| Ingroup/Outgroup Condition | | | .05 | .27 | .02 |
| Strength of Ingroup Identification | | | .40 | .14 | .48** |
| Condition x Ingroup Identification | | | .43 | .16 | .45** |

*Note*: **$p < .01$

**Table 9: Means (and Standard Deviations) of Subjective Indicators of Dissonance by Condition**

| Measure | Bolster $n = 16$ | Individuate $n = 13$ | Superordinate $n = 14$ | Control $n = 15$ |
|---|---|---|---|---|
| Psychological Discomfort | | | | |
| Time 1 | 2.15 (.86) | 2.68 (1.70) | 1.86 (.91) | 2.27 (.99) |
| Time 2 | 1.88 (.60) | 2.69 (1.73) | 1.62 (.74) | 1.84 (.63) |
| Negative Self-Evaluation | | | | |
| Time 1 | 1.68 (.68) | 2.03 (1.07) | 1.57 (.89) | 2.16 (1.30) |
| Time 2 | 1.53 (.69) | 2.10 (1.40) | 1.49 (.71) | 1.71 (1.01) |

**Table 10: Means (and Standard Deviations) of Intergroup Perceptions by Condition**

| Measure | Bolster $n = 16$ | Individuate $n = 12$ | Superordinate $n = 14$ | Control $n = 13$ |
|---|---|---|---|---|
| Attitude Toward Target | 5.69 (1.62) | 5.46 (1.20) | 5.71 (1.59) | 5.33 (1.59) |
| Meet Target | 6.13 (2.03) | 5.92 (1.75) | 6.93 (2.09) | 5.93 (2.22) |
| Friends with Target | 6.13 (2.45) | 5.69 (1.44) | 6.71 (2.16) | 5.67 (2.38) |
| Attitude Toward Muslims | 6.50 (2.10) | 6.54 (2.03) | 6.64 (2.02) | 6.73 (2.43) |
| Physical Distance | 56.65 (27.58) | 51.58 (14.15) | 49.44 (13.50) | 55.95 (9.56) |

# Figures

**Figure 1: Ingroup/Outgroup Status x Similarity Interaction on Negative Self-Evaluation**

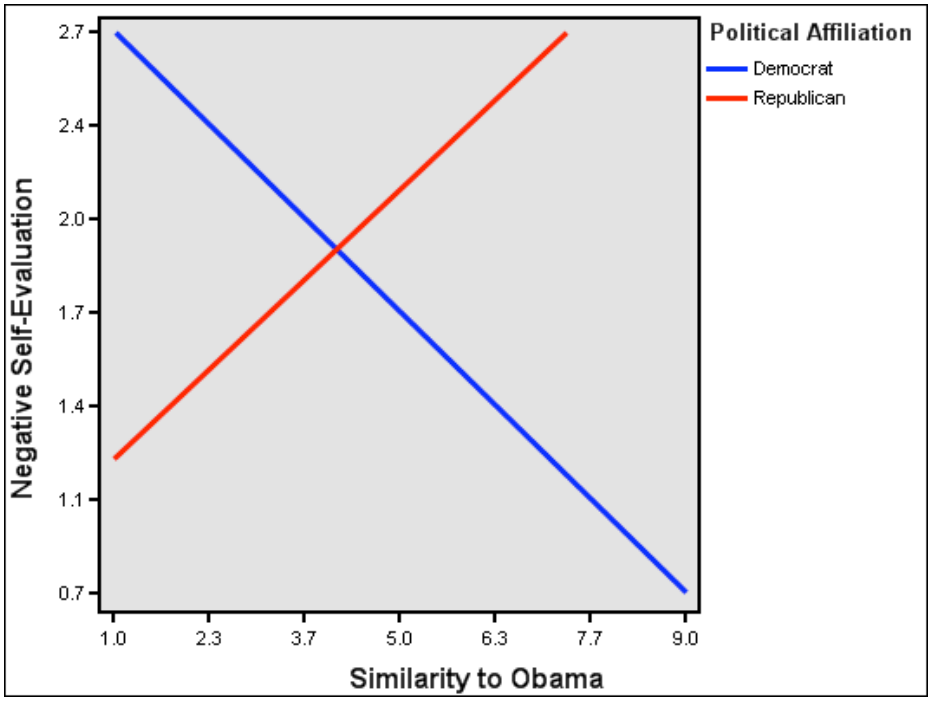


**Figure 2: Choice x Strength of Ingroup Identification Interaction on Psychological Discomfort**

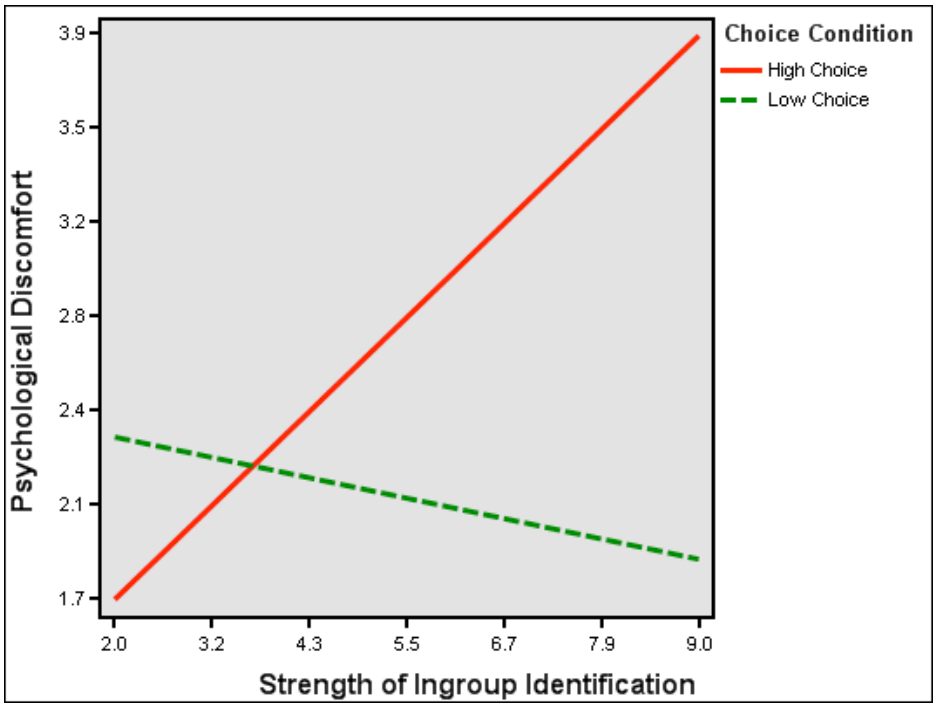


**Figure 3: Choice x Strength of Ingroup Identification Interaction on Negative Self-Evaluation**

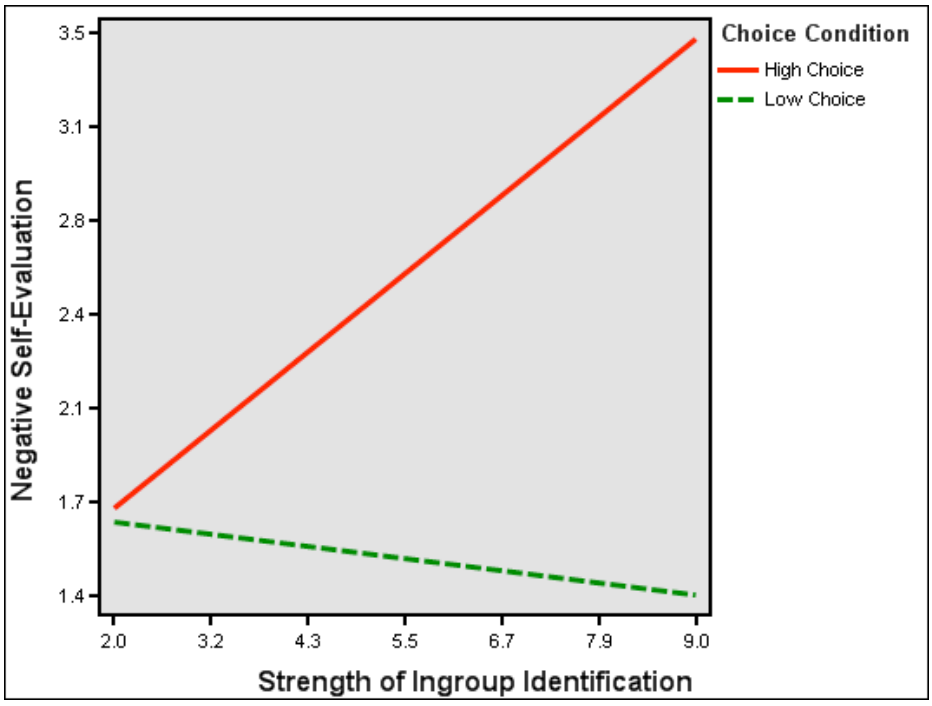


**Figure 4: Ingroup/Outgroup x Strength of Ingroup Identification Interaction on Psychological Discomfort**

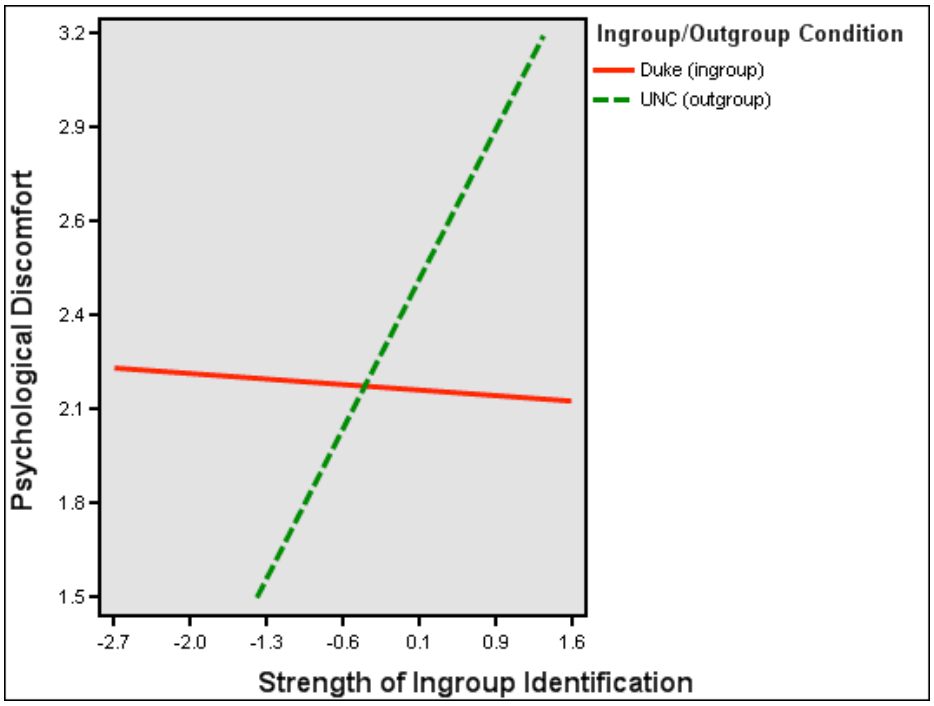
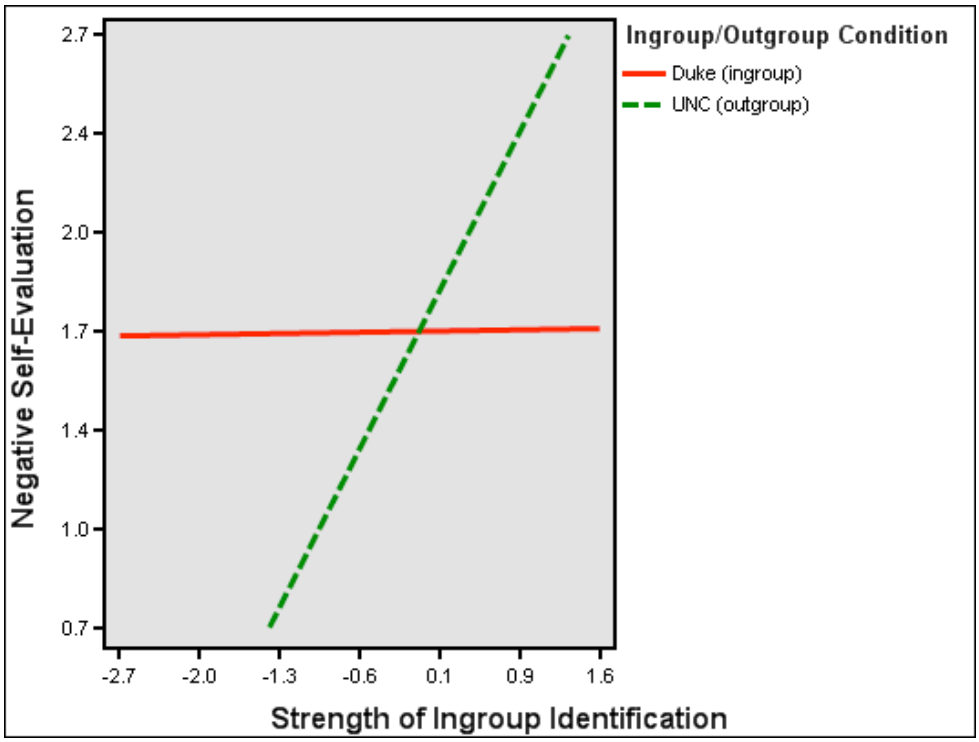


**Figure 5: Ingroup/Outgroup x Strength of Ingroup Identification on Negative Self-Evaluation**



# Appendix A

**Materials (Study 1)**

To what extent do you feel Barack Obama is similar to you?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Not at all slightly somewhat very extremely

This questionnaire consists of a number of words that describe different feelings and emotions. Read each item and then click on the response that best describes how you are feeling right now, at the present moment.

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
very slightly/ not at all a little moderately quite a bit extremely

Uncomfortable*
Uneasy*
Bothered*
Calm
Anxious*
Interested†
Excited†
Guilty**
Enthusiastic†
Proud†
Jittery*
Inspired†
Nervous*
Ashamed**
Determined†

* denotes item assessing psychological discomfort
**denotes item assessing negative self-evaluation
† denotes item assessing positive affect

Overall, how would you describe your mood right now?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
extremely negative neutral extremely positive

# Appendix B

**Materials (Study 2)**

To what extent is being a student at Duke an important part of who you are?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

extremely unimportant — extremely important

Essay Instructions:

*We are interested in learning about how students at Duke are similar to and different from students at other colleges in North Carolina. We have been asking students to write an essay on one of two topics:*

*Topic 1: The ways in which you feel different from students at UNC-Chapel Hill*
*Topic 2: The ways in which you feel similar to students at UNC-Chapel Hill*

Low Choice Condition:

*You have been assigned to Topic 2.*

*We would like you to write a brief (2-3 paragraph) essay in which you discuss the ways in which you are **similar to students at UNC-Chapel Hill**. That is, please take a second to think about what you share in common with students who attend UNC-Chapel Hill. There is no right or wrong way to respond to this question. We are interested in your honest opinions about the similarities you share with UNC students.*

High Choice Condition:

*So far, the majority of participants in this study have opted to write an essay on Topic 1. In order to learn more about differences and similarities between Duke and UNC students, we are hoping you will be willing to write the essay on Topic 2, about your similarities to UNC students.*

Would you be willing to write about Topic 2?

*We would like you to write a brief (2-3 paragraph) essay in which you discuss the ways in which you are **similar to students at UNC-Chapel Hill**. That is, please take a second to think about what you share in common with students who attend UNC-Chapel Hill. There is no right or wrong way to respond to this question. We are interested in your honest opinions about the similarities you share with UNC students.*

Cognitive Dissonance Items:

A series of words that describe different types of feelings will appear on the screen. For each word, please indicate how much it describes how you are feeling RIGHT NOW.

Don't spend too much time thinking about each word. Just give a quick, gut-level response.

☐ ☐ ☐ ☐ ☐
does not apply at all applies very much

Bothered*
Disappointed with myself**
Tense*
Annoyed with myself**
Uneasy*
Angry at myself**
Guilty**
Disgusted with myself**
Ashamed**
Embarrassed**
Uncomfortable*
Anxious*
Nervous*

* denotes item assessing psychological discomfort
** denotes item assessing negative self-evaluation

# Appendix C

**Materials (Study 3)**

Group Identification Measure:

You will read a series of statements. Please indicate the degree to which you agree or disagree with each statement as it applies to you. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions.

| ☐ | ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|---|
| disagree | disagree somewhat | neutral | agree | agree somewhat |

Overall, being a Duke student has very little to do with how I feel about myself.[r]
Being a Duke student is an important reflection of who I am.
Being a student at Duke is unimportant to my sense of what kind of person I am.[r]
In general, being a Duke student is an important part of my self-image.

Cover Story:

*This study is part of a project being sponsored by the North Carolina Higher Education Initiative (NCHEI).*

*The mission of the North Carolina Higher Education Initiative is to increase the number of high school students in North Carolina who attend four-year colleges and universities.*

*NCHEI is preparing a video in which college students in North Carolina are interviewed about their experiences as a freshman. The purpose of the video is to equip prospective students with a set of realistic expectations about college life.*

*During the 2008-2009 academic year, a call for video submissions was made at each of the four-year colleges and universities in North Carolina.*

*Submission Guidelines established that:*

- *Each four-year institution in North Carolina could submit only <u>one</u> video for consideration.*
- *Each college's submission must feature a current student, enrolled full-time, at the respective institution.*
- *Students in the video should talk about his/her experiences as a freshman at the school.*

*Evaluation Criteria:*

*Each submission will be evaluated along a series of dimensions, including effectiveness at meeting the goals of the project, by a panel of judges at NCHEI.*

*Project Goals:*

- *Convey to prospective students what it is like to be a college student*

- *Address concerns high school students may have about college life*

*Winning Submission:*

- *The winning video submission will be chosen by actual college students in North Carolina, from a pool of finalists selected by the NCHEI panel.*

- *The student in the video will receive a $1,000 NCHEI General Fund Scholarship.*

- *A finalized version of the winning submission will be featured on the NCHEI website, disseminated by high school guidance counselors throughout the state, and used for recruitment purposes at the winning institution.*

*As part of today's study, you will be asked to view clips from one of the three submissions selected as Regional Finalists in your area.*

*Because your feedback will help us choose the winning submission, we ask that you watch the video carefully and provide your honest opinions.*

*To evaluate how effective the video is at capturing key elements of the freshman experience, please try to think back to when you were a freshman. While watching the video, you should think about how your experiences may have been similar and really try to put yourself in the student's shoes.*

*The three Regional Finalists in your area are:*

*Finalist A: North Carolina State University*
*Finalist B: Duke University*
*Finalist C: University of North Carolina at Chapel Hill*

*You will now be randomly assigned to watch segments of the video submission from one of these schools.*

Ingroup Condition:

*You have been randomly assigned to watch the video submission from* Duke University.

Outgroup Condition:

*You have been randomly assigned to watch the video submission from* University of North Carolina at Chapel Hill.

# Appendix D

**Materials (Study 4)**

Group Identification Measure:

You will read a series of statements. Please indicate the degree to which you agree or disagree with each statement as it applies to you. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions.

| ☐ | ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|---|
| disagree | disagree somewhat | neutral | agree | agree somewhat |

Overall, my religious affiliation has very little to do with how I feel about myself.[r]
My religious affiliation is an important reflection of who I am.
My religious affiliation is unimportant to my sense of what kind of person I am.[r]
In general, my religious affiliation is an important part of my self-image.

Similarity Induction:

*In today's study, you will be shown a photograph of a stranger. We would like you to think about ways in which you are similar to the stranger. We ask that you really try to put yourself in the stranger's shoes. That is, try to think about their thoughts, attitudes, and feelings and the ways in which your own thoughts and feelings may be similar.*

Manipulation Check:

Please answer the following questions based on your impression of the person in the photo.

What is the person's gender?
How old do you think the person is?
What do you think the racial/ethnic background of the person is?
In what country do you think the person was born?
What do you think the person's profession is?
What religion do you think the person practices?

*In 2-3 paragraphs, please describe the ways in which you are similar to the person in the photograph. Remember, try to really put yourself in the person's shoes and think about the thoughts, feelings, and attitudes you may share in common.*

Dissonance Reduction Instructions:

Bolster Ingroup Identity Condition:

*Next, take a moment to think about your religious affiliation or a religious group to which you may belong. What are some of the positive attributes that characterize people of your religious*

*faith or your religious group? In 3-4 sentences, please describe some of these positive characteristics.*

Individuate Condition:

*Next, take a moment to think about the likely religious faith of the person whose profile you viewed. How might the person you viewed be different from other people of his or her likely religious faith? In 3-4 sentences, please describe some of the ways in which the person is probably different from others who practice his or her religion.*

Superordinate Identity Condition:

*Next, take a moment to think about the qualities and attributes shared by people across all religious faiths who share in common a commitment to a higher power. In 3-4 sentences, briefly discuss characteristics shared by all people who believe in a higher being or power.*

No Dissonance Reduction Control Condition:

*Next, take a moment to think about the food that you plan to eat for the rest of the day. In 3-4 sentences, briefly describe where, when, and what you plan to eat before the end of the day.*

<u>Measures of Intergroup Perceptions</u>:

Please indicate how warm and favorable versus cold and unfavorable you would rate your feelings towards the person in the photograph.

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

cold/unfavorable neutral warm/favorable

To what extent would you like to meet the person in the photograph?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

not at all extremely

To what extent can you see yourself being friends with the person in the photograph?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

not at all extremely

Please indicate how warm and favorable versus cold and unfavorable your feelings are towards each of the following groups.

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

cold/unfavorable neutral warm/favorable

Senior citizens
Republicans

Whites / Caucasians
Catholics
Liberals
Hispanics / Latinos
Mormons
Blacks / African Americans
Democrats
Muslims
Asians
Gay Men / Lesbians
Conservatives

Social Distance Manipulation Check:

Please answer the following questions based on your recollection of your interaction with Ali, the research assistant by whom you were just interviewed. Try to be as accurate as you can in your prediction of his attributes, characteristics, and demographic information.

How old is Ali?
In what country was Ali born?
What religion does Ali practice?
What did the front of Ali's shirt say? If you don't remember what was displayed on the front of his shirt, please take your best guess.

# References


Abelson, R. P. (1959). Modes of resolution in belief dilemmas. *Journal of Conflict Resolution, 3,* 343-352.

Allen, V. L. (1965). Effect of extraneous cognitive activity on dissonance reduction, *Psychological Reports, 16,* 1145-1151.

Allport, G. W. (1954). *The nature of prejudice.* Cambridge, MA: Addison-Wesley.

Arbuckle, N. L., & Payne, B. K. (2009). Automatic intergroup emotions. Unpublished manuscript. The University of North Carolina at Chapel Hill, Chapel Hill, NC.

Aronson, E. (1968). Dissonance theory: Progress and problems. In R. P. Abelson, E. Aronson, W. J. McGuire, T. M. Newcomb, M. J. Rosenberg, & P. H. Tannenbaum (Eds.), *Cognitive consistency theories: A source book* (pp. 5-27). Skokie, IL: Rand McNally.

Blascovich, J., Mendes, W. B., Hunter, S., Lickel, B., & Kowai-Bell, N. (2001). *Perceiver threat in social interactions with stigmatized others. Journal of Personality and Social Psychology, 80*, 253-267.

Bosson, J. K., Prewitt-Freilino, J. L., & Taylor, J. N. (2005). Role rigidity: A problem of identity misclassification? *Journal of Personality and Social Psychology, 89,* 552-565.

Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin, 86,* 307-324.

Brown, R. (1984). The role of similarity in intergroup relations. In H. Tajfel (Ed.), *The social dimension: European developments in social psychology* (pp. 603-623). New York: Cambridge University Press.

Brown, L. M., & Lopez, G. E. (2001). Political contacts: Analyzing the role of similarity in theories of prejudice. *Political Psychology, 22,* 279-292.

Byrne, D., Clore, G., & Smeaton, G. (1986). The attraction hypothesis: Do similar attitudes affect anything? *Journal of Personality and Social Psychology, 51,* 1167-1170.

Cikara, M., Botvinick, M., & Fiske, S. (2010, January). Red Sox v. Yankees: fMRI investigation of pain and pleasure responses to a rival group's outcome. Paper presented at the annual conference of the Society for Personality and Social Psychology, Las Vegas, NV.

Cooper, J. (2007). *Cognitive dissonance: Fifty years of a classic theory.* Thousand Oaks, CA: Sage.

Cooper, J., & Mackie, D. (1983). Cognitive dissonance in an intergroup context. *Journal of Personality and Social Psychology, 44,* 536-544.

Cooper, J., Zanna, M. P., & Taves, P. A. (1978). Arousal as a necessary condition for attitude change following induced compliance. *Journal of Personality and Social Psychology, 36*, 1101-1106.

Croyle, R. T., & Cooper, J. (1983). Dissonance arousal: Physiological evidence. *Journal of Personality and Social Psychology, 45,* 782-791.

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt Brace College Publishers.

Elkin, R. A., & Leippe, M. R. (1986). Physiological arousal, dissonance, and attitude change: Evidence for a dissonance-arousal link and a "Don't remind me" effect. *Journal of Personality and Social Psychology, 51,* 55-65.

Festinger, L. (1957). *A theory of cognitive dissonance.* Stanford, CA: Stanford University Press.

Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *Journal of Abnormal and Social Psychology, 58,* 203-210.

Festinger, L., Riecken, H. W., & Schachter, S. (1956). *When prophecy fails.* Minneapolis: University of Minnesota Press.

Galinsky, A. D., Stone, J., & Cooper, J. (2000). The reinstatement of dissonance and psychological discomfort following failed affirmations. *European Journal of Social Psychology, 30,* 123-147.

Gaertner, S. L., & Dovidio, J. F. (2000). *Reducing intergroup bias: The common ingroup identity model.* Philadelphia, PA: Psychology Press.

Gaertner, S. L., Dovidio, J. F., Anastasio, P. A., Bachman, B. A., & Rust, M. C. (1993). The common ingroup identity model: Recategorization and the reduction of intergroup bias. *European Review of Social Psychology, 4*,1-26.

Glasford, D. E., Dovidio, J. F., & Pratto, F. (2009). I continue to feel so good about us: In-group enhancing identification and the use of social identity-enhancing strategies to reduce intragroup dissonance. *Personality and Social Psychology Bulletin, 35,* 415-427.

Glasford, D. E., Pratto, F., & Dovidio, J. F. (2008). Intragroup dissonance: Responses to ingroup violation of personal values. *Journal of Experimental Social Psychology, 44*, 1057-1064.

Gotz-Marchand, B., Gotz, J., & Irle, M. (1974). Preference of dissonance reduction modes as a function of their order, familiarity and reversibility. *European Journal of Social Psychology, 4,* 201-228.

Green, D., Palmquist, B., Schickler, E. (2002). *Partisan hearts and minds: Political parties and the social identities of voters.* New Haven, CT: Yale University Press.

Greenwald, A. G., & Farnham, S. D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology, 79,* 1022-1038.

Harmon-Jones, E. (1999). Toward an understanding of the motivation underlying dissonance effects: Is the production of aversive consequences necessary? In E. Harmon-Jones & J. Mills (Eds.), *Cognitive dissonance: Progress on a pivotal theory in social psychology* (pp. 71–102). Washington, DC: American Psychological Association.

Harmon-Jones, E. (2000). Cognitive dissonance and experienced negative affect: Evidence that dissonance increases experienced negative affect even in the absence of aversive consequences. *Personality and Social Psychology Bulletin, 12,* 1490-1501.

Heider, F. (1946). Attitudes and cognitive organization. *Journal of Psychology, 21,* 107-112.

Heider, F. (1958). *The psychology of interpersonal relations*. New York: John Wiley & Sons.

Hitler, A. (1943). *Mein Kampf*. Boston: Houghton Mifflin.

Kenworthy, J. B., Miller, N., Collins, B. E., Read, S. J., & Pollock, V. E. (2009). *A trans-paradigm theoretical synthesis of cognitive dissonance theory: Revealing guilt as a primary process.* Unpublished manuscript, University of Southern California, Los Angeles, CA.

Koole, S. L., Dijksterhuis, A., & van Knippenberg, A. (2001). What's in a name: Implicit self-esteem and the automatic self. *Journal of Personality and Social Psychology, 80,* 669-685.

Kunda, Z., & Oleson, K. C. (1995). Maintaining stereotypes in the face of discrimination: Constructing grounds for subtyping deviants. *Journal of Personality and Social Psychology, 68,* 565-579.

Layman, G. C., & Carsey, T. M. (2002). Party polarization and "conflict extension" in the American electorate. *American Journal of Political Science, 46,* 786-802.

Linder, D. E., Cooper, J., & Jones, E. E. (1967). Decision freedom as a determinant of the role of incentive magnitude in attitude change. *Journal of Personality and Social Psychology, 6,* 245-254.

Losch, M. E., & Cacioppo, J. T. (1990). Cognitive dissonance may enhance sympathetic tonus, but attitudes are changed to reduce negative affect rather than arousal. *Journal of Experimental Social Psychology, 26,* 289-304.

Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin, 18,* 302-318.

Marques, J. M., Yzerbyt, V. Y., & Leyens, J. (1988). The 'Black Sheep Effect': Extremity of judgments towards ingroup members as a function of group identification. *European Journal of Social Psychology, 18,* 1-16.

Matz, D. C., & Wood, W. (2005). Cognitive dissonance in groups: The consequences of disagreement. *Journal of Personality and Social Psychology, 88,* 22-37.

Martin, G. (1988). *The Routeledge atlas of the Holocaust* (4th Ed.). New York: Routeledge.

Mackie, D. M., & Smith, E. R. (1998). Intergroup relations: Insights from a theoretically integrative approach. *Psychological Review, 105,* 499-529.

Macrae, C. N., Bodenhausen, G. V., & Milne, A. B., & Jetten, J. (1994). Out of mind but back in sight: Stereotypes on the rebound. *Journal of Personality and Social Psychology, 67,* 808-817.

Norton, M. I., Monin, B., Cooper, J., & Hogg, M. A. (2003). Vicarious dissonance: Attitude change from the inconsistency of others. *Journal of Personality and Social Psychology, 85,* 47-62.

Pallack, M. S., & Pittman, T. S. (1972). General motivation effects of dissonance arousal. *Journal of Personality and Social Psychology, 21,* 349-358.

Payne, B. K., Cheng, C. M., Govorun, O., & Stewart, B. (2005). An inkblot for attitudes: Affect misattribution as implicit measurement. *Journal of Personality and Social Psychology, 89*, 277-293.

Richeson, J.A., & Shelton, J.N. (2003). When prejudice does not pay: Effects of interracial contact on executive function. *Psychological Science, 14,* 287-290.

Rokeach, M. (1960). *The open and closed mind.* New York: Basic Books.

Schmitt, M. T., & Branscombe, N. R. (2001). The good, the bad, and the manly: Threats to one's prototypicality and evaluations of fellow in-group members. *Journal of Experimental Social Psychology, 37*, 510-517.

Sherif, M., Harvey, O. J., White, B. J., Hood, W. R., & Sherif, C. W. (1961). *Intergroup conflict and cooperation: the Robbers Cave experiment.* Norman: University of Oklahoma Book Exchange.

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 261-302). San Diego, CA: Academic Press.

Steele, C. M., & Lui, T. J. (1983). Dissonance processes as self-affirmation. Journal of Personality and Social Psychology, 45, 5-19.

Stephan, W. G., & Stephan, C. (1985). Intergroup anxiety. *Journal of Social Issues, 41,* 157-176.

Stephan, W. G., Ybarra, O., & Morrison, K. R. (2009). Intergroup threat theory. In T. D. Nelson (Ed.), *Handbook of stereotypes, prejudice, and discrimination* (pp. 43-59). Mawah, NJ: Lawrence Ehrlbaum Associates.

Stice, E. (1992). The similarities between cognitive dissonance and guilt: Confessions as a relief of dissonance. *Current Psychology: Research and Reviews, 11,* 69-77.

Swann, W. B., Jr., & Read, S. J. (1981). Acquiring self-knowledge: The search for feedback that fits. *Journal of Personality and Social Psychology, 41,* 1119-1128.

Tajfel, H. (1969). Cognitive aspects of prejudice. *Journal of Social Issues, 25,* 79-97.

Tajfel, H., Billig, M., Bundy, R., & Flament, C. (1971). Social categorization and intergroup behavior. *European Journal of Social Psychology, 1,* 149-178.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks-Cole.

Terry, D. J., & Hogg, M. A. (1996). Group norms and the attitude-behavior relationship: A role for group identification. *Personality and Social Psychology Bulletin, 22,* 776-793.

Waterman, C. K., & Katkin, E. S. (1967). The energizing (dynamogenic) effect of cognitive dissonance on task performance. *Journal of Personality and Social Psychology, 6,* 126-131.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scale. *Journal of Personality and Social Psychology, 54,* 1063-1070

Weber, R., & Crocker, J. (1983). Cognitive processes in the revision of stereotypic beliefs. *Journal of Personality and Social Psychology, 45,* 961-977.

Wilder, D. A., & Allen, V. L. (1974). Effects of social categorization and belief similarity upon intergroup behavior. *Personality and Social Psychology Bulletin, 1,* 281-283.

Zanna, M. P., & Aziza, C. (1976). On the interaction of repression-sensitization and attention in resolving cognitive dissonance. *Journal of Personality, 44,* 577-593.

# Biography

**DEBORAH L. HALL**
**CURRICULUM VITAE**

**EDUCATION**

Ph.D., Duke University, 2010
B.A., Claremont McKenna College, 2002

**PUBLICATIONS**

Hall, D. L., Matz, D. C. , & Wood, W. (2010). Why don't we practice what we preach? A meta-analytic review of religious racism. *Personality and Social Psychology Review, 14,* 126-149.

Hall, D. L., & Blanton, H. (2008). Knowing when to assume: Normative expertise as a moderator of social influence. *Social Influence, 4,* 81-95.

Hall, D. L., & Payne, B. K. (2010). Unconscious attitudes, unconscious influence, and challenges to self-control. In R. Hassin, K. Ochsner, & Y. Trope (Eds.), *From society to brain: The new sciences of self-control.* New York: Oxford University Press.

Blanton, H., & Hall, D. L. (2009). Punishing difference and rewarding diversity: A deviance regulation analysis of social structure. In J. Forgas, R. Baumeister, & D. Tice (Eds.), *Psychology of self-regulation: Cognitive, affective, and motivational processes* (pp. 273-288). Brighton, NY: Psychology Press.

Cohen, T. R., Hall, D. L., & Tuttle, J. (2009). Attitudes towards stereotypical versus counter-stereotypical gay men and lesbians. *Journal of Sex Research, 46,* 1-8.

Shah, J. Y., Hall, D. L., & Leander, N. P. (2009). Moments of motivation: Margins of opportunity in managing the efficacy, need, and transitions of strivings. In G. Moskowitz & H. Grant (Eds.), *The psychology of goals*. New York: Guilford Press.

Harkness, S. K., & Hall, D. L. (in press). The future of the gender system. *Social Psychology Quarterly*.