

INTERRACIAL CONTACT AND SELF-DISCLOSURE:
IMPLICIT TRUST, RACIAL CATEGORIZATION, AND EXECUTIVE
FUNCTIONING

A Dissertation
Submitted to
the Temple University Graduate Board

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

By

Lisa Haisfield , M.A.

August, 2012

Major Advisor:

Kareem Johnson, Ph.D., Department of Psychology

Examining Committee Members:

Andrew Karpinski, Ph.D., Department of Psychology

Donald Hantula, Ph.D., Department of Psychology

Ronald Taylor, Ph.D., Department of Psychology

Richard Heimberg, Ph.D., Department of Psychology

Deborah Cai, Ph.D., Department of Strategic Communication

©
Copyright
2012

by

Lisa Haisfield
All Rights Reserved

ABSTRACT

High quality interactions with racial outgroup members have been shown to improve explicit racial attitudes. However, the links between high quality interracial interactions with other cognitive and social factors have received less attention in the research literature. Contact theory posits that more contact with outgroup members leads to less bias towards outgroup members. The disclosure-liking effect posits that we like those who we have disclosed to and those who have disclosed to us. Therefore, some researchers have explored whether intimate self-disclosure in contact experiences can be used as a strategy to foster better interracial interactions. The current study found support for the use of self-disclosure as a strategy in interracial interactions to reduce executive functioning impairments typically found for both African-Americans and Caucasians following interracial interactions. This strategy was not as effective for other interracial interaction outcomes. Although implicit trust for the outgroup increased for Caucasians who interacted with an outgroup member, it decreased for African-Americans following an outgroup interaction. Intimacy of self-disclosure was unrelated to these observed changes in implicit outgroup trust. Furthermore, while this strategy reduced the salience of racial category differences for those who interacted with an outgroup member with high intimacy, the strategy also increased racial category salience for African-Americans. The study's results suggest that for some outcomes the quantity of contact may be as important as quality of contact and highlights the importance of studying effects for both minority and majority group members in interracial interactions.

ACKNOWLEDGEMENTS

With sincere gratitude I'd like to thank my friends and family who have supported me throughout this process, especially my grandma "Pixie" Haisfield. Additionally, special thanks must be extended to my mentor Kareem Johnson who has offered me academic guidance as well as helped me to learn and grow as a person.

TABLE OF CONTENTS

	Page
ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
CHAPTER	
1. INTRODUCTION.....	1
Contact Theory and Self-Disclosure.....	2
Implicit Outgroup Biases and Trust.....	6
Categorization of Outgroup Members.....	9
Executive Functioning.....	13
Outline of Current Study.....	16
Hypotheses.....	18
2. METHODS.....	19
Methodological Considerations.....	19
Sample Size Considerations.....	21
Participants.....	22
Measures.....	23
Procedure.....	26
3. RESULTS.....	29
Manipulation Check.....	29
Implicit Trust-Mistrust.....	29
Racial Categorization.....	31
Executive Functioning.....	35
Mediation of Implicit Outgroup Trust and Racial Categorization.....	38
Explicit Ratings of the Interaction.....	38

4. DISCUSSION.....	40
Recommendations for Improving Interracial Interactions.....	42
Differential Effects for Caucasians and African-Americans.....	44
Mechanisms for Self-Disclosure Effects.....	49
Applications for Real World Settings.....	51
Contributions, Limitations, and Future Directions.....	52
REFERENCES CITED.....	55
APPENDIXES.....	63
A. IMPLICIT TRUST-MISTRUST STIMULI WORDS.....	64
B. EXAMPLES OF RACIAL CATEGORIZATION STIMULI.....	65
C. EXAMPLES OF PERCEIVED INTERPERSONAL CLOSENESS SCALE (PICS)	
ITEMS.....	66

LIST OF TABLES

Table	Page
1. Participant Groupings.....	23
2. Analysis of Variance: Implicit Trust-Mistrust IAT.....	30
3. Means and Standard Errors for Implicit Trust-Mistrust IAT by Interviewer Race and Participant Race and Time.....	31
4. Analysis of Variance: Racial Categorization.....	32
5. Means and Standard Errors for Racial Categorization by Interviewer Race and Participant Race and Time.....	33
6. Means and Standard Errors for Racial Categorization by Interviewer Race and Intimacy and Time.....	34
7. Analysis of Variance: Stroop Color-Naming Task.....	36
8. Means and Standard Errors for Stroop Color-Naming Task by Interviewer Race and Intimacy and Time.....	37
9. Intercorrelations between Primary Measures.....	38

LIST OF FIGURES

Figure	Page
1. Change in Implicit Trust by Participant Race and Interviewer Race.....	31
2. Change in Racial Categorization by Participant Race and Interviewer Race.....	33
3. Change in Racial Categorization by Interviewer Race and Intimacy Condition.....	35
4. Change in Executive Functioning by Interviewer Race and Intimacy Condition....	37

CHAPTER 1

INTRODUCTION

Interracial interactions between Caucasians and African-Americans can be difficult compared to same-race interactions. These interracial interactions are associated with negative feelings and outcomes such as stress, anxiety, and mistrust (Dovidio, Kawakami, & Gaertner, 2002; Mendes, Balscovich, Lickel, & Hunter, 2002; Towns, Chavez-Korell, & Cunningham, 2009). One of the earliest approaches to improving intergroup relations was Contact Theory, which argued that prejudicial feelings towards different group members are largely influenced by the conditions in which the different groups interact (Allport, 1954). Over fifty years later, Contact Theory continues to provide insight on strategies to improve intergroup relations (see Pettigrew & Tropp, 2006 for review).

One condition for improving intergroup relations highlighted by Contact Theory was the need for individuals to have one-to-one interactions with outgroup members. A one-to-one interaction allows individuals to get to know one another as individuals, not as representatives of different groups. Patterns of self-disclosure between two individuals can increase feelings of liking, trust, and closeness (Collins & Miller, 1994). However, in the context of intergroup interactions, self-disclosure may be particularly potent strategy for improving intergroup interactions and reducing biases towards outgroup members.

Previously, the primary demarcation of the success of Contact Theory was evidence that high quality intergroup interactions improved explicit prejudicial attitudes (Pettigrew & Tropp, 2006). Recently, other cognitive factors that influence intergroup interactions and are shaped by these interactions have become a research focus. Implicit

attitudes towards outgroups (Dovidio et al., 2002; Turner, Hewstone, & Voci, 2007), racial categorization of outgroup members (Aron & McLaughlin-Volpe, 2001), and executive functioning (Richeson & Shelton, 2003; Richeson & Trawalter, 2005) represent three factors beyond explicit attitudes that have recently been examined in relation to interracial contact. More intimate self-disclosure during intergroup interactions has been identified as a strategy to promote better intergroup interactions and subsequent attitude change; however few studies have looked at how these other cognitive factors may be affected by self-disclosure in intergroup interactions.

Contact Theory and Self-Disclosure

In *The Nature of Prejudice* (1954), Gordon Allport introduced Contact Theory positing that greater contact with individual outgroup members decreases biased attitudes towards outgroup members, given that certain conditions of social contact are met. Allport argued that situations of intergroup contact that promote cooperation, equal status, a common goal, and that receive support from authorities facilitate quality intergroup contact and can change prejudicial attitudes. In accordance with this view, Muzafer Sherif (1954), in a seminal naturalistic study, created a group conflict between two groups of 11-year-old boys in the context of a summer camp experience and then demonstrated that hostilities between the groups could be dissolved by having the boys engage in a cooperative task in which the groups had to work together towards a superordinate goal (e.g., to pull a truck they were told was broken back to camp).

A recent meta-analysis conducted by Pettigrew and Tropp (2006) supported the effectiveness of Contact Theory finding that intergroup contact typically does reduce

prejudices towards outgroup members. In one longitudinal study conducted with 1,245 freshman entering UCLA who were followed throughout their time at the school, those students who had more outgroup friendships showed less outgroup bias and less anxiety about intergroup interactions when leaving UCLA, controlling for initial attitudes and anxiety when entering (Levin, van Laar, & Sidanius, 2003). Further research has shown intergroup contact can shape individuals' behaviors as well as attitudes. In one study, those individuals who attended schools and lived in neighborhoods with more interracial contact when young were more likely as adults to have more racially diverse friend circles, intermarry, and attend religious congregations that were more racially diverse (Emerson, Kimbro, & Yancey, 2002).

Intimate self-disclosure has been examined more recently as a strategy within intergroup contact experiences that may facilitate liking between ingroup and outgroup members. Self-disclosure is the act of verbally providing information about the self to another individual whether it is facts, beliefs, or emotions (Altman & Taylor, 1973; Chelune, 1979). The disclosure-liking effect posits that those who disclose more are typically liked more than those who disclose less, people disclose more to people they like, and when people disclose they like the people they've disclosed to more as a result of disclosing (Archer, 1980; Collins & Miller, 1994). Adding to this positive feedback loop of disclosure is that people who disclose more intimate information are generally liked more than those who disclose less intimate information, but because of reciprocity norms, when people are disclosed to, they feel the need to reciprocate with an equally intimate disclosure in return (Kleinke, 1979). While the disclosure-liking effect has been widely documented, there may be limits to how much intimate self-disclosure would be

considered beneficial. If self-disclosures are seen as violating acceptable social norms, then overly intimate self-disclosure could lead to unfavorable judgments rather than favorable judgments (Derlega & Grzelak, 1979; Myers, 2007). However, given socially appropriate levels of self-disclosure, interpersonal liking may be accelerated by the back and forth exchange of progressively more intimate information, and this may be helpful for facilitating positive intergroup contact experiences.

Berg and Wright-Buckley (1998) showed that when African-Americans had a Caucasian interviewer, they were more likely to self-disclose and to like the interviewer more if the interviewer disclosed more about herself. More specifically, looking at outgroup attitudes, Ensari and Miller (2002) presented a series of experiments demonstrating how both salience and typicality interact with self-disclosure when individuals engage with outgroup members. If participants interacted with outgroup partners who were deemed more typical of their outgroup (e.g., Muslim wearing a head scarf) and self-disclosed more, then other members of that outgroup were rated significantly more positively on various attributes, including trust. In contrast, participants who interacted with outgroup members that were more atypical and/or disclosed less evaluated other members of the outgroup less positively. Salience also interacted with self-disclosure in that participants who were reminded of their partners' outgroup membership (e.g., wearing a badge with membership information) and had partners who disclosed more, were more likely to positively evaluate applicants of that same outgroup than participants who had outgroup partners that disclosed less or had interactions in which they were not reminded of their partners' group membership. The experiments in this study showed that more favorable evaluations of an outgroup in

general could result from an interaction with one outgroup member that self-disclosed, but only when group membership was salient or the outgroup members were seen as typical of their group.

Ensari and Miller (2002) presented three different but compatible interpretations of how self-disclosure in intergroup interactions may facilitate liking and reduce bias towards outgroup members. First, they proposed that self-disclosure leads to more familiarity. Familiarity, in turn, decreases the anxiety or fear experienced by individuals during intergroup interactions. Reductions in anxiety and fear are theorized to promote superior processing of information, and improve individuals' ability to individuate outgroup members' attributes. A second interpretation highlighted how liking is created by providing intimate information, because intimate information is scarce and therefore viewed as valuable. Lastly, the third interpretation posited that self-disclosure implies a sense of trust of the individual who is disclosed to, which again translates into decreases in anxiety and fear allowing for improved processing of individuating information about the outgroup member.

Turner and colleagues (2007) built upon the work of Ensari and Miller by exploring the mechanisms through which self-disclosure mediates the relationship between intergroup contact and explicit outgroup attitudes. They suggested that self-disclosure may be a particularly effective way to create interpersonal liking between groups because it provides both cognitive and affective information about outgroup members. Cognitively, self-disclosure provides more individuating information that can counteract pre-existing stereotypes. Affectively, self-disclosure may facilitate empathy and build intimacy. Using structural equation modeling, Turner and colleagues found

evidence that increased self-disclosure in intergroup contact situations leads to increased empathy, more trust of outgroup members, and greater value placed on the benefits of having intergroup contact.

Implicit Outgroup Biases and Trust

Explicit attitudes are often examined in relation to intergroup contact because these attitudes often determine behaviors towards outgroup members (Dovidio et al., 2002; Sinclair & Kunda, 1999). However, individuals' behaviors may also be influenced by evaluations that are made without explicit awareness. Measures of explicit attitudes ask individuals to report how they feel about outgroup members; however these measures may be vulnerable to social desirability and demand characteristics with individuals not reporting their beliefs or perhaps not even being entirely conscious of their beliefs. Given the current social environment there may be some attitudes that are objectionable to endorse, therefore implicit attitudes may provide another approach to capture these attitudes that may not otherwise be reported. Implicit measures are thought to tap into unconscious processes that individuals may not be fully aware of and that are not readily controllable.

The implicit associations test or IAT is often used to measure implicit attitudes (Greenwald, McGhee, & Schwartz, 1998). This task requires that individuals categorize different stimuli as quickly as possible, and reaction times of categorization are used to determine implicit attitudes. In a traditional race-bias IAT the categorization groups are *African-American* or *good* and *Caucasian* or *bad*. Target words as well as African-American and Caucasian faces or alternatively names are presented, and the test taker

must categorize these stimuli into their respective groups as quickly and accurately as possible. For example, if the target word *Pain* were presented, this word would have to be categorized as *Caucasian or bad*. If an African-American face or name was presented that would also be classified as *African-American or good*. In proceeding trials categories change to *African-American or bad* and *Caucasian or good*. The difference in reaction times for when African-American (or Caucasian) is paired with bad versus when African-American (or Caucasian) is paired with good, indicates that how much easier it is to associate different racial groups with positive or negative evaluations.

One advantage of the IAT is that it can measure a wide variety of implicit associations simply by modifying the target words included in the category pairings (Nosek, Greenwald, & Banaji, 2005). For instance, implicit attitudes towards homosexuals can be measured by substituting the categories *Caucasian* and *African-American* with the categories *Gay* and *Straight* (Dasgupta & Rivera, 2008). Modified versions of the IAT have also been used to study concepts like implicit self-esteem by substituting in the categories of *Self* and *Other* (Greenwald & Farnham, 2000). The IAT does not require that the evaluative categories must be *Good* and *Bad*, any set of complementary pairings may suffice. For instance, one clever application of the IAT used the categories of *Math* and *Art* paired with the categories of *Male* and *Female* in order to study implicit gender stereotypes about women's mathematic abilities (Nosek, Banaji, & Greenwald, 2002).

The IAT's flexibility makes it useful for measuring a wide variety of constructs. In addition, implicit attitude measures can predict behaviors that explicit measures do not, especially in the context of interracial interactions. Dovidio and colleagues had

Caucasian participants interact with an African-American confederate and a Caucasian confederate (Dovidio et al., 2002). These participants provided explicit self-reports of their racial attitudes and ratings of how friendly they felt toward the confederate.

Participants' explicit racial attitudes predicted their verbal behaviors in interactions with the African-American confederates. However, a measure of implicit racial attitudes was a better predictor of participants' non-verbal friendliness when interacting with African-American confederates relative to Caucasian confederates. Further evidence that implicit attitudes may impact behavior towards outgroup members is provided by a study that found that individuals with less implicit bias against homosexuals were more likely to vote for a referendum promoting homosexual rights (Dasgupta & Rivera, 2008).

Just as explicit racial attitudes can be altered through interracial contact, implicit racial attitudes may also be malleable under the right circumstances. A study by Dasgupta and Greenwald (2001) found that a short-term immersion of looking at profiles of admired African-Americans and disliked Caucasians could change these individuals' implicit racial attitudes relative to a control condition. Caucasians first took a race based IAT, and then were given profiles and pictures of either flowers or admired outgroup members (e.g., Martin Luther King) and disliked ingroup members (e.g., Ted Bundy). The following week the participants took a second race-based IAT. These results revealed that exposure to admired outgroup profiles and disliked ingroup members reduced implicit racial bias. It is unclear whether this immersion process could be likened to a positive interaction with an outgroup member; however, these results suggest that contact with a favorable outgroup member could be used to change implicit racial attitudes.

In two studies that examined implicit attitudes in relation to intergroup contact, one examining British children's biases in relation to South Asian children and a second examining younger individuals' attitudes towards elderly outgroup members, whereas quality of intergroup contact using self-disclosure predicted explicit outgroup attitudes the quantity of intergroup contact predicted implicit outgroup attitudes towards these groups (Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Turner et al., 2007). The results of these two studies suggest that, in line with Contact Theory, the quality of interracial contact can effectively shape explicit attitudes towards outgroups, however the quantity of contact may be what shapes implicit attitudes. In these studies self-disclosure was found to mediate the relationship between quality of contact and explicit attitudes; however amount of self-disclosure reported did not mediate the relationship between quantity of contact and implicit attitudes observed (Tam et al., 2006; Turner et al., 2007). In the above studies, however, self-disclosure was not directly measured. Instead, participants only reported their intent to self-disclose to an outgroup member, so the role of actual self-disclosure in changing outgroup implicit attitudes remains unclear.

Categorization of Outgroup Members

In addition to changing implicit racial attitudes, high quality interracial interactions may also decrease the salience of racial category differences. Social Identity Theory (Tajfel & Turner, 1979) proposes that intergroup interactions are often guided by the process of categorizing people into ingroups and outgroups. Individuals see their group memberships as a reflection of themselves. Individuals internalize their group membership and engage in evaluative comparisons with other groups. As a result,

individuals can derive positive self-esteem by making downward social comparisons that make their group seem distinct and positive in reference to another group.

When differences between social groups are highly salient, the process of differentiating one's self and one's group from others can be used to boost self-esteem but could be deleterious for intergroup relations (Oakes & Turner, 1980). Various models of how intergroup contact works with regards to categorization of outgroup members have been proposed (Brewer & Miller, 1984; Gaertner & Dovidio, 2000; Hewstone & Brown, 1986). Racial categorization shapes individuals' experiences of interracial interactions and is tied to outgroup attitudes; therefore altering whether and how individuals make racial categorizations could ultimately affect (or be affected by) experiences of interracial contact.

Gaertner and Dovidio (2000) proposed a model of social categorization called the Common Ingroup Identity Model that provides insight in to how individuals may find an optimal categorization strategy for improving intergroup relations. Individuals may see themselves as similar to their ingroup and different from an outgroup when their ingroup is viewed favorably. Individuals may also deemphasize their group status in domains where their group may not be seen favorably. At other times, individuals may be able to accept a type of 'dual identity', where they see themselves as members of their ingroup as well as members of larger superordinate group. By recategorizing themselves as part of a larger superordinate group, individuals may be able to maintain a positive social identity without the need to derogate outgroup members. Instead, outgroup members are seen as similar to oneself in a broader social context (e.g., we are all women, we are all Americans, we are all humans).

In line with the Common Ingroup Identity Model, some work provides evidence that contact experiences, which produce liking of an outgroup member and subsequent changes in prejudicial attitudes, may do so by altering individuals' evaluations of who is included in the categories of *self* or *other*. One study showed that liking and closeness with others can lead to more perceived overlap of the self and other categories, because close others are seen as extensions of the self (Aron & Fraley, 1999). Liking may allow individuals to classify outgroup members as closer to themselves and as part of their own ingroup. As cited by Aron and McLaughlin-Volpe (2001), one study showed that prejudices towards three ethnic outgroups could be predicted by how much individuals saw those outgroups as included in their representation of the self. By seeing the similarities between oneself and another person, people are more likely to make situational attributions rather than dispositional attributions for their actions.

The use of situational attributions has been theorized to account for the increased overlap between the self and others found in close relationships (Aron & McLaughlin-Volpe, 2001). In one experiment individuals indicated how much they were like or unlike various traits, and then, in a seemingly unrelated language task, individuals were shown a picture of a male outgroup member and told to write a narrative of the man. Individuals were given no instructions, were told to suppress stereotypes they may hold, or were told to imagine they were living in the shoes of the individual in the picture before writing. Following this, individuals participated in filler tasks and were then asked to rate the outgroup on the original traits individuals provided self-ratings of. The individual in the picture written about was a member of this same outgroup. Those in the perspective-taking group reported more self-other overlap with the outgroup on both

positive and negative traits compared to those in the control group. Additionally, self-other overlap was found to mediate the relationship between perspective taking and decreased stereotyping (Galinsky & Moskowitz, 2000). If self-disclosure can increase liking or perspective-taking and allow individuals to see a racial outgroup member as closer to themselves, then individuals may perceive more similarity between the racial categories more generally.

The salience of racial category differences can be influenced by a person's motivation to exclude outgroup members who are seen as "contaminating" for the ingroup (Brigham, 1971). An ingroup overexclusion effect has been found, whereby high prejudice individuals show a tendency to exclude more individuals from the ingroup in order to protect the ingroup class (Leyens & Yzerbyt, 1992; Yzerbyt, Leyens, & Bellour, 1995). In one study, people who strongly identified with their ingroup classified fewer pictures of ingroup and outgroup faces as part of their ingroup than those who were less identified with their ingroup (Castano, Yzerbyt, Bourguignon, & Seron, 2002).

High prejudiced individuals are sometimes better able to recognize outgroup members than low prejudice individuals (Quarty, Keats, & Harkins, 1975). However, high prejudice individuals show more hesitation and take longer when having to categorize racially ambiguous faces (Blascovich, Wyer, Swart, & Kibler, 1997). If prejudice is associated with motivations to exclude outgroup members, it stands to reason that promoting a more inclusive social categorization process could decrease prejudicial feelings. Therefore, if self-disclosure builds perceived closeness between the self and a specific outgroup member, outgroup members in general should be seen as having more

overlap with the self. As a result, more intimate self-disclosure should lead to less stringent and more inclusive social categorization strategies.

Executive Functioning

Executive functioning, the ability to consciously regulate one's thoughts, feelings, and behaviors, reflects another cognitive factor that can greatly influence and be influenced by interracial interactions. Often, individuals may want to regulate or override negative intergroup attitudes in order to have more successful intergroup interactions. However, several studies have recently shown that the ability to regulate one's thoughts, feelings, and behaviors during an interaction may be affected by the interaction itself (Richeson & Shelton, 2003; Richeson & Trawalter, 2005). Research has shown that individuals can experience a drain of their cognitive resources during interracial interactions, meaning that individuals may not have the physical and mental capacities typically available to create positive high quality interactions.

Executive function is a limited resource, so that the more that an individual engages in one task the less executive functioning the individual has to put towards a second task (Muraven & Baumeister, 2000). Multiple theories similarly conceptualize executive functioning in this way, such as Kahneman's classic theory of capacity of attention (Kahneman, 1973), Baumeister's work on ego depletion (Baumeister, DeWall, Ciarocco, & Twenge, 2005), and research on the stereotype rebound effect (Macrae, Bodenhausen, Milne, & Jetten, 1994). In accordance with these views of executive function, when individuals regulate behavior for one purpose it will impair the ability to later regulate behavior for a different purpose. When looking at executive functioning

capacity overall, there is some evidence that individuals' executive functioning skill relates to their social communication abilities (McEvoy, Rogers, & Pennington, 1993).

Depletions in executive functioning following interracial interactions have been found for both Caucasian and African-American participants. A common measure of executive functioning is the Stroop (1935) color-naming task. Several studies have documented decrements in Stroop performance following interracial interactions (Richeson & Shelton, 2003; Richeson & Trawalter, 2005). In a study using fMRI to further investigate the mechanisms of this cognitive depletion effect, the dorsolateral prefrontal cortex (DLPFC), an area associated with executive functioning, was more active in Caucasians with higher implicit biases when they viewed black faces. Further, the greater activation of DLPFC in these participants mediated the relationship between implicit racial attitudes and their Stroop performance decrements after an interracial interaction (Richeson, Baird, Gordon, Heatherton, Wyland, Trawalter, & Shelton, 2003).

Intergroup interactions may be taxing for individuals who hold more racial biases whether those biases are implicit or explicit (Richeson & Shelton, 2003), however implicit racial biases may be particularly important to consider. One study with Caucasians found implicit racial attitudes remained uniquely related to performance decrements on a Stroop color-naming task following interracial interactions even after controlling for participants' explicit racial attitudes (Richeson & Shelton, 2003). Participants with higher levels of implicit bias have been found to exert more compensatory effort during interracial interactions, using behavioral control by limiting body and hand movement and avoiding looking around the room (Richeson & Shelton,

2003). The attempts of those who are high in bias to compensate for biases may lead to greater depletion of executive functioning.

Interracial interactions may deplete executive functioning because interracial interactions elicit more self-monitoring behavior. Take a prototypical example of a novel interaction between an African-American and a Caucasian participant. These participants may exert effort to manage how the other person would view them as an individual, and may exert some extra effort to manage how the other person would view them as a member of their respective race. Whereas the Caucasian individual may think he or she needs to be sure not to behave in a prejudicial way, the African-American individual may be draining executive functioning by thinking that he or she should not act in a stereotypic way. This self-monitoring and vigilance is theorized to tax executive functioning, therefore leaving less executive functioning available.

Concerns about being perceived as biased may have particular effects on executive functioning for Caucasian participants. In one study, Caucasian participants were given false negative feedback specific to being racially biased or simply general negative feedback after taking a race-based IAT. Those participants who received false feedback that their performance indicated racial bias experienced larger drops in executive functioning following interracial interactions than those who received only general negative feedback (Richeson & Trawalter, 2005). Given the feedback to participants was false, it was specifically the participants' concerns that they had shown bias that was responsible for observed depletions in executive function, perhaps an indication of the heightened anxiety that individuals are experiencing during interracial interactions.

Given the increased trust and empathy that more intimate self-disclosure may convey and build between individuals, the use of more intimate self-disclosure in intergroup interactions may lead to less anxiety or fear, and consequently less executive functioning drain. Ensari and Miller (2002) proposed that self-disclosure when interacting with an outgroup member reduces biases towards that individual's group because trust leads to better processing of outgroup members' positive attributes. However, the increased trust and decreased anxiety may also lead to less vigilant self-monitoring during the interaction. The ability of self-disclosure to promote trust and reduce self-monitoring may be a key safeguard for preventing drains in executive functioning for both Caucasians and African-Americans during interracial interactions. After self-disclosure, African-Americans may feel less concerned about confirming negative racial stereotypes and Caucasians may feel less concerned about being perceived as prejudiced.

Outline of Current Study

More intimate self-disclosure has been identified as a strategy to promote better intergroup interactions and subsequent attitude change; however few studies have looked at other interaction outcomes that may be affected by self-disclosure. I argue that more intimate self-disclosure has the potential to influence other aspects of these interactions beyond explicit attitudes. I will examine three factors: implicit outgroup trust, racial category salience, and executive functioning. In the proposed experiment, participants will first be tested to determine baseline implicit outgroup trust, racial categorization ability, and executive functioning. Participants will then interact with an interviewer of their own race or a different race in a modified version of the Perceived Interpersonal

Closeness scale or PICs (Aron, Melinat, Aron, Vallone, & Bator, 1997). I will investigate whether more intimate self-disclosure can lead to changes in these three factors by instructing participants to provide either a high or low level of intimate information when interacting with an interviewer of the same-race or a different-race. Following interactions with the interviewers, participants' implicit outgroup trust, racial categorization, and executive functioning will be retested to determine whether these variables are moderated by the race of the disclosure partner and the intimacy of the disclosed details.

The primary aim of the study is to determine whether more intimate disclosure offers a particular advantage in increasing interpersonal liking and changing factors relevant to the quality of intergroup interactions. I propose that, in line with Contact Theory (Allport, 1950) and the disclosure-liking effect (Archer, 1980; Collins & Miller, 1994), intimate self-disclosure in intergroup interactions will promote implicit trust of outgroup members because self-disclosure has been found to build explicit trust during these interactions (Turner et al., 2007). Additionally, self-disclosure in these interactions will yield changes in racial categorization with individuals who self-disclosed more showing increased inclusion of outgroup members. This will be evident when having to categorize racially ambiguous faces, because more inclusive categorization should lead to decreased accuracy in racial categorization. Finally, given that anxiety and fear in intergroup interactions may result in the types of vigilant self-monitoring that are thought to drain executive functioning, more intimate self-disclosure is predicted to promote closeness, decrease anxiety, and to decrease the magnitude of executive functioning

drains observed after interracial interactions (Richeson & Trawalter, 2005; Ensari & Miller, 2002).

Hypotheses

The objective of my research is to examine how patterns of self-disclosure during same-race and different-race interactions can influence racial perceptions and cognitive functioning. Specifically, I propose that more intimate self-disclosures between Caucasian and African-American interaction partners will 1) increase implicit outgroup trust, 2) decrease the salience of racial categories leading to reduced accuracy on a racial categorization task, and 3) will protect against the decrements in executive functioning that often follows interracial interactions.

CHAPTER 2

METHODS

Methodological Considerations

Some considerations were made prior to conducting the current research that should be mentioned. Two decisions were made to optimize the internal validity of the study that may consequently reduce the overall generalizability of the findings. To standardize their appearance, the research assistants wore white laboratory coats during the experimental session. While standardizing their appearance, the white lab coats may have also implied a power differential between the research assistant and the participant. Additionally, the disclosure task used in the current study was uni-directional with the participant disclosing to the research assistant, but the research assistants did not disclose personal information.

However, it should be noted that studying uni-directional self-disclosure to individuals with implied authority could make the study's findings particularly applicable to professional or clinical contexts. For instance, medical patients often disclose personal information about their history, symptoms, and private behaviors in these contexts, but medical professionals do not disclose biographical information. Although interracial interactions have often been studied in strict laboratory environments. For application purposes, many researchers have begun to specifically examine how aspects of these interactions may affect real life situations by studying these interactions in medical settings and in counseling settings (Malat, Prucell, & van Ryn, 2010; Peek et al., 2010; Penner et al., 2009; Sabin, Nosek, Greenwald, Rivera, 2009; Sinclair & Kunda, 1999;

Towns et al., 2009). Questions regarding how race may intersect with power differentials have been examined in these studies, for example how perceptions of doctors' discriminatory beliefs or biases towards other races affects patients health seeking behavior (Towns et al., 2009).

It should also be noted that, as in many studies of intergroup interactions, race was quite salient at baseline given the study procedures. Participants completed computerized measures related to race before engaging in a same-race or different-race interaction with a research assistant. A vast amount of research conducted on interracial interactions includes procedures that do not minimize racial salience (Dasgupta & Greenwald, 2001; Shelton, Richeson, & Salvatore, 2005; Trawalter & Richeson, 2006). Race salience is not presumed to significantly alter the findings of this study in ways that would not be typically observed in real world settings. Additionally, given all participants took the same tasks before their interpersonal interactions, the effects of race salience would have been the same for all participants.

Finally, it is unclear whether the cognitive consequences of interracial interactions will be the same for Caucasian and African-American participants. Both Caucasians and African-Americans show similar depletions in executive function following interracial interactions (Richeson & Shelton, 2003; Richeson & Trawalter, 2005). Both Caucasians and African-Americans show implicit biases in favor of their own group, although that bias is less substantial for African-Americans (Nosek et al., 2007). On the basis of past findings, it was predicted that the cognitive consequences of interracial interactions would be similar for Caucasians and African-Americans. However, given that the race categorization and implicit trust tasks used in this study have not been extensively used in

prior research, potential main effects and interactions of participant race will be analyzed in addition to the effects of intimacy and interviewer race.

Sample Size Considerations

The three variables of interest were initially examined with a 2 (Interviewer Race: Same, Different) x 2 (Intimacy: Low, High) x 2 (Time: Task Pre-Interaction, Task Post-Interaction) mixed factors design, with the first two factors being between-participants and the last factor being within-participants. To determine the sample size required to detect a reliable effect, I reviewed past experiments that have attempted to examine the links between self-disclosure intimacy and changes in outgroup attitudes. Few studies have examined the role of self-disclosure in an actual one-to-one interracial interaction. However, two studies have found small but significant effects that the quantity of outgroup exposure could change implicit attitudes towards outgroup members (Tam et al., 2006, with elderly outgroup members, $r = .25$; Turner et al., 2007 with South Asian outgroup members, $r = .20$). These implicit attitudes may be likened to implicit outgroup trust measured in the current study.

No studies to my knowledge have adequately examined racial categorization following an interracial interaction; however, data from a small pilot study has suggested that having a pleasant or unpleasant interaction with a person of a different race can alter racial categorization processes. Johnson and Haisfield (unpublished data) had an African-American male experimenter follow either a rude or polite script when interacting with participants. For Caucasian and Asian-American participants, reports that the African-American experimenter was rude ($r = .50$) and made them feel

uncomfortable ($r = .53$) were correlated with greater accuracy on the racial categorization task, indicating negative interracial interactions made race more salient.

Regarding executive functioning, one study found that those who used a promotion-focused approach rather than an avoidance approach to an interracial interaction exhibited less executive functioning drains following the interaction (effect size: $r = .29$, Trawalter & Richeson, 2006). Unfortunately, none of these studies experimentally manipulated the level of self-disclosure during the interaction. However, on the basis of past research I expect that self-disclosure will have a small to medium effect size on the cognitive variables of interest. For this repeated measures design, a minimum of 48 participants were estimated to be needed in order to detect an effect of $f = .25$ with 80% power (G*Power 3; Faul, Erdfelder, Lang, & Buchner, 2007).

Participants

One hundred and one female undergraduate students ($M = 20.48$ years, $SD = 3.79$) enrolled in an introductory course at Temple University completed the study. Students participated in exchange for research course credit. Participation in the study was limited to students who had identified themselves as either Caucasian or African-American. Additionally, only female participants were used to eliminate the potential confound of cross sex interactions. Of the 101 participants, sixty-six identified themselves as Caucasian, and thirty-five identified themselves as African-Americans. See Table 1 for participant groupings.

Table 1.

Participant Groupings

	<u>European-American/ Caucasian</u> <u>Participants</u>	<u>African-American/African</u> <u>Participants</u>
Same-race Interaction		
<i>High Intimacy</i>	20	10
<i>Low Intimacy</i>	13	11
Different-race Interaction		
<i>High Intimacy</i>	18	7
<i>Low Intimacy</i>	15	7

Measures

Stroop Color-Word Association Task

A Stroop color-naming task was used to measure executive functioning. In this task, individuals identify the text color of a word, but because the words are the names of colors, the task requires executive control to name the text color instead of reading the word (SCW Task; Stroop, 1935). Participants responded using four color buttons (i.e. red, green, blue and yellow) on a response box. Color word stimuli or control Xs were utilized. Stimuli were presented for 2000 milliseconds or until a response was made. A fixation cross was presented for 500 milliseconds prior to each stimulus. The magnitude of Stroop interference was measured as the difference in latencies for incompatible trials (e.g. “RED” written in yellow ink) and control trials (e.g. “XXXXX” written in yellow ink). Latencies for control trials were subtracted from incompatible trials to obtain Stroop interference scores.

Trust-Mistrust Implicit Associations Test

A modified Implicit Association Test (IAT) was used to examine implicit outgroup trust-mistrust. The Trust-Mistrust IAT administered in the present study used

common African-American and Caucasian names as stimuli with target words related to trust (i.e. Loyal, Honest, Trustworthy) and mistrust (i.e. False, Betray, Suspicious). Words employed for the Mistrust-Trust IAT were matched in length. Category pairings were counterbalanced between participants, such that half of the participants paired African-American names with trust words and Caucasian names with mistrust target words during the baseline IAT, whereas the other half of participants started with the opposite pairings. See Appendix C for a full list of word stimuli used. Results for this test were reported in D-scores, a conventional way of reporting implicit attitudes (Greenwald, Nosek, Banaji, 2003). The average reaction times for the “trust outgroup” trials were subtracted from the average reaction times for the “trust ingroup” trials, which were then divided by the pooled standard deviation. Following the recommendations of Greenwald and colleagues (2003), all reaction times were used rather than only correct reaction times. These computed D-scores therefore represent standardized reaction time differences between trust associations with outgroup members and trust associations with ingroup members. Performance on the outgroup trust IAT was similar to other IAT measures (Greenwald et al., 2003). Errors rates were low (pre-interaction = 10.5%; post-interact = 8.75%). Split-half reliabilities revealed acceptable levels of internal consistency (Cronbach's alpha: pre-interaction $\alpha = .59$; post-interaction $\alpha = .65$).

Racial Categorization Task

The racial categorization task required individuals to categorize faces that varied in their degree of racial ambiguity as either more Caucasian or more African-American. The facial stimuli were created by morphing pairs of African-American and Caucasian faces together at varying percentages. The categorization task consisted of 48 trials (4

male pairs, 4 female pairs) at 6 percentage points (20%, 30%, 40%, 60%, 70%, 80%) along a continuum of Caucasian to African-American. During each trial, participants were first presented with the pair of African-American and Caucasian faces used to create the morph, then they were presented with a morph of those faces. Participants indicated whether the morph was more like the African-American original (the 60%, 70%, 80% morphs) or more like the Caucasian original (the 20%, 30%, 40% morphs) as quickly and accurately as possible. See Appendix D for an example of original face stimuli and morphed faces for this task.

Self-Disclosure in a Modified Perceived Interpersonal Closeness Scale

In the original PICs task partners take turns answering personal questions about themselves. In the modified PICs, used in this study, the interviewer asked participants personal questions, but the participants did not ask questions of the interviewer. See Appendix E for a sample of PICs questions. At the beginning of the task, participants were assigned to receive either low or high intimacy instructions. Those in the low intimacy condition received the instructions: “Please be sure that you are answering the questions and addressing the tasks for this interpersonal closeness task. Share as much as you feel comfortable with your partner, brief answers are adequate.” Those in the high intimacy condition received the instructions: “Please be sure that you are answering the questions and addressing the tasks with as much detail and intimacy as possible for this is an interpersonal closeness task. Share as much as you possibly can with your partner.” To check that self-disclosure was adequately manipulated, interactions between interviewers and participants were videotaped. Levels of intimacy during each interaction were independently rated from the videotapes by two trained female coders.

Participants' answers to a target question approximately mid-way through the interaction were transcribed and coded for intimacy using Altman and Taylor's (1973) properties of intimacy depth. The question was "*Take 4 minutes now and tell me your life story in as much detail as possible*". Coders rated the answer to this question using a five-point Likert scale with the anchors 1 (Very Low Intimacy) to 5 (Very High Intimacy). After establishing acceptable levels of interjudge reliability ($\alpha = .72$), intimacy scores for this question were examined to verify that the low versus high intimacy instructions produced quantifiable differences in intimate self-disclosure between participants.

Explicit Ratings of the Interaction

To explore participants' subjective evaluation of the interaction, ten self-reported items generated by the experimenter were included at the end of the experimental session. Participants indicated on a five-point Likert scale, with the anchors 1 (Strongly Disagree) to 5 (Strongly Agree), their agreement with a number of statements regarding their mood and feeling states. The statements included were the following: 1) *I felt my partner saw me as an individual*, 2) *I felt my partner saw me in terms of a category or stereotype*, 3) *I felt my partner now has a good understanding of who I am*, 4) *I felt like the interaction with my partner was a positive experience*, 5) *I feel like I disclosed a lot of intimate things to my partner*, 6) *I felt comfortable to express my intimate feelings*, 7) *I felt anxious and uneasy*, 8) *I felt relaxed and at ease*, 9) *I felt frustrated and irritable*, and 10) *I felt like I was only making "small talk" with my partner*.

Procedure

At the beginning of the study session, participants were greeted by a female research assistant who explained that the goal of the study was to examine how social interactions influenced different types of thoughts and feelings. Participants were informed that they would complete some tasks on the computer and that after the computer tasks the participant and the research assistant would engage in a “getting to know you” task. To minimize confounds due to individual differences between research assistants, four different African-American and four different Caucasian females served as research assistants throughout the course of the study. During the experiments, the research assistants wore white lab coats to minimize differences in appearance. The research assistants were trained to be friendly and responsive, but not to disclose any personal information about themselves during the “getting to know you” interview.

After obtaining informed consent from the participants, the research assistant guided the participants through several practice trials for each of the study measures. Once assured that the participants understood how to perform the tasks, the research assistants left the room so that participants could complete the baseline measures for 1) the Stroop color-word association task to assess executive functioning, 2) the modified IAT to examine outgroup trust, and 3) the racial categorization task measuring racial category salience. After completing the baseline measures, the research assistant returned to do the interpersonal closeness task. Prior to the interpersonal closeness task, participants were instructed to provide either high or low amounts of intimate self-disclosure. Upon completing the interpersonal closeness task, participants once again completed the Stroop task, the outgroup Trust-Mistrust IAT, and the racial categorization tasks. Finally, participants completed the explicit self-report ratings about the

interactions. After completing the study, participants were debriefed about the study's purpose and were awarded research credit for participating.

CHAPTER 3

RESULTS

Manipulation Check

To determine whether intimacy of disclosure was successfully manipulated by the high versus low intimacy instructions, a t-test was conducted comparing the two female coders ratings of the interaction. Question 7, *Take 4 minutes now and tell me your life story in as much detail as possible*, was chosen to assess the success of the manipulation because this question yielded the longest responses on average from participants and was a question asking about a general rather than specific topic offering participants the most flexibility in their answers. After going through training in accordance of Altman and Taylor's (1973) properties of intimacy depth, coders used a five-point Likert scale with the anchors 1 (Very Low Intimacy) to 5 (Very High Intimacy) to rate intimacy. Ratings for the two coders were averaged. Those participants instructed to disclose more intimacy, the high intimacy group ($M = 3.43$ $SD = .90$), were rated as disclosing with significantly more intimacy than those participants instructed to disclose less intimately ($M = 2.93$, $SD = .99$), $t(98) = -2.65$, $p < .01$, $d = .53$).

Implicit Trust-Mistrust

To examine the effect that intimacy in interracial interactions has on implicit outgroup trust, a 2 (Participant race: African-American, Caucasian) x 2 (Interviewer Race: Same, Different) x 2 (Intimacy: Low, High) x 2 (Time: Task Pre-Interaction, Task Post-Interaction) mixed factors ANOVA was used to examine implicit outgroup trust (in d-scores). There was a main effect of race when examining implicit outgroup trust;

overall Caucasians ($M = -.39, SE = .04$) had significantly lower outgroup trust than African-Americans ($M = .10, SE = .05$), $F(1,93) = 66.48, p < .001, \eta_p^2 = .42$. This main effect was qualified by a three-way interaction of participant race, interviewer race, and time, $F(1, 93) = 4.37, p = .04, \eta_p^2 = .04$, see Tables 2-3 and Figure 1. Overall, Caucasian participants showed increases in implicit outgroup trust, but showed the greatest increase in implicit trust after interacting with a different-race interviewer. When Caucasian participants were considered independently the effect of interacting with a different race experimenter was marginally significant, $F(1,62) = 3.50, p = .07, \eta_p^2 = .05$. Alternatively, African-Americans showed increases in implicit outgroup trust after interacting with a same-race interviewer, but showed decreases in implicit outgroup trust after interacting with a different-race interviewer. When African-American participants were considered independently there was a marginally significant decrease of implicit outgroup trust over time, $F(1,31) = 3.26, p = .08, \eta_p^2 = .09$.

Table 2.

Analysis of Variance: Implicit Trust-Mistrust IAT (N=101)

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Between-Subjects						
<i>Participant Race</i>	10.39	1, 93	10.39	66.48	.00	.42
<i>Interviewer Race</i>	0.01	1, 93	0.01	0.08	.78	.00
<i>Intimacy</i>	0.03	1, 93	0.03	0.17	.68	.00
<i>Participant Race* Interviewer Race</i>	0.94	1, 93	0.94	5.98	.02	.06
<i>Participant Race* Intimacy</i>	0.38	1, 93	0.38	2.42	.12	.03
<i>Interviewer Race*Intimacy</i>	0.23	1, 93	0.23	1.49	.23	.02
<i>Participant Race*Interviewer Race*Intimacy</i>	0.00	1, 93	0.00	0.02	.88	.00
Within-Subjects						
<i>Pre-Post</i>	0.02	1, 93	0.02	0.37	.54	.00
<i>Pre-Post*Participant Race</i>	0.12	1, 93	0.12	1.78	.19	.02
<i>Pre-Post*Interviewer Race</i>	0.10	1, 93	0.10	1.58	.21	.02
<i>Pre-Post*Intimacy</i>	0.09	1, 93	0.09	1.47	.23	.02
<i>Pre-Post*Participant Race*Interviewer Race</i>	0.28	1, 93	0.28	4.38	.04	.05
<i>Pre-Post*Participant Race*Intimacy</i>	0.00	1, 93	0.00	0.03	.88	.00
<i>Pre-Post*Interviewer Race*Intimacy</i>	0.04	1, 93	0.04	0.69	.41	.01
<i>Pre-Post*Participant Race*Interviewer Race*Intimacy</i>	0.16	1, 93	0.16	2.52	.12	.03

Table 3.

Means and Standard Errors for Implicit Trust-Mistrust IAT by Interviewer Race and Participant Race and Time

	<u>European-American/ Caucasian</u> <u>Participants (n=66)</u>		<u>African-American/African</u> <u>Participants (n=35)</u>	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Same-Race Interviewer				
<i>Pre-Task</i>	-.47	.06	.13	.07
<i>Post-Task</i>	-.43	.06	.23	.07
Different-Race Interviewer				
<i>Pre-Task</i>	-.38	.06	.09	.09
<i>Post-Task</i>	-.27	.06	-.06	.09

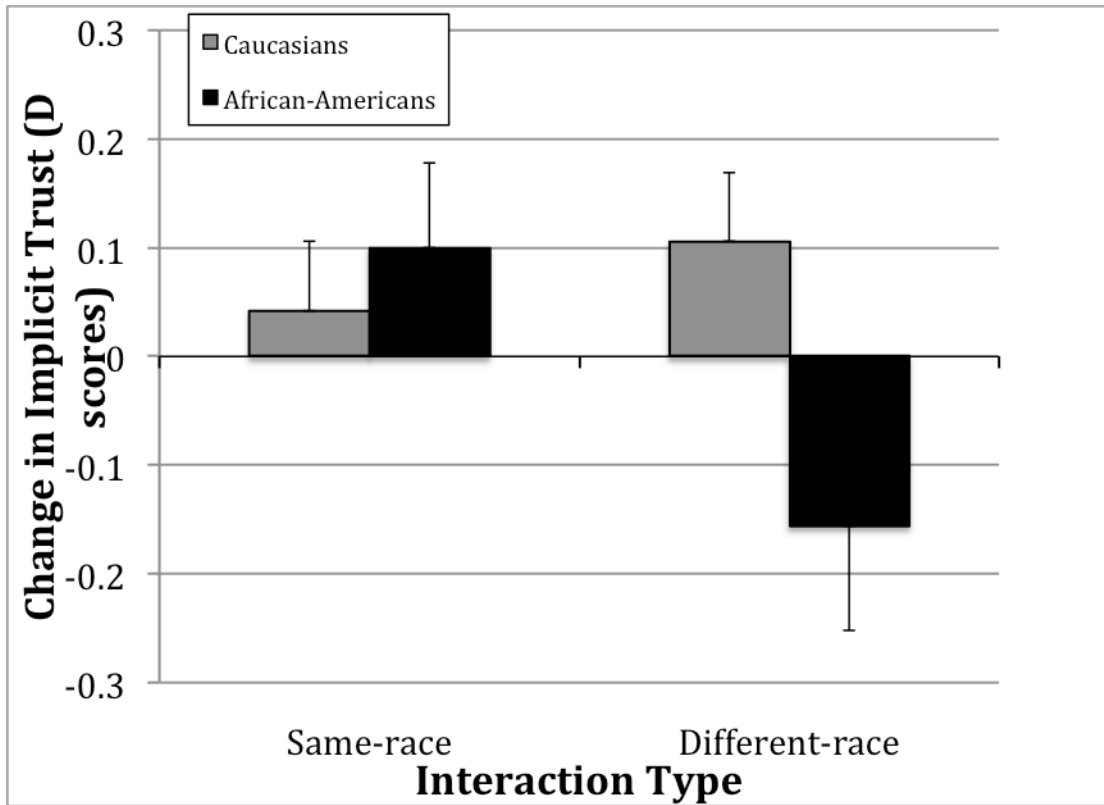


Figure 1. Change in Implicit Trust by Participant Race and Interviewer Race.

Racial Categorization

The relationship of intimacy in interracial interactions on racial category salience was examined using a 2 (Participant race: African-American, Caucasian) x 2 (Interviewer

race: Same, Different) x 2 (Intimacy: Low, High) x 2 (Time: Task Pre-Interaction, Task Post-Interaction) mixed factors ANOVA examining categorization accuracy (in percentages). No significant main effects emerged, but two significant interactions were found. A three-way interaction between participant race, interviewer race, and time was found ($F(1, 93) = 4.33, p = .04, \eta_p^2 = .04$; see Tables 4-5 and Figure 2). Whereas Caucasian participants that interacted with different-race interviewers showed decreases in categorization accuracy ($M_{diff} = -2.1\%; t(32) = -1.92, p = .06, d = .38$), African-American participants who interacted with different-race interviewers showed non-significant increases in categorization accuracy ($M_{diff} = 2.5\%; t(13) = 1.65, p = .12, d = .37$).

Table 4.

Analysis of Variance: Racial Categorization (N=101)

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Between-Subjects						
<i>Participant Race</i>	0.03	1, 93	0.03	2.72	.10	.03
<i>Interviewer Race</i>	1.03	1, 93	1.03	0.00	.99	.00
<i>Intimacy</i>	0.02	1, 93	0.02	2.56	.11	.03
<i>Participant Race* Interviewer Race</i>	0.00	1, 93	0.00	0.37	.54	.00
<i>Participant Race* Intimacy</i>	0.03	1, 93	0.03	2.99	.09	.03
<i>Interviewer Race*Intimacy</i>	0.00	1, 93	0.00	1.00	.75	.00
<i>Participant Race*Interviewer Race*Intimacy</i>	0.00	1, 93	0.00	0.02	.88	.00
Within-Subjects						
<i>Pre-Post</i>	.00	1, 93	.00	1.03	.31	.01
<i>Pre-Post*Participant Race</i>	.00	1, 93	.00	0.36	.55	.00
<i>Pre-Post*Interviewer Race</i>	.01	1, 93	.01	1.59	.21	.02
<i>Pre-Post*Intimacy</i>	.00	1, 93	.00	0.19	.67	.00
<i>Pre-Post*Participant Race*Interviewer Race</i>	.01	1, 93	.01	4.33	.04	.04
<i>Pre-Post*Participant Race*Intimacy</i>	.00	1, 93	.00	0.51	.48	.00
<i>Pre-Post*Interviewer Race*Intimacy</i>	.02	1, 93	.02	4.60	.03	.05
<i>Pre-Post*Participant Race*Interviewer Race*Intimacy</i>	.01	1, 93	.01	3.68	.06	.04

Table 5.

Means and Standard Errors for Racial Categorization by Interviewer Race and Participant Race and Time

	<u>European-American/ Caucasian</u> <i>Participants (n=66)</i>		<u>African-American/African</u> <i>Participants (n=35)</i>	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Same-Race Interviewer				
<i>Pre-Task</i>	92.0%	0.9%	90.0%	1.1%
<i>Post-Task</i>	91.3%	1.8%	86.7%	2.2%
Different-Race Interviewer				
<i>Pre-Task</i>	91.8%	0.9%	88.0%	1.4%
<i>Post-Task</i>	89.7%	1.7%	90.5%	2.6%

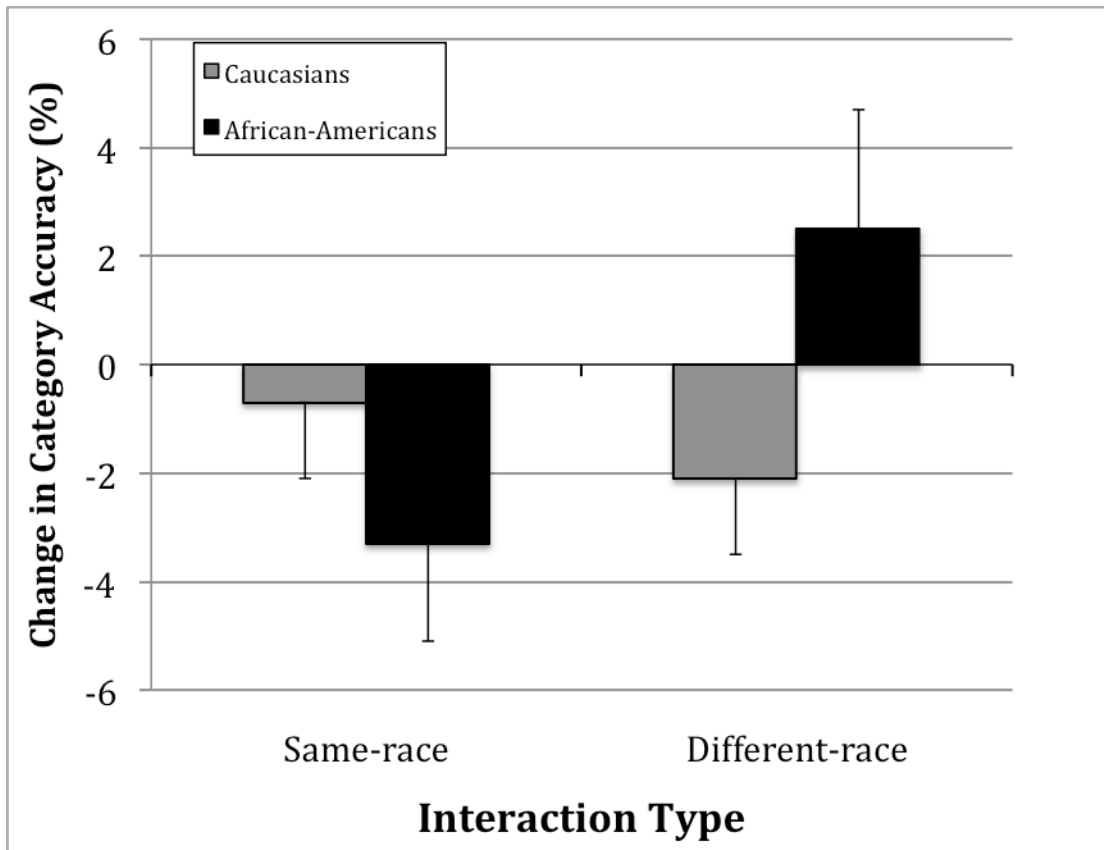


Figure 2. Change in Racial Categorization by Participant Race and Interviewer Race.

A second significant interaction was also found between interviewer race, intimacy condition, and time, ($F(1,93) = 4.60, p = .03, \eta_p^2 = .05$; see Table 6 and Figure 3). Those in the low intimacy group showed slight decreases in categorization accuracy after interacting with a same-race interviewer ($M_{diff} = -3.9\%$; $t(23) = -1.53, p = .13, d = .30$), but no change in accuracy after interacting with a different-race interviewer ($M_{diff} = 0.4\%$; $t(21) = .34, p = .74, d = 0$). Those in the high intimacy group showed little to no change after interacting with a same-race interviewer ($M_{diff} = -0.1\%$; $t(29) = -.06, p = .95, d = .02$), however after interacting with a different-race interviewer the high intimacy group showed slight decreases in categorization accuracy ($M_{diff} = -1.8\%$; $t(24) = -1.41, p = .17, d = .35$).

Table 6.

Means and Standard Errors for Racial Categorization by Interviewer Race and Intimacy and Time

	<u>Same-Race Interviewer (n=54)</u>		<u>Different-Race Interviewer (n=47)</u>	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Intimacy				
<i>Pre-Task</i>	91.1%	1.1%	87.7%	1.2%
<i>Post-Task</i>	87.0%	2.0%	89.4%	2.3%
High Intimacy				
<i>Pre-Task</i>	90.8%	1.0%	92.0%	1.2%
<i>Post-Task</i>	91.0%	1.9%	90.7%	2.2%

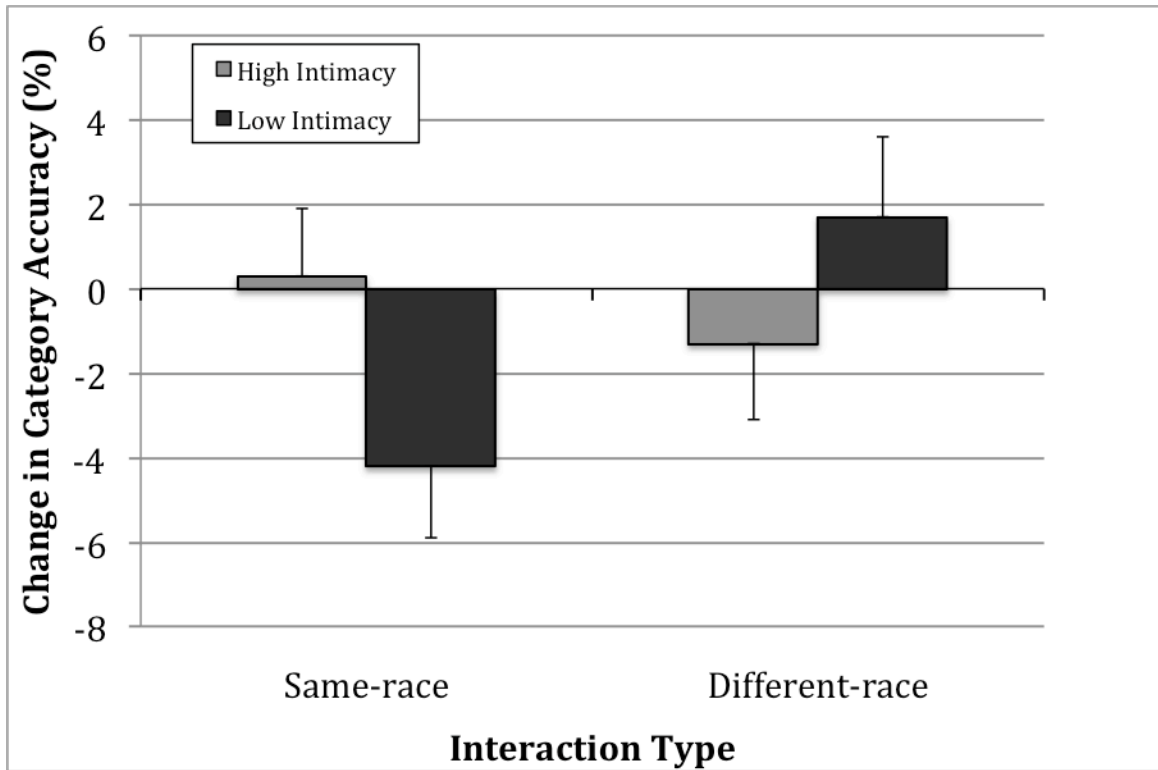


Figure 3. Change in Racial Categorization by Interviewer Race and Intimacy Condition.

Executive Functioning

To examine the relationship between outgroup or ingroup interactions and intimacy on executive functioning a 2 (Participant race: African-American, Caucasian) x 2 (Interviewer race: Same, Different) x 2 (Intimacy: Low, High) x 2 (Time: Task Pre-Interaction, Task Post-Interaction) mixed factors ANOVA was run to examine change in Stroop Interference (in milliseconds). There was a marginally significant interaction for interviewer race and time, $F(1,93) = 2.80, p = .10, \eta_p^2 = .03$. Participants that interacted with a different-race interviewer showed an increase in Stroop interference relative to baseline than those that interacted with a same-race interviewer. Participants that interacted with a same-race interviewer showed less Stroop interference over time (M_{diff}

= -30.03; $t(53) = -2.73, p = .01, d = .46$), whereas those who interacted with a different-race interviewer continued to show equal levels of Stroop interference from time one to time two ($M_{diff} = -6.98; t(46) = -.55, p = .59, d = .12$). The predicted interaction effect of interviewer race, intimacy condition, and time was found to be significant, $F(1,93) = 6.27, p = .01, \eta_p^2 = .06$, see Tables 7-8 and Figure 4. There was more Stroop interference after interacting with a different-race interviewer when intimacy was low, but less Stroop interference was found after interacting with a different-race interviewer when intimacy was high. In the low intimacy condition, participants who interacted with a same-race interviewer showed less Stroop interference than those interacting with a different-race interviewer.

Table 7.

Analysis of Variance: Stroop Color-Naming Task (N=101)

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Between-Subjects						
<i>Participant Race</i>	1035.81	1, 93	1035.81	0.23	.63	.00
<i>Interviewer Race</i>	21.73	1, 93	21.73	0.01	.95	.00
<i>Intimacy</i>	368.98	1, 93	368.98	0.08	.78	.00
<i>Participant Race* Interviewer Race</i>	1320.28	1, 93	1320.28	0.29	.59	.00
<i>Participant Race* Intimacy</i>	41.60	1, 93	41.60	0.01	.92	.00
<i>Interviewer Race*Intimacy</i>	5265.37	1, 93	5265.37	1.17	.28	.01
<i>Participant Race*Interviewer Race*Intimacy</i>	6400.57	1, 93	6400.57	1.42	.24	.02
Within-Subjects						
<i>Pre-Post</i>	10660.93	1, 93	10660.93	3.10	.08	.03
<i>Pre-Post*Participant Race</i>	4918.85	1, 93	4918.85	1.43	.24	.02
<i>Pre-Post*Interviewer Race</i>	9633.20	1, 93	9633.20	2.80	.10	.03
<i>Pre-Post*Intimacy</i>	312.48	1, 93	312.48	0.09	.76	.00
<i>Pre-Post*Participant Race*Interviewer Race</i>	725.93	1, 93	725.93	0.21	.65	.00
<i>Pre-Post*Participant Race*Intimacy</i>	3277.67	1, 93	3277.67	0.95	.33	.01
<i>Pre-Post*Interviewer Race*Intimacy</i>	21538.78	1, 93	21538.78	6.27	.01	.06
<i>Pre-Post*Participant Race*Interviewer Race*Intimacy</i>	5725.94	1, 93	5725.94	1.67	.20	.02

Table 8.

Means and Standard Errors for Stroop Color-Naming Task by Interviewer Race and Intimacy and Time

	Same-Race Interviewer (<i>n</i> =54)		Different-Race Interviewer (<i>n</i> =47)	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Intimacy				
<i>Pre-Task</i>	71.77	13.88	45.11	15.51
<i>Post-Task</i>	21.10	11.87	69.11	13.26
High Intimacy				
<i>Pre-Task</i>	66.15	13.12	61.84	15.09
<i>Post-Task</i>	55.26	11.22	36.31	12.90

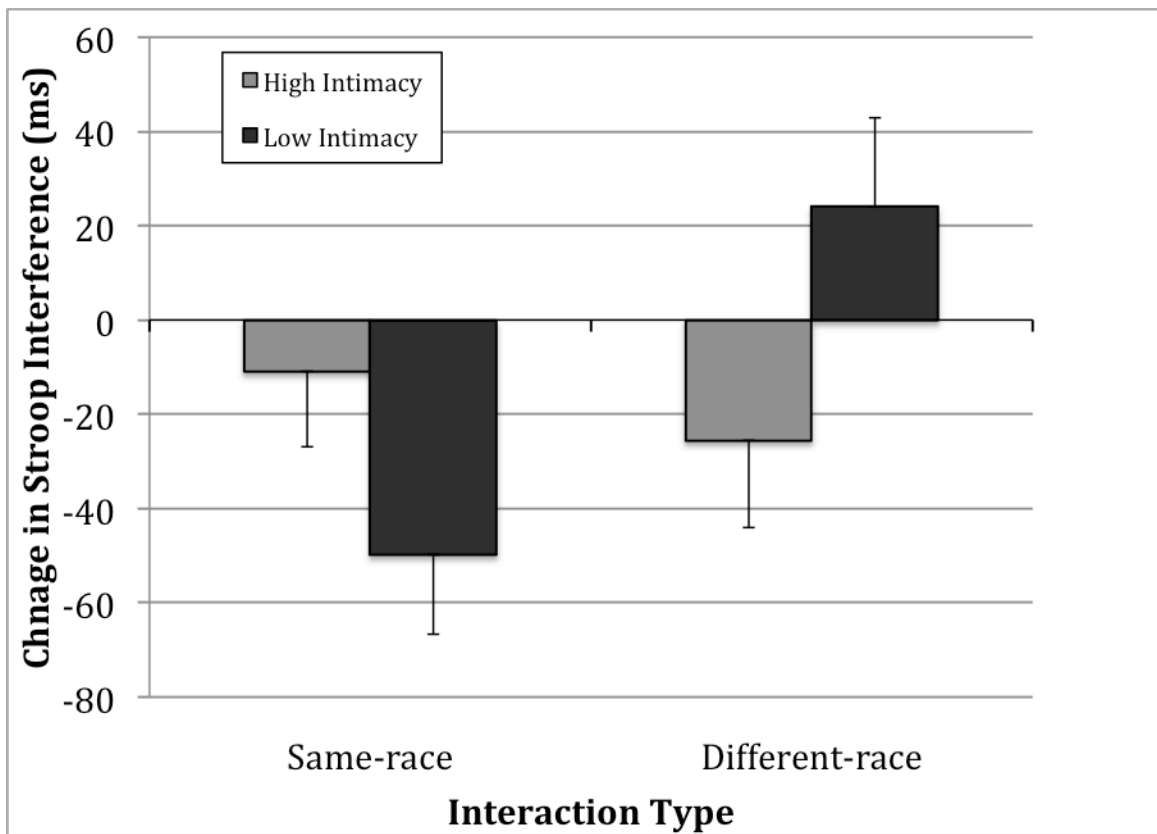


Figure 4. Change in Executive Functioning by Interviewer Race and Intimacy Condition.

Mediation of Implicit Outgroup Trust and Racial Categorization

Initial hypotheses proposed that implicit outgroup attitudes or racial categorization accuracy may mediate the relationship between self-disclosure intimacy and interaction partner on executive functioning. However, no significant correlations were found between executive functioning and implicit outgroup trust eliminating the possibility that implicit trust was mediating factor. Significant correlations were found between executive functioning and racial categorization accuracy, so a meditational analyses were conducted in accordance with Baron and Kenny (1986), however there was no evidence of this mediation. See Table 9 for intercorrelations between executive functioning, implicit outgroup trust, and racial categorization accuracy.

Table 9.

Intercorrelations among Primary Measures

	Pre-Stroop	Post-Stroop	Pre-Trust IAT	Post-Trust IAT	Pre-Racial Categorization	Post-Racial Categorization
Pre-Stroop	—					
Post-Stroop	.09	—				
Pre-Trust IAT	-.09	.16	—			
Post-Trust IAT	-.06	.07	.61**	—		
Pre-Racial Categorization	-.08	-.13	-.07	.02	—	
Post-Racial Categorization	-.23*	.06	.03	-.13	.53**	—

Note. * $p < .05$; ** $p < .01$

Explicit Ratings of the Interaction

Exploratory analyses were run on participants' explicit evaluations of the interaction. For each of the self-report items, a 2 (Participant race: African-American, Caucasian) x 2 (Interviewer race: Same, Different) x 2 (Intimacy: Low, High) between

subjects ANOVA was run. Whereas a majority of the explicit evaluations did not yield significant main effects or interaction effects, two items of interest did show significant effects.

For the item *I felt my partner saw me in terms of a category or stereotype* there was an interaction of intimacy condition and interviewer race, $F(1, 93) = 11.90, p = .001, \eta_p^2 = .11$. Those in the low intimacy group who interacted with a same-race interviewer ($M = 1.60, SE = .17$) did not report feeling stereotyped, but when interacting with a different-race interviewer those in the low intimacy group were more likely to agree with the statement that they felt stereotyped ($M = 2.25, SE = .19$). Those in the high intimacy condition showed the opposite pattern. Participants who interacted with a same-race interviewer reported feeling more stereotyped ($M = 2.23, SE = .16$), and those who interacted with a different-race interviewer were less likely to report feeling stereotyped ($M = 1.68, SE = .18$).

A second effect was found for the self-report items. For the item *I felt like I was only making "small talk" with my partner*, there was a main effect by interviewer race whereby those interacting with a different-race interviewer ($M = 2.93, SE = .18$) were significantly more likely to report feeling they were only making small talk than those interacting with a same-race interviewer ($M = 2.36, SE = .16$), $F(1, 93) = 5.69, p = .02, \eta_p^2 = .06$.

CHAPTER 4

DISCUSSION

The results of the current study suggest that intimate self-disclosure during an interracial interaction can mitigate some of the negative cognitive consequences of those interactions. Consistent with past research, there was a marginally significant effect of interviewer race showing that interracial interactions can drain executive function for African-Americans and Caucasians (Richeson & Shelton, 2003; Richeson & Trawalter, 2005). In line with the study's hypotheses, the quality of the interracial interaction protected against executive functioning drains. Caucasian and African-American participants who were instructed to disclose more intimate information during an interracial interaction showed less interference on the Stroop color-naming task following the interaction compared to those who disclosed less intimate information. Performance on the Stroop task has commonly been used to index executive functioning (Richeson & Shelton, 2003; Richeson & Trawalter, 2005), as such the results of this study demonstrate that the quality of a same-race or different-race interaction can impact executive functioning. Under conditions of high intimacy, interracial interactions produced similar effects on executive functioning as same-race interactions. But, when intimacy was low, interracial interactions produced a dramatic impairment in executive functioning. These results suggest that self-disclosure during interracial interactions may decrease the self-monitoring behavior that is believed to drain executive functioning.

Self-disclosure during the interaction was also found to impact performance on the racial categorization task. As predicted, when interacting with an interviewer of a

different race, racial categorization accuracy decreased for those who self-disclosed with high intimacy, but increased for those who self-disclosed with low intimacy. These results suggest that greater intimacy during an interracial interaction decreased the salience of racial categories resulting in reduced categorization accuracy. The finding that intimate self-disclosure can reduce the salience of racial categories during interracial interactions supports Ensari and Miller's (2002) contention that self-disclosure may facilitate processing of more individuating information of outgroup members.

Performance on the racial categorization task also produced a few unexpected results. Although it was expected that racial category salience would be lower in same-race interactions than difference-race interactions, racial category salience was the lowest for same-race interactions that were low intimacy. It is unclear why low intimacy reduced racial category salience after a same-race interaction but high intimacy did not. It may be the case that racial categories are the least salient during more casual interactions with others of the same-race. There was also an unexpected significant interaction of participant race and interviewer race on racial categorization. Whereas Caucasians showed decreases in racial category salience after interacting with either a same-race or different-race interviewer, African-Americans who interacted with a same-race interviewer showed decreased racial category salience, but racial categories became more salient for African-Americans who interacted with a different-race interviewer. This result highlights potential differences in how sensitive African-Americans and Caucasians are to racial categories. For African-Americans, interracial interactions may heighten awareness of racial category differences in ways that do not impact Caucasians.

Although self-disclosure during interactions was related to changes in executive functioning and racial category salience, self-disclosure was not related to changes in implicit outgroup trust. Instead, a significant interaction was found based on the race of the participant and the race of the interaction partner. Caucasians showed increases in implicit outgroup trust following interracial interactions, however African-Americans actually showed decreases in implicit trust after the interactions. The current study's implicit outgroup trust findings were consistent with a previous study on implicit outgroup trust; Johnson and Haisfield (2010, unpublished) found race differences with implicit outgroup trust whereby Caucasians' implicit trust increased from interactions with outgroup members but African-Americans' did not.

Recommendations for Improving Interracial Interactions

The current study suggests that strategies for improving interracial relations may need to be specifically tailored to be effective. Whereas in the past, contact theory assumed more contact will improve racial attitudes, the current results suggest that a strategy that is cognizant of differences in the various outcomes of these interactions (e.g., explicit racial attitudes vs. executive function vs. implicit trust) and also cognizant of potential group differences (e.g., African-Americans vs. Caucasians) will be the most effective in facilitating positive interracial interactions. This study extends past research that has examined contact as a means to decrease prejudices toward outgroup members by expanding the outcomes beyond explicit attitudes and by expanding the population to both African-Americans as well as Caucasians.

The results of this study suggest that increased self-disclosure intimacy as a strategy cannot effectively improve all aspects of interracial interactions for all individuals. However, the study results do suggest that increasing self-disclosure intimacy, even in an artificial way using an instruction set, may be an effective strategy for protecting executive functioning resources during interracial interactions. Those in the low intimacy condition who interacted with a different-race interviewer showed the same executive functioning decrements that had been demonstrated in previous research (Richeson & Shelton, 2003; Richeson & Trawalter, 2005), which suggests that less intimate interactions with outgroup members elicits more self-monitoring behavior. Simply providing participants with an instruction set to disclose more intimate information appeared sufficient enough to persuade participants to engage with their partners differently than they typically would.

One past study effectively protected against executive functioning drains following interracial interactions by having participants approach interracial interactions in a new way. Caucasian participants were instructed to take a specific approach to interracial interactions by viewing these interactions as “an opportunity to have an enjoyable intercultural dialogue” (Trawalter & Richeson, 2006, p. 409). The authors speculated that the success of this approach was that it was more cognitively flexible. Rather than individuals rigidly self-monitoring with constant vigilance to avoid prejudicial thoughts, they approached the interaction more positively and freely. In their study, Trawalter and Richeson compared three different instructions sets; 1) an approach focus: “have an enjoyable intercultural dialogue” (p. 409), 2) an avoid focus: “avoid being prejudiced” (p. 409), or 3) no instructions. Those in the group asked to avoid being

prejudicial and those given no instructions showed equivalent drains in executive functioning following the interaction, suggesting that the default focus for Caucasians during interracial interactions may be to avoid being prejudiced.

Another study similarly found positive effects when Caucasians' typical approaches to interracial interactions were altered. Caucasians were provided with scripts for the interracial interactions rather than having them engage in unscripted interactions. The use of scripts resulted in Caucasians having significantly decreased anxiety in the interactions compared to those in unscripted interactions as measured by independent coders who viewed videos of interactions (Avery, Richeson, & Ambady, 2009). Although not focusing specifically on executive functioning, but rather on anxiety, the results of Avery and colleagues again suggest that strategies that deter vigilant self-monitoring and promote different approaches to these interactions may offer some protection from the negative consequences of these interactions. In the current study, it is plausible that more intimate self-disclosure was successful in protecting executive functioning because this approach prevented individuals from taking the default prevention-focused approach in which Caucasians try to not act prejudicially and African-Americans try to not act stereotypically during interracial interactions.

Differential Effects for Caucasians and African-Americans

Although self-disclosure appeared to benefit the executive functioning of both Caucasians and African-Americans, there were still some undesirable consequences of the interactions. Indeed whereas Caucasians' implicit outgroup trust increased from interracial interactions, African-Americans' implicit outgroup trust decreased from these

same interactions, suggesting the importance of studying minority as well as majority group members in interactions and some limitations of using self-disclosure as a strategy to improve interracial interactions. Although interracial interactions in the current study did lead to improvements in outgroup trust for Caucasians, self-disclosure may not be an effective strategy for improving implicit outgroup trust. Consistent with past research (Tam et al., 2006; Turner et al., 2007), the results of the present study suggest that the quantity of outgroup interactions may be more important than the quality of interactions for changing implicit outgroup attitudes.

Although the majority of research dedicated to improving interracial interactions has focused on improving Caucasians' attitudes toward minority group members, the results of the present study highlight the need to examine the experiences of and strategies employed by minorities in these interactions. One study that examined minority group members' feelings when living with a majority member roommate in their freshman year of college found that minority group members wanted less contact with their majority group member roommates over time (Shelton & Richeson, 2006). This study also examined implicit racial attitudes of minority group members, and found that minority individuals' implicit racial biases were unrelated to Caucasians' perceptions of their minority roommates. The authors theorized that whereas Caucasians may have had pleasant interracial interactions, minority group members may have been employing compensatory behaviors to engage positively with outgroup members they did not particularly like.

Further work has shown that minority members may use compensatory behaviors when engaging in interracial interactions. In a study examining how stigma

consciousness, an individual's expectation of being stereotyped, influences the experience of minority group members in different situations of intergroup contact there appeared to be evidence for these compensatory behaviors. Minority group members who interacted with Caucasians that they believed were prejudiced against their group offered more self-disclosure during interactions than those who believed their Caucasian partners disliked the elderly, despite reporting that they liked their Caucasian interaction partner less and had more negative affect (Shelton et al., 2005). However, Caucasians seemed to be unaffected by minority group members' expectations (Shelton et al., 2005). These studies suggest that the quality of contact for minority group members may often be quite different than that of majority group members.

Additional ways to improve African-Americans' outgroup trust need to be investigated. Although simply increasing contact may be sufficient to change Caucasians' implicit attitudes towards African-Americans, contact alone was ineffective for improving African-Americans' implicit attitudes towards Caucasians. Even though African-Americans initially had more favorable implicit attitudes toward the outgroup than Caucasians did, after the interaction African-Americans showed decreases in implicit outgroup trust. At present, the author is not aware of any studies that have examined implicit attitude changes in minority groups toward majority groups (Dasgupta & Greenwald, 2001; Tam et al., 2006; Turner et al., 2007). However, the present study emphasizes the need for such research. Results from the present study suggest it cannot be assumed that strategies that improve implicit attitudes, or in this case implicit outgroup trust, for one group can be generalized to improving trust for all groups.

Past studies that have examined the mechanisms for implicit attitude change have focused on changing the accessibility of different types of exemplars for a category (Dasgupta & Greenwald, 2001; Dasgupta & Rivera, 2008). Although it is unclear why these mechanisms may successfully result in attitude change for majority group members but not minority group members, as in the current study, prior research may offer some hints. Dasgupta and Greenwald (2001) postulated that contexts that make certain exemplars more accessible could lead to new prototypes and allow for implicit attitude change. In their study, exposure to admired African-American profiles and disliked Caucasian profiles lead to more favorable implicit outgroup attitudes relative to a control group who viewed flower profiles.

In the current study African-Americans initially had significantly more implicit outgroup trust than Caucasians, thus it is possible that African-Americans could easily access trustworthy Caucasian exemplars. Therefore, the effects of introducing a Caucasian interviewer who was potentially viewed as likable and trustworthy may have been minimized given a subset of trustworthy Caucasian exemplars that were already accessible. Because African-Americans as a minority group have to interact with more outgroup members than Caucasians do, it is logical that exposure to outgroup members that can alter majority group members' exemplars and prototypes may not impact minority members' exemplars and prototypes as substantially.

Similar to implicit outgroup trust, interracial interactions had different effects on the racial categorization strategies of Caucasians and African-Americans. Whereas interracial interactions actually decreased the salience of racial categories for Caucasian participants, race became more salient for African-American participants after an

interracial interaction. In line with Gaertner and Dovidio's Common Ingroup Identity Model (2000), instead of seeing their African-American partners as part of a different racial category, Caucasians may have been able to recategorize themselves and the outgroup as a part of a larger superordinate group (e.g., we are all students). Adopting a common ingroup identity would allow them to maintain a positive social identity without high race salience and without making social comparisons with regards to race. On the other hand, there may be something unique to being a minority that prevents African-Americans from easily accepting this 'dual identity'.

As the present study suggests, interracial interactions may make racial category differences more salient to racial minorities than majority group members. Potential concerns about being the target of discrimination or potentially confirming negative stereotypes about one's group may make it more difficult for racial minorities to adopt a common ingroup identity when interacting with majority group members. One way that racial minorities often cope with perceived and real discrimination is by creating stronger connections with their racial identity to buffer themselves against these hardships. One study investigating psychological stress and distress of African-American college freshman students in response to self-reported discrimination found that parental messages of cultural pride decreased psychological distress, and messages to use African-American cultural resources to cope with discrimination reduced the psychological stress of students (Bynum, Burton, & Best, 2007). Crocker and Major (1989) theorized that minority members in some cases will attribute negative feedback to prejudice in order to maintain global self-esteem given the difficulty to maintain a positive social identity in a majority oriented society. In this way, stigma and race salience may serve a self-

protective role for minority group members. Whereas high race salience for African-Americans may be protective in some circumstances, it also may be an obstacle to these minority group members connecting with majority group members, making it all the more difficult to attain positive interracial interactions.

Mechanisms for Self-Disclosure Effects

Taken together, the results of the present study suggest that the relationship between self-disclosure and improved intergroup relations is complex. Intimate self-disclosure may generally be a successful strategy for improving interracial interaction outcomes for Caucasians but may only be successful in some cases for African-Americans. Although the current study did not investigate the mechanisms through which self-disclosure improved outcomes for Caucasians, some of the mechanisms presumed to account for less biased explicit outgroup attitudes following self-disclosure can be ruled out for the outcomes investigated in the current study. Ensari and Miller (2007) theorized that self-disclosure is particularly effective in contact situations because self-disclosure intimacy leads to increased familiarity. Cognitively, self-disclosure may be effective because more individuating information is conveyed about the outgroup member which in turn leads to greater liking. However, in the present study, self-disclosure was still quite an effective strategy for Caucasians even though the interviewers did not disclose any information about themselves. Ensari and Miller (2007) postulated that self-disclosure may reduce biases because intimate information about others is scarce and therefore considered more valuable. This again seems unlikely given that interviewers did not convey information about themselves.

Instead, the effectiveness of self-disclosure in the current study may be due to a sense of empathy or trust felt after disclosing intimate information about the self to another person. In line with the disclosure-liking effect, disclosing information about the self conveys a sense of trust that could lead to reductions in fear or anxiety. Turner and colleagues found explicitly reported empathy, trust of outgroup members, and a greater value placed on the benefits of having intergroup contact each mediated the relationship between self-disclosure reduced outgroup biases. All offer conceivable explanations given the current studies procedures (Turner et al., 2007).

Explicit self-reported items asked at the end of the interaction tried to further explore the mechanisms of how self-disclosure can influence the outcomes of interracial interactions. In general, participants were more likely to report that they were “only making small talk” during interracial interactions compared to same-race interactions. However, the explicit self-report items also indicated that self-disclosure intimacy could affect the quality of these interactions. Under conditions of low intimacy, participants who interacted with a different-race interviewer gave higher reports of feeling like they had been perceived in terms of a stereotype. But under conditions of high intimacy, interactions with a different-race interviewer did not increase participants’ feeling that they had been seen in terms of a stereotype. These results suggest that higher levels of intimacy may increase feelings that one is being viewed in terms of individual characteristics and not as a prototypical category member.

These subjective reports indicate that high levels of self-disclosure may beneficially influence interracial interactions by allowing people to feel they are being treated like an individual rather than a stereotype. These reported experiences also point

to the difficulty in using this strategy. Individuals may be more likely to naturally engage in superficial ‘small talk’ with those of another race, making it difficult to promote intimate self-disclosure within these interactions. One study that examined intimacy in the development of interracial friendships found African-Americans were more likely to self-disclose to other African-Americans rather than Caucasians. African-Americans were also more likely to report higher levels of perceived disclosure from African-Americans than Caucasians (Shelton, Trail, West, & Bergsieker, 2010). A study by Johnson and colleagues (2009) found Caucasians were significantly less willing to discuss topics that were intimate or race-related with an African-American interaction partner.

Applications for Real World Settings

Given the reluctance of individuals to intimately disclose to outgroup members it is important to consider that, in real world settings, self-disclosure strategies could positively affect interracial interactions. Decreasing executive functioning drains, reducing the salience of race, and promoting individuation of outgroup members are all desirable outcomes for interracial interactions that self-disclosure strategies could provide. A great deal of recent research has centered around how interracial interactions may impact health behaviors and the health disparities seen between minority and majority groups (Malat et al., 2010; Peek et al., 2010; Penner et al., 2009; Sabin et al., 2009). A health care setting may offer an environment where self-disclosure strategies could be successfully employed. If doctors are willing to start a more intimate dialogue with outgroup patients and disclose some information about themselves, some of these cognitive benefits could be realized. These positive outcomes may go beyond more

harmonious doctor-patient interactions but could potentially lead to larger benefits for health. For example, it is conceivable that patients may more easily disclose information about their health to a doctor, or be more willing to comply with medication directions given by doctors, if racial differences between doctors and patients are less salient. One study found evidence that Caucasian physicians showed less positive affect and spent less time when interacting with African-Americans patients (Johnson, Roter, Powe, & Cooper, 2004). Doctor-patient interactions with more self-disclosure on both sides may translate into better affect when interacting with outgroup patients or more time spent with these patients. The potential benefits of improved interracial interactions in a health care setting are still being examined, but it may be a ripe area for finding ways to decrease health disparities between minority and majority members.

Contributions, Limitations, and Future Directions

The present study was one of the first studies to offer a way to decrease the executive functioning drains seen in Caucasians and African-Americans following interracial interactions. This study also used new ways to examine interracial interaction experiences by measuring implicit outgroup trust and racial categorization for a better understanding of these interactions, rather than explicit prejudicial attitudes (the traditional outcome measured). The current study also adds to the literature by being one of the few studies that has examining the consequences of interracial interactions for minority group members as well as majority group members. Finally, this study is one of the only studies known to the author that manipulated self-disclosure in an actual interracial interaction. Most previous studies of self-disclosure have relied on participants' self-reported feelings of self-disclosure (Ensari & Miller, 2002; Tam et al.,

2006; Turner et al., 2007). Given that the present study used independent coders to confirm the success of the intimacy manipulation, this study offers a more objective account of how self-disclosure intimacy can impact interracial interactions.

Although this study had several strengths, there were also some limitations. Future studies should examine the relationship of implicit outgroup trust to both implicit and explicit attitudes about racial outgroup members. Whether implicit outgroup trust is a construct that is completely distinct from outgroup prejudice is currently unknown. Demographic characteristics of the sample provide some additional limitations. The present study used all female participants to avoid the potential confound of cross sex interactions. Whereas sex differences have not been found in past studies that examining executive function drains following interracial interactions (Richeson & Shelton, 2003), it is unclear if there are sex differences in the malleability of individuals' implicit outgroup trust or racial category salience. Additionally, the study was conducted at a large, racially diverse, northeastern urban university, where interracial interactions are significantly more common than interracial interactions that may occur in the general public. Other limitations of the study involve the length of the interactions. The interpersonal interactions only lasted 10 minutes. It is possible that greater changes in implicit outgroup trust, racial categorization, and executive functioning may have resulted if interactions were longer than 10 minutes or if participants interacted with the interviewer over multiple sessions.

Despite these limitations, the present study demonstrated that the deleterious effects of interracial interactions on executive functioning could be reversed for both Caucasians and African-Americans after disclosing more intimate information about the

self to an outgroup member. The study also demonstrated that, although in some cases self-disclosure can improve executive functioning and decrease racial category salience, the beneficial effects of self-disclosure cannot be generalized to all groups, or to all attitude measures. Self-disclosure was not found to influence changes in implicit outgroup trust. Instead, implicit outgroup trust appeared to be influenced by the quantity of interracial contact, but not by the quality of that contact. Interracial contact improved Caucasians' feelings of trust and made them less aware of racial category differences. On the other hand, African-Americans showed decreased outgroup trust and increased racial category salience after interracial interactions, suggesting that these contact situations can introduce adverse effects for minority group members in some circumstances. The present study highlights the importance of examining different outcomes of interracial interactions and the importance of examining minority as well as majority group members. Future research should continue to explore the beneficial and deleterious effects of interracial contact in order to find optimal strategies for improving intergroup relations.

REFERENCES CITED:

- Allport, G. (1954). *The nature of prejudice*. Cambridge, MA: Addison-Wesley.
- Archer, R. L. (1980). Self-disclosure. In D. Wegner & R. Vallacher (Eds.) *The self in social psychology* (pp. 183-205). New York, NY: Oxford University Press.
- Aron, A., & Fraley, B. (1999). Relationship closeness as including other in the self: Cognitive underpinnings and measures. *Social Cognition, 17*, 140-160.
- Aron, A., & McLaughlin-Volpe, T. (2001). Including others in the self: Extensions to own and partner's group memberships. In C. Sedikides & M. B. Brewer (Eds.), *Individual self, relational self, and collective self: Partners, opponents, or strangers?* (pp. 89-109). Philadelphia, PA: Psychology Press.
- Aron, A., Melinat, E., Aron, E. N., Vallone, R. D., & Bator, R. J. (1997). The experimental generation of interpersonal closeness: A procedure and some preliminary findings. *Personality and Social Psychology Bulletin, 23*, 363-377.
- Altman, I., & Taylor, D. (1973). *Social penetration: The development of interpersonal relationships*. New York, NY: Holt.
- Avery, D. R., Richeson, J. A., Hebl, M. R., & Ambady, N. (2009). It does not have to be uncomfortable: The role of behavioral scripts in black-white interracial interactions. *Journal of Applied Psychology, 94*, 1382-1393.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 61*, 1173-1182.

- Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology*, 88, 589-604.
- Berg, J. H., & Wright-Buckley, C. (1988). Effects of racial similarity and interviewer intimacy in a peer counseling analogue. *Journal of Counseling Psychology*, 35, 377-384.
- Blascovich, J., Wyer, N. A., Swart, L. A., Kibler, J. L. (1997). Racism and racial categorization. *Journal of Personality and Social Psychology*, 72, 1364-1372.
- Brewer, M. B. & Miller, N. (1984). Beyond the contact hypothesis: Theoretical perspectives on desegregation. In N. Miller & M. B. Brewer (Eds.), *Groups in contact: The psychology of desegregation* (pp. 281-302). Orlando, FL: Academic Press.
- Brigham, J. C. (1971). Ethnic stereotypes. *Psychological Bulletin*, 76, 15-38.
- Bynum, M. S., Burton, E. T., & Best, C. (2007). Racism experiences and psychological functioning in African American college freshmen: Is racial socialization a buffer? *Cultural Diversity and Ethnic Minority Psychology*, 13, 64-71.
- Castano, E., Yzerbyt, V., Bourguignon, D., & Seron, E. (2002). Who may enter? The impact of in-group identification on in-group/out-group categorization, *Journal of Experimental Social Psychology*, 38, 315-322.
- Chelune, G.J. (1979). *Self-disclosure: Origins, patterns and implications of openness in interpersonal relationships*. San Francisco, CA: Jossey-Bass.
- Collins, N. L. & Miller, L. C. (1994). Self-disclosure and liking: A meta-analytic review. *Psychological Bulletin*, 116, 457-75.

- Crocker, J. & Major, B. (1989). Social stigma and self-esteem: the self-protective properties of stigma. *Psychological Review*, *96*, 608-630.
- Dasgupta, N., & Greenwald, A. G. (2001). On the malleability of automatic attitudes: Combating automatic prejudice with images of admired and disliked individuals. *Journal of Personality and Social Psychology*, *81*, 800-814.
- Dasgupta, N., & Rivera, L. M. (2008). When social context matters: The influence of long-term contact and short-term exposure to admired outgroup members on implicit attitudes and behavioral intentions. *Social Cognition*, *26*, 112-123.
- Derlega, V. J. & Grzelak, J. (1979). Appropriateness of self-disclosure. In G.J. Chelune (Ed.), *Self-disclosure: Origins, patterns and implications of openness in interpersonal relationships* (pp. 151-176). San Francisco, CA: Jossey-Bass.
- Dovidio, J. F., Kawakami, K., & Gaertner, S. L. (2002). Implicit and explicit prejudice and interracial interactions. *Interpersonal Relations and Group Processes*, *82*, 62-68.
- Emerson, M. O., Kimbro, R. T., & Yancey, G. (2002). Contact theory extended: The effect of prior racial contact on current social ties. *Social Science Quarterly*, *83*, 745-761.
- Ensari, N., & Miller, N. (2002). The out-group must not be so bad after all: The effects of disclosure, typicality, and salience on intergroup bias. *Personality and Social Psychology*, *83*, 313-329.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175-191.

- Gaertner, S. L. & Dovidio, J. F. (2000). *Reducing intergroup bias: The common ingroup identity model*. Philadelphia, PA: U.S. Psychology Press/Taylor & Francis.
- Galinsky, A. D., & Moskowitz, G. B. (2000). Perspective-taking decreases stereotype expression, stereotype accessibility & in-group favoritism. *Journal of Personality and Social Psychology, 78*, 708-724.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology, 74*, 1464–1480.
- 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.
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: An improved scoring algorithm. *Journal of Personality and Social Psychology, 85*, 197-216.
- Hewstone, M., & Brown, R. (1986). Contact is not enough: An intergroup perspective on the “contact hypothesis.” In M. Hewstone & R. Brown (Eds.), *Contact and conflict in intergroup encounters* (pp. 1-44). Cambridge, MA: Basil Blackwell.
- Johnson R. L., Roter D., Powe N. R., Cooper, L. A. (2004). Patient race/ethnicity and quality of patient physician communication during medical visits. *American Journal of Public Health, 94*, 2084–90.
- Johnson, C. S., Olson, M. A., Fazio, R. H. (2009). Getting acquainted in interracial interactions: Avoiding intimacy but approaching race. *Personality and Social Psychology Bulletin, 35*, 557-571.

- Johnson, K. & Haisfield, L. (2010). *Disclose- but not too much: Implicit trust and executive functioning in interracial interactions*. Unpublished manuscript.
- Kahneman, D. (1973). *Attention and effort*. Englewood Cliff, NJ: Prentice Hall.
- Kleinke, C. L. (1979). Effects of personal evaluations. In G. J. Chelune (Ed.), *Self-disclosure: Origins, patterns, and implications of openness in interpersonal relationships*. (pp. 59-79). San Francisco, CA: Jossey-Bass.
- Levin, S., van Laar, C., & Sidanius, J. (2003). The effects of ingroup and outgroup friendship on ethnic attitudes in college: A longitudinal study. *Group Processes & Intergroup Relations*, 6, 76-92.
- Leyens, J-Ph. & Yzerbyt, V. Y. (1992). The ingroup overexclusion effect: Impact of valence and confirmation on stereotypical information search. *European Journal of Social Psychology*, 22, 549-569.
- Macrae, 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.
- Malat, J., Purcell, D., & van Ryn, M. (2010). Factors affecting Whites' and Blacks' race concordance with doctors. *Journal of the National Medical Association*, 102, 787-793.
- McEvoy, R. E., Rogers, S. J., & Pennington, B. F. (1993). Executive function and social communication deficits in young autistic children. *Journal of Child Psychology and Psychiatry*, 34, 563-578.

- Mendes, W. B., Balscovich, J., Lickel, B., & Hunter, S. (2002). Challenge and threat during social interactions with White and Black men. *Personality and Social Psychology Bulletin*, *28*, 939-952.
- Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited Resources: Does self-control resemble a muscle? *Psychological Bulletin*, *126*, 247-259.
- Myers, A. (2007). *A study of the differences between appropriate and inappropriate interpersonal self-disclosure in a work environment*. M.A. dissertation, Wichita State University, United States -- Kansas. Retrieved April 26, 2012, from Dissertations & Theses: A&I. (Publication No. AAT 1455599).
- Nosek, B. A., Banaji, M. R., & Greenwald, A. G. (2002). Math = male, me = female, therefore math \neq me. *Journal of Personality and Social Psychology*, *83*, 44-59.
- Nosek, B. A., Greenwald, A. G., Banaji, M. R. (2005). Understanding and using the Implicit Association Test: II. Method variables and construct validity. *Personality and Social Psychology Bulletin*, *31*, 166-180.
- Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Linder, N. M., Ranganath, K. A., Smith, C. T., Olson, K. R., Chugh, D., Greenwald, A. G., & Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology*, *18*, 36-88.
- Oakes, P. J. & Turner, J. C. (1980). Social categorization and intergroup behavior: Does minimal intergroup discrimination make social identity more positive? *European Journal of Social Psychology*, *10*, 295-301.

- Peek, M. E., Odoms-Young, A., Quinn, M. T., Gorawara-Bhat, R., Wilson, S. C., & Chin, M.H. (2010). Race and shared decision-making: Perspectives of African-Americans with diabetes. *Social Science & Medicine*, *71*, 1-9.
- Penner, L. A., Dovidio, J. F., Dailey, R. K., Markova, T., Albrecht, T. L., & Gaertner, S. L. (2009). The experience of discrimination and Black-White health disparities in medical care. *Journal of Black Psychology*, *35*, 180-203.
- Pettigrew, T. F. & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*, 751-783.
- Quanty, M. B., Keats, J. A., & Harkins, S. G. (1975). Prejudice and criteria for identification of ethnic photographs. *Journal of Personality and Social Psychology*, *32*, 449-454.
- Richeson, J. A., Baird, A. A., Gordon, H. L., Heatherton, T. F., Wyland, C. L., Trawalter, S., & Shelton, J. N. (2003) An fMRI investigation of the impact of interracial contact on executive function. *Nature Neuroscience*, *6*, 1323-1328.
- Richeson, J. A., & Shelton, J. N. (2003). When prejudice does not pay: Effects of interracial contact on executive function. *Psychological Science*, *14*, 287-290.
- Richeson, J. A., & Trawalter, S. (2005) African Americans' implicit racial attitudes and the depletion of executive function after interracial interactions. *Social Cognition*, *23*, 336-352.
- Richeson, J. A. & Trawalter, S. (2005). Why do interracial interactions impair executive function? A resource depletion account. *Journal of Personality and Social Psychology*, *88*, 934-947.

- Sabin, J. A., Nosek, B. A., Greenwald, A. G., Rivera, F. P. (2009) Physicians' implicit and explicit attitudes about race by MD race, ethnicity, and gender. *Journal of Health Care for the Poor and Underserved, 20*, 896-913.
- Shelton, N. J., Richeson, J. A., & Salvatore, J. (2005). Expecting to be the target of prejudice: Implications for interethnic interactions. *Personality and Social Psychology Bulletin, 31*, 1189-1202.
- Shelton, N. J. & Richeson, J. A. (2006). Ethnic minorities' racial attitudes and contact experiences with White people. *Cultural Diversity and Ethnic Minority Psychology, 12*, 149-164.
- Shelton, J. N., Trail, T. E., West, T. V., Bergsieker, H. B. (2010). From strangers to friends: The interpersonal process model of intimacy in developing interracial friendships. *Journal of Social and Personal Relationships, 27*, 71-90.
- Sherif, M., Harvey, O. J., White, B. J., Hood, W. R., Sherif, C. W. (1954). *Intergroup conflict and cooperation: The robbers cave experiment*. Middleton, CT: Wesleyan University Press.
- Sinclair, L., & Kunda, Z. (1999). Reactions to a Black professional: Motivated inhibition and activation of conflicting stereotypes. *Journal of Personality and Social Psychology, 77*, 885-904.
- Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology, 18*, 643-662.
- 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.

- Tam, T., Hewston, M., Harwood, J., Voci, A., & Kenworthy, J. (2006). Intergroup contact and grandparent-grandchild communication: The effects of self-disclosure on implicit and explicit biases against older people. *Group Processes & Intergroup Relations, 9*, 413-429.
- Towns, D. L., Chavez-Korell, S., & Cunningham, N. J. (2009). Reexamining the relationship between racial identity, cultural mistrust, help-seeking attitudes, and preferences for a Black counselor. *Journal of Counseling Psychology, 56*, 330-336.
- Trawalter, S., & Richeson, J.A. (2006). Regulatory focus and executive function after interracial interactions. *Journal of Experimental Social Psychology, 42*, 406-412.
- Turner, R. N., Hewstone, M., Voci, A. (2007). Reducing explicit and implicit outgroup prejudice via direct and extended contact: The mediating role of self-disclosure and intergroup anxiety. *Interpersonal Relations and Group Processes, 93*, 369-388.
- Yzerbyt, V. Y., Leyens, J-Ph., & Bellour, F. (1995). The ingroup overexclusion effect: Identity concerns in decisions about group membership. *European Journal of Social Psychology, 25*, 1-16.

APPENDIX A
IMPLICIT TRUST-MISTRUST STIMULI WORDS

Names Used:

African-American: Aiesha, Ebony, Latisha, Shaniqua, Latoya, Tanisha

Caucasian: Amanda, Courtney, Heather, Melanie, Shannon, Sarah

Words Used:

Trust words: Trust, Loyal, Honest, Trustworthy, Fair, Honorable

Mistrust words: Suspicious, Unfair, Betrayal, Dishonest, Liar, False

APPENDIX B

EXAMPLES OF RACIAL CATEGORIZATION STIMULI

Initial
Endpoints



Morphed
Averages

20%

40%

60%

80%

APPENDIX C

EXAMPLES OF PERCEIVED INTERPERSONAL CLOSENESS SCALE (PICS) ITEMS

Questions:

1. Given the choice of anyone in the world, whom would you want as a dinner guest?
2. Would you like to be famous? In what way?
3. Before making a telephone call, do you ever rehearse what you are going to say? Why?
4. What would constitute a "perfect" day for you?
5. When did you last sing to yourself? To someone else?
6. If you were able to live to the age of 90 and retain either the mind or body of a 30-year-old for the last 60 years of your life, which would you want?
- 7. Take 4 minutes now and tell me your life story in as much detail as possible.*
8. For what in your life do you feel most grateful?
9. If you could change anything about the way you raised, what would it be?
10. Do you have a secret hunch about how you will die?
11. If you could wake up tomorrow having gained any quality or ability, what would it be?
12. If a crystal ball could tell you the truth about yourself, your life, the future, or anything else, what would you want to know?
13. Is there something that you've dreamed of doing for a long time? If yes why haven't you done it?
14. What is the greatest accomplishment of your life?
15. What do you value most in a friendship?
16. What is your most treasured memory?
17. What is your most terrible memory?
18. If you knew that in one year you would die suddenly, would you change anything about the way you are now living? Why?
19. What does friendship mean to you?
20. What roles do love and affection play in your life?