INTERGROUP CONTACT EXPERIENCE IN DIALOGUES ON RACE GROUPS: DOES EMPATHY AND AN INFORMATIONAL IDENTITY STYLE HELP EXPLAIN PREJUDICE REDUCTION?

A Dissertation in
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by
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ABSTRACT

This study sought to examine whether color-blind racism would decrease due to intergroup contact experience in Dialogue on Race (DOR) groups and to determine the factors related to reduction. Group cohesion and group leader characteristics were also examined to determine if the groups were working as expected. The participants for this study were 74 culturally diverse undergraduate students.

The study was a pre- and post-test design with an intervention and control condition. During the pre-test administration all participants completed a survey (made of several instruments) via PsychData, an online research website. In addition, intervention condition participants also completed, within their respective Dialogue on Race (DOR) course groups, a measure of group cohesion and group leader characteristics during the pre-test administration. All participants completed a post-test survey within their respective Dialogue on Race course (DOR) groups. Participants were randomly assigned to either the intervention or control condition. After random assignment to condition, stratified sampling was used to assign participants to respective groups within each condition.

Group cohesion was assessed by the group cohesion subscale of the Group Environment Scale (GES; Moos, 1994). Group leader characteristics were assessed by the Counselor Rating Form-Short (CRF-S; Corrigan & Schmidt, 1983). Color-blind racism was assessed by the Color-blind Racial Attitudes Scale (CoBRAS; Neville, Lilly, Lee, Duran, & Browne, 2000). Empathy was assessed by two measures: Interpersonal Reactivity Index (IRI; Davis, 1983) and Balanced Emotional Empathy Scale (BEES; Mehrabian, 1996). Informational identity style was assessed by the Identity Style Inventory-Third Revision (ISI3; Berzonsky, 1997).

Repeated measures univariate analysis of variance (ANOVA) and repeated measures multivariate analysis of variance were used to assess the first research question: Does intergroup contact significantly increase empathy and informational identity style, and decrease color-blind racism? The first analyses employed examined change in group cohesion and group leader characteristics (trustworthiness,
attractiveness, and expertness). There was a significant increase in group cohesion within each intervention condition group. There were no significant differences in leader trustworthiness, attractiveness, and expertness within and across groups. These findings suggest that the groups were operating as expected and members’ experiences were not significantly different based on group leader quality.

The second analyses directly examined the study research questions. Contrary to the hypothesis, there was no significant decrease in color-blind racism. Second, there was no significant increase in empathy. Third, there was no significant increase in informational identity style. Although significant changes were not present, trends suggest that perhaps with greater statistical power the trends observed might be significant.

Since a significant change in color-blind racism was not found exploratory analyses were conducted to examine the second research question: What explains change in color-blind racism? Three separate sequential multiple regressions were used to examine each of the three subscales of the CoBRAS (i.e., unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues). Group cohesion was entered into the first block of each regression, empathic concern was entered into the second block, and informational identity style was entered into the third block. Contrary to the hypothesis group cohesion, empathic concern, and informational identity style did not account for a significant amount of the variance in unawareness of racial privilege and unawareness of blatant racial issues. However, group cohesion, empathic concern, and informational identity did contribute a significant amount of variance in unawareness of institutional discrimination. In particular, informational identity style accounted for the most variance in unawareness of institutional discrimination.

The results of this study were inconsistent with past research that suggested that intergroup contact experience reduced prejudice. Results of the study did however provide some support that an
informational identity style may help explain reduction in prejudice (unawareness of institutional discrimination) as a result of intergroup contact experience. Understanding factors that explain prejudice reduction due to intergroup contact experience may improve intergroup dialogue programming in various organizations and universities nationwide. In a post-2008 presidential election era it becomes increasingly important to have meaningful and successful intergroup contact. Limitations of this study and directions for future research are discussed.
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Chapter 1: INTRODUCTION

Scholars have observed that as the United States becomes increasingly multicultural, people are encountering situations in which they have the opportunity to interact with out-group members on a more frequent basis (Shelton & Richeson, 2005). Increased contact with out-group members necessitates an evaluation of how to improve such intergroup interactions. The theoretical examination of improving intergroup relations dates back to organized efforts after World War II to end prejudice in North America (Watson, 1946; Williams, 1947). As noted by Pettigrew and Tropp (2000), during this time it was believed that “if only we could know each other better across group lines we would discover the common humanity we share” which would in turn reduce prejudice toward out-group members. In essence, the organized movement after World War II was motivated by the sentiment that by decreasing ignorance about out-group members and increasing contact, prejudice could be decreased. Gordon Allport’s (1954) version of the “contact hypothesis” offered a theoretical framework for improving intergroup relations and is firmly established as “one of psychology’s most effective strategies for improving intergroup relations” (Dovidio, Gaertner, & Kawakami, 2003).

The contact hypothesis (Allport, 1954) proposes that under a given set of circumstances, contact between members of different groups reduces existing negative intergroup attitudes. Allport (1954) offered four features of intergroup contact that are central to improving intergroup relations. The four features are: (a) equal status within the situation, (b) intergroup cooperation, (c) common goals, (d) and support of authorities, law, or custom. The results of Pettigrew and Tropp’s (2006) meta-analytic test of intergroup contact support the conclusion that intergroup contact reduces prejudice across contexts and target out-groups. Their findings suggest that although Allport’s (1954) contact conditions enhance positive intergroup contact effects, they are not in and of themselves, necessary. In essence, the meta-analytic test of intergroup contact research revealed that intergroup contact reduced prejudice even when all of Allport’s contact conditions were not followed (Pettigrew & Tropp, 2006). Given the strong empirical support for the influence of intergroup contact of prejudice reduction, organizations and
universities have implemented programmatic intergroup contact experiences. Specifically, intergroup dialogue programs between members of different cultural groups have been implemented on university campuses in order to facilitate successful intergroup relations due increased student diversity.

Intergroup dialogue is a form of intentional, small group engagement (Schoem, Hurtado, Sevig, Chesler, & Sumida, 2001) based on the democratic principle of shared and equal participation in civic processes (Marger, 1999). In the United States, it is an increasingly popular, structured, face-to-face forum for broadly addressing cultural identity, intergroup conflict, and structural inequality or for addressing specific problems which particular groups or communities face (Schoem et al., 2001). The model in higher education explicitly emphasizes the following goals: (1) exploring intergroup similarities and differences; (2) exploring historical and contemporary conflicts, (3) linking individual experiences to social group experiences within the context of structural inequality, and (4) explaining ways to move from dialogue to empowerment and action (Chesler, 2001; Gurin, Peng, Lopez, & Nagda, 1999; Thompson, Brett, & Behling, 2001). For example, at The Pennsylvania State University, intergroup dialogue has been implemented via the development of a Dialogue on Race (DOR) course where diverse undergraduate students engage in face-to-face group interaction discussing multicultural issues.

Just knowing that intergroup contact reduces prejudice (Pettigrew & Tropp, 2000; 2006) is not sufficient to understand what factors enhance intergroup contact effects. As noted by Pettigrew and Tropp (2006), more contemporary intergroup contact research has begun to explore factors that may enhance intergroup contact effects, but this line of research is limited compared to the substantive nature of intergroup contact research as a whole. At the forefront of the investigation is the examination of individual differences and their effects on attitudes toward out-group members. Some individual differences that have been examined thus far include empathy (Batson et al., 1997; Bridgeman, 1981; Finlay & Stephan, 2000; Finlay & Trafimow, 1998; Nesdale, Griffith, Durkin, & Maass, 2005; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Vescio, Sechrist & Paolucci, 2003), perceived
importance of contact (Van Dick et al., 2004), willingness to trust and forgive the out-group (Hewstone et. al, 2005), and ethnic identity (Lee, Yoo, Chi-Young, & Hyun-Sin, 2007).

The research that has begun to examine the relationship among individual differences and positive intergroup contact outcomes has only established that a significant relationship existed among the aforementioned variables and positive intergroup contact outcomes. This research, however, has not been able to address why change in intergroup contact outcomes occurs. Thus, the number of individual differences that have been empirically examined are sparse and understanding the degree of the relationship and how much variance each variable accounts for is nonexistent. Stephan and Stephan (1985) emphasized the importance of examining the influence of cognitive, affective, situational, and institutional barriers on outcomes of intergroup contact. The purpose of this study was to examine two individual difference variables (i.e., empathy and informational identity style). The rationale for empathy will be presented first directly followed by a rationale for examining an informational identity style.

Empathy. In general, empathy refers to the ability to take the perspective of another (Duan & Hill, 1996). Empathy as defined in the intergroup relations field is aligned with the notion of feeling compassion for another and/or being moved to prosocial behavior based on taking that other person’s perspective (Stephan & Finlay, 1999; Stephan & Stephan, 2001). Despite a significant relationship between empathy and attitudes toward out-group members, there is no existing research that has directly examined the relationship between empathy and attitudes toward out-group members via intergroup contact experience. For example, so far the research investigating empathy and intergroup attitudes has only determined that when empathy is induced toward out-group members, prejudice/racism is reduced (Batson et al., 1997; Bridgeman, 1981; Finlay & Stephan, 2000; Finlay & Trafimow, 1998; Nesdale, Griffith, Durkin, & Maass, 2005; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Vescio, Sechrist & Paolucci, 2003). Research has not determined whether or not intergroup contact experiences alone increase empathy and thereby reduce prejudice. Additionally, although empathy has received some attention in the empirical literature, greater understanding is needed regarding the relationship between
changes in empathy and reduced prejudice as well as how much variance empathy accounts for in reduced prejudice. Understanding whether or not empathy changes due to intergroup contact experiences and how much variance it accounts for in reduced prejudice will fill a gap in the literature regarding what is known about factors that enhance positive intergroup contact outcomes (e.g., reduced prejudice).

*Informational Identity Style.* The second individual difference variable that will be examined in the current study is an informational identity style. Identity style refers to the way individuals approach or manage to avoid identity-relevant problems and decisions (Berzonsky, Nurmi, Kinney, & Tammi, 1999). Identity style is an important variable to investigate relative to intergroup contact because intergroup contact experiences provide a context wherein individuals are faced with identity-relevant problems and decisions such as the negotiation of attitudes/beliefs and behaviors toward out-group members and aspects of identity (e.g., ethnic, social) have been found to be significantly related to prejudicial beliefs (Branscombe, Schmidt, & Schiffrin, 2007).

While knowing that various identities are related to prejudicial beliefs improves understanding of between group differences in prejudice, it does not provide understanding about the within-group variations in prejudice. Examining identity style provides even more understanding regarding individual differences to the approach, processing, and resolution of prejudice. Therefore, by examining identity style the current study provided a closer look at the variability in individual differences that may be an important factor in the relationship between intergroup contact and reduction in prejudice.

There are three types of identity styles: informational, normative, and diffuse/avoidant (Berzonsky, Nurmi, Kinney, & Tammi, 1999). Out of the three types of identity styles (informational, normative, diffuse/avoidant), significant relationships have been found for an informational identity style and higher levels of empathy and reduced prejudice (Soenens, Duriez, & Goossens, 2005). An informational identity style involves actively searching for, elaborating, and evaluating issue-relevant information (Berzonsky, 1989). This study examined the relationship between an informational identity style and reduced prejudice because research has demonstrated that it is related to empathy, reduced
prejudice (Soenens, Duriez, & Goossens, 2005), proclivity to engage in cultural activities (Berzonsky & Kuk, 2005), and being respectful and tolerant of individuals who differ from oneself (Berzonsky & Kuk, 2005; Soenens, Duriez, & Goossens, 2005). In essence, an informational identity style appears to be related to factors that seem relevant to the proclivity to engage and process within intergroup contact experiences.

The major limitation in the existing research examining an informational identity style and variables that have been found to be significantly related to intergroup contact experiences (i.e., empathy, reduced prejudice) is the sheer lack of empirical data examining the correlations between these variables and an informational identity style (Berzonsky & Kuk, 2005; Soenens, Duriez, & Goossens, 2005). Additionally, an informational identity style has only been found to be correlated with increased levels of empathy and reduced prejudice which offers limited understanding regarding the relationship among these variables. The current study addressed this limitation by broadening the scope of understanding of the relationship among an informational identity style and reduced prejudice by examining change in informational identity style through intergroup contact experience and the amount of variance it accounts for in reduced prejudice. Understanding whether or not an informational identity style changes due to intergroup contact experiences and how much variance it accounts for in reduced prejudice will offer a major contribution to what is known about factors that enhance positive intergroup contact outcomes (e.g., reduced prejudice).

To recap, there is strong support that intergroup contact reduces prejudice (Pettigrew & Tropp, 2000; 2006). However, little is known about which factors may enhance positive effects of intergroup contact. Existing research has yet to address the relationship among changes in influential factors and reduced prejudice as well as how much variance influential factors contribute to reduced prejudice (outcome of intergroup contact).
The Present Study

In the current study, participant group experiences within a Dialogue on Race (DOR) course, engaged in intergroup dialogue, was used as direct measure of intergroup contact experience. The design of the DOR course is based on the theoretical principles of the contact hypothesis and serves as intergroup dialogue described by Schoem et al. (2001) within the model used in higher education (Chesler, 2001; Gurin, Peng, Lopez, & Nagda, 1999; Thompson, Brett, & Behling, 2001).

It is also important to note that since the context of the study is intergroup contact encounters within small groups, two important factors in group dynamics were investigated: group cohesion and group leader characteristics. Group cohesion has been broadly defined as feelings of togetherness provided and experienced by the group (Yalom, 1975). Three group leadership characteristics were investigated: attractiveness, expertness, and trustworthiness (Corrigan & Schmidt, 1983). Study findings suggest that groups within the DOR course were operating as expected.

The first research question in the current study was as follows: Does intergroup contact significantly increase empathy, informational identity style, and decrease color-blind racism? The second research question was as follows: What explains change in color-blind racism? Racism refers to the belief in racial superiority and also the structures of society, which create racial inequalities in social and political institutions; thus, racism consists of both ideological (belief) and structural (institutional) components (Thompson & Neville, 1999). Whereas, color-blind racism, the construct examined in the current study, has only an ideological component and refers to the denial of racial dynamics (i.e., the belief that ideological and structural racism does not exist); thus, color-blind racial attitudes does not necessarily reflect a belief in racial superiority, just an unawareness of the existence of racism (Neville, Lilly, Lee, Duran, & Browne, 2000).

The study was a pre- and post-test design. A total of 97 culturally diverse undergraduate students were enrolled in the DOR course during the study period. A total of 74 chose to participate in the study. Participants were randomly assigned to either the intervention or control condition. After random
assignment to condition, stratified sampling was used to assign participants to the respective groups that they would participate in within each condition. The stratification criteria used was based on the following demographic variables: gender and race/ethnicity. The stratification process was employed to promote balanced gender and race/ethnic representation in each group which is necessary and essential to the theoretical framework in which the DOR course was established (Allport, 1954; Pettigrew & Troop, 2006).

During the pre-test administration all participants completed instruments regarding their demographic characteristics, color-blind racism, empathy, and identity style on-line on the PcyhData website. Only participants in the intervention condition completed two additional instruments regarding group cohesion and group leader characteristics, within their respective DOR groups, during the pre-test administration period. Within their respective DOR group, all participants completed the same instruments assessing color-blind racism, empathy, and informational identity style during the post-test administration. During the post-test administration only participants in the intervention condition completed instruments assessing group cohesion and group leader characteristics. To recap, the two primary goals of the study are to determine whether empathy and informational identity style increases whereas color-blind racism decreases due to intergroup contact experience and to examine what explains the change.
Chapter 2: LITERATURE REVIEW

This chapter synthesizes the theoretical and empirical literature focused on examining factors that may enhance the potential positive effects of intergroup contact. This chapter begins with the theoretical foundation of intergroup contact theory and an in-depth review of a recent meta-analysis evaluating intergroup contact theory. Results from the meta-analysis supports the conclusion that intergroup contact reduces intergroup prejudice and also illuminates the gap in the literature regarding factors that may help to further explain why intergroup contact reduces prejudice (Pettigrew & Tropp, 2006). The chapter will then cover the empirical literature examining the relationship between empathy and intergroup contact effects in order to support the investigation of empathy as a factor that may help to explain prejudice reduction through intergroup contact in the current study.

Following the empirical review of empathy, the second factor, an informational identity style will be reviewed. In general identity style refers to a person’s approach versus avoidant style regarding processing identity issues (Berzonsky, 1989). Intergroup contact experiences involve the processing of identity issues such as acceptance of individuals different from oneself is especially important to consider with regards to factors that may enhance prejudice reduction through intergroup contact. Therefore, identity style is an important variable to examine in the current study. The rationale for specifically examining an informational identity style will be presented in the identity style section of the chapter. The context for the current study is experiential group experience. In order to take into account group effects, group cohesion and group leadership characteristics will also be examined. The rationale for examining group cohesion and group leadership characteristics will be presented next in the chapter. The chapter concludes with a statement of the problem and the research questions and hypotheses are presented. The empirical literature in this chapter will be described and critiqued in terms of individual studies’ hypotheses, methodology, findings, and implications.
Theoretical Foundation of Intergroup Contact Research: The Contact Hypothesis

This section highlights the theoretical foundation of the empirical study of intergroup contact experiences. The contact hypothesis (Allport, 1954) proposes that under a given set of circumstances, contact between members of different groups (i.e., intergroup contact) reduces existing negative intergroup attitudes. Gordon Allport (1954) has been commonly credited with giving birth to the contact hypothesis after the introduction of his acclaimed book, *The Nature of Prejudice*, which presented his idea that intergroup contact could reduce bias. Allport (1954) hypothesized that:

Prejudice (unless deeply rooted in the character structure of the individual) may be reduced by equal status contact between majority and minority groups in the pursuit of common goals. The effect is greatly enhanced if this contact is sanctioned by institutional supports (i.e., by law, custom or local atmosphere), and provided it is of a sort that leads to the perception of common interests and common humanity between members of the two groups (p. 281)

In essence, Allport (1954, p. 281) offered four features of intergroup contact that are central to improving intergroup relations. The four features are: (a) equal status within the situation, (b) intergroup cooperation, (c) common goals, and (d) support of authorities, law, or custom. Intergroup contact research began as early as the 1940’s (Brophy, 1946; Kephart, 1957); however Allport’s (1954) formalization of intergroup contact theory has inspired extensive research over the past half century (Pettigrew, 1998; Pettigrew & Tropp, 2000).

Support for intergroup contact effects have been found across a variety of groups, situations, and societies (Pettigrew & Tropp, 2006). Additionally, support for intergroup contact has been found across studies that have used various research methods and procedures, including archival research (e.g., Fine, 1979), field studies (e.g., Deutsch & Collins, 1951), laboratory experiments (Cook, 1978; Desforges et al., 1991), and surveys (Pettigrew, 1997; Sigelman & Welch, 1993). Spanning many disciplines, intergroup contact theory has been usefully applied to a host of pressing social issues ranging from the racial desegregation of schools (Pettigrew, 1971), the resolution of ethnopolitical conflicts (Chirot & Seligman,
2001), explaining regional differences in prejudice (Wagner, van Dick, Pettigrew, & Christ, 2003), and the educational mainstreaming of physically and mentally disabled children (Harper & Wacker, 1985). Lastly, intergroup contact effects have been studied with a variety of target out-groups that extend past racial and ethnic groups, including the lesbian, gay, and bisexual (LGB) population (Conley, Devine, Rabow, & Evett, 2002; Liang & Alimo, 2005), the elderly (Harwood, Hewstone, Paolini, & Voci, 2005; Schwartz & Simmons, 2001), and the physically disabled (Mpofu, 2003).

Although support for intergroup contact effects have been found across a variety of contexts, studies, and target groups, meta-analytic reviews of intergroup contact research, in the past, have yielded more mixed conclusions. For example, Ford, (1986) conducted a review of 53 papers, from six journals (sociological journals only), on intergroup contact. He found support for the contact hypothesis to be, at best, “premature” and he identified several limitations in the studies investigated. First, he found that out of the 53 papers he reviewed, only 30 measured intergroup contact directly, by observing or asking about it. In the rest of the sample, intergroup contact was inferred from the context (e.g., school desegregation). Second, the context used to investigate intergroup contact effects was limited. Specifically, Ford found that most of the studies he reviewed investigated intergroup contact effects in school and housing contexts and only a few considered contexts such as police departments, military units, and camps. Third, ten of the studies reviewed did not report their sample size. Ford determined that only 16 of the studies that were reviewed were adequate to test to determine if there was support that intergroup contact reduces prejudice. Out of the 16 studies, four studies yielded results supportive of the contact hypothesis, and ten did not find support. Although Ford found that support for the contact hypothesis is mixed it is important to note that the results of his review must be understood within the framework of the methodological problems that he identified which may have influenced the results yielded from the studies he reviewed.

In their first meta-analytic test of intergroup contact research, Pettigrew and Tropp (2000) addressed the limitations in the intergroup contact studies reviewed in Ford’s (1986) review and extended attempts to minimize additional limitations that may interfere with the interpretation of the meta-analysis
results. Pettigrew and Tropp’s (2000) first meta-analytic test of intergroup contact research utilized 203 individual studies with 313 independent samples and 746 separate tests spanning decades and disciplines. Pettigrew and Tropp only used studies that reported their sample size and they only included studies in their review that measured intergroup contact directly; through either self-report of direct observation. Secondly, by reviewing studies across decades and disciplines, Pettigrew and Tropp avoided the limitation of only reviewing studies that investigated intergroup contact effects in a limited variety of contexts and only from the sociology discipline as Ford did. As mentioned earlier, Pettigrew and Tropp also took additional steps to determine if there was support that intergroup contact reduced prejudice. For example, only studies in which intergroup contact acted as a casual, independent variable for prejudice were included. Additionally, only studies where the prejudice dependent variables were collected on individuals rather than simply as an aggregate outcome were included, and comparative data had to be available to evaluate any changes in prejudice. The results of Pettigrew and Tropp’s meta-analytic test of intergroup contact suggests that the effect of intergroup contact to reduce prejudice is “highly significant.” They found that out of the 203 studies reviewed, 94% found an inverse relationship between intergroup contact and prejudice. Due to the substantive nature of intergroup contact research, a review of Pettigrew and Tropp’s (2006) meta-analysis is an effective way to make sense of and summarize the research in this area. The following section is a detailed reviewed of Pettigrew and Tropp’s (2006) meta-analysis.


Pettigrew and Tropp (2006) conducted a meta-analysis testing intergroup contact theory which extended their earlier preliminary meta-analysis, presented in Pettigrew and Tropp (2000). Their rationale for conducting this most recent meta-analysis was to address the limitations found in the past reviews of intergroup contact research that have led to a muddled picture of whether or not there is support for intergroup contact effects. They offered several reasons for the inconclusive support of intergroup contact found in past reviews: incomplete samples of all relevant research, absence of strict inclusion rules which resulted in contrasting definitions of intergroup contact, and the use of nonquantitative assessments of
intergroup contact effects. Thus, the primary purpose of Pettigrew and Tropp’s (2006) meta-analysis was to assess the overall relationship between intergroup contact and prejudice on the basis of the population of empirical studies that constitute the research literature of the 20\textsuperscript{th} century. Specifically, they investigated whether intergroup contact is associated with less prejudice even when Allport’s conditions are not established in the contact situation, as well as whether these conditions significantly enhance the degree to which contact promotes positive intergroup outcomes.

In Pettigrew and Tropp’s (2006) meta-analysis 515 studies with 713 independent samples and 1,383 non-independent tests were utilized. A combined 250,089 individuals from 38 nations participated in this body of research. Due to the substantive nature of intergroup contact research, the meta-analytic test of this research required a clear definition of intergroup contact. Pettigrew and Tropp (2006) defined intergroup contact as actual face-to-face interaction between members of clearly defined groups. From this definition they established four inclusion criteria. First, only studies in which intergroup contact acts as the independent variable and intergroup prejudice as the dependent variable were included. Second, only research that involved contact between members of discrete groups were included. This rule ensured that intergroup outcomes of contact rather than interpersonal outcomes were examined. Third, the research had to involve some degree of direct intergroup interaction. Specifically, for inclusion, the intergroup interaction had to be observed directly, self-reported by participants and occur in focused, long-term situations where direct contact is unavoidable (e.g., small classrooms). This rule eliminated a variety of studies that are often cited in summaries of contact research. For example, research was excluded that used rough proximity or group proportions to infer intergroup interaction. Based on this rule, research was also eliminated that attempted to gauge contact with indirect measures such as information about an out-group as well as research that categorized participants into groups that do not directly interact. Fourth, measures of prejudice dependent variables must have been collected on individuals rather than simply as a total aggregate outcome. Thus, studies concerning the relationships
between contact and prejudice were included only if they had an individual as the unit of analysis such that prejudice scores could be examined in relation to individuals’ contact experiences.

Pettigrew and Tropp (2006) employed a random effects model for their analysis because they asserted that the nature of intergroup contact research makes a random effects model more appropriate due to the heterogeneity of the samples, ill-specified nature of the treatments, and effect sizes that are complex and multidetermined (Pettigrew & Tropp). They also asserted that employing a random effects model allows their findings to be generalized to other intergroup contact studies beyond those used in their analysis. Pettigrew and Tropp reported Pearson’s $r$ as their indicator of effect size throughout their analysis.

It is also important to note that Pettigrew and Tropp (2006) went to great lengths to maximize the interpretability of their results by minimizing factors that could potentially limit interpretability of their results, all of which have historically opened the door to criticism of research findings that claim that intergroup contact reduces prejudice. The factors are participant selection bias, causal sequence problems, publication bias problems, generalization of effects problem, rigor of research studies, and study and participant characteristics as moderators of contact-prejudice effects. The results of Pettigrew and Tropp’s (2006) meta-analytic test of intergroup contact effects will be presented according to their two central research questions: (1) Does intergroup contact reduce prejudice? and (2) Are Allport’s conditions necessary to reduce prejudice? Results for each central question will be presented within the framework of the various tests they conducted to increase the validity of their results. In order to rule out alternative explanations for the intergroup contact effects, Pettigrew and Tropp, conducted validity tests to rule out participation selection bias, causal sequence problems, publication bias, generalization effects problem, and rigor of research that would limit the interpretability of their results which suggested that intergroup contact does reduce prejudice.

**Participant selection bias and causal sequence problems.** Pettigrew and Tropp (2006) noted that potential participant selection bias limits the interpretation of many studies of intergroup contact. Instead
of optimal contact reducing prejudice, the opposite causal sequence could be at work. For example, prejudiced people may avoid, and tolerant people may seek, contact with out-groups. Pettigrew and Tropp noted three basic methods that can overcome these limitations, and cited studies that employed these methods. The first method noted by Pettigrew and Tropp to limit participant selection bias is longitudinal studies. They noted that longitudinal studies have revealed that optimal contact reduces prejudice over time (Levin va Laar & Sidanius, 2003), even when researchers have eliminated the possibility of participation selection bias. It is important to note that longitudinal research in intergroup contact research is rare (e.g., Levin va Laar & Sidanius, 2003; Sherif, 1966).

The second method noted by Pettigrew and Tropp (2006) to overcome the causal sequence problem is to employ statistical methods borrowed from econometrics that allow researchers to compare reciprocal paths (contact reduces prejudice versus prejudice reduces contact) using cross-sectional data. As shown directly in research (Herek & Capitanio, 1996) these methods reveal that prejudiced people do indeed avoid intergroup contact. The path, however, from intergroup contact to prejudice is generally much stronger (Pettigrew, 1997). Thus, it appears that while both sequences operate the more important effect is intergroup contact reducing prejudice.

The third method noted by Pettigrew and Tropp (2006) to overcome the causal sequence problem is to severely limit choice (Link & Cullen, 1986). By eliminating the possibility that initial attitudes caused differential contact, research where choice is eliminated provides a clearer indication of how intergroup contact alters prejudice. In their meta-analysis, Pettigrew and Tropp made use of this method by coding samples for the extent to which participants could choose to engage in the contact. They noted, however, that experiments limit choice through randomization of subjects to condition. Pettigrew and Tropp’s choice rating was not simply a surrogate variable for experimental designs. Almost half of their quasi-experimental samples, and even 31 samples with weaker designs, allowed no participant choice. In Pettigrew and Tropp’s meta-analysis, the no-choice samples provided significantly larger mean effect size (mean $r = -.280$) than did samples in which participants had some choice (mean $r = -.190$), $QB(1) = 20.58$,.
p < .0001, or full choice (mean $r = .218$), $QB(1) = 8.98, p < .01$. Pettigrew and Tropp noted that the fact that the no-choice studies were of higher quality magnifies the difference between the three types of studies (no choice, some choice, and full choice). The key finding is that the studies that allowed participant selection bias (some choice, full choice) to operate did not typically yield the larger effect sizes that would be predicted by participant selection bias. In summary, the results of Pettigrew and Tropp’s validity checks to rule out casual sequence problems and participant selection bias suggested that regardless of which of the three methods identified to eliminate or reduce participant selection bias or the casual sequence problem was utilized in various studies, the resulting data indicated that contact as the cause of reduced prejudice was more important than the selection-bias possibility that prejudiced people avoid contact.

Publication bias problems. Pettigrew and Tropp (2006) noted that another potential threat to the interpretation of many studies of intergroup contact pertains to publication bias. They noted six methods that can overcome this limitation, and cited studies that employed these methods. The first method Pettigrew and Tropp employed was to calculate a fail-safe index (Rosenthal, 1991) which reveals how many missing studies that average no relationship between contact and prejudice ($Z = .00$) would be required to raise the significance levels above the .05 or .01 level of confidence. Though often criticized, this technique is one of the most widely used methods for crudely gauging publication bias (Sutton, Duval, Tweedie, Abrams, & Jones, 2000). Pettigrew and Tropp stated that the fail-safe index’s basic weakness is that it assumes that the missing studies will average to no effect. Thus, the fail-safe index underestimates publication bias to the extent that the average of the missing studies runs counter to the hypothesis being tested. Pettigrew and Tropp fail-safe index calculation indicated that 1,200 missing samples that average no effect would be needed to erase the significance of the intergroup contact and prejudice association they found, at the .05 level of confidence. The figure was considerably larger than the 713 samples uncovered by Pettigrew and Tropp’s intensive 6-year search. Next, Pettigrew and Tropp checked publication bias by examining the relationship between sample sizes and effect sizes in their
sample. They noted that large samples provide more reliable results and if there is a lack of relationship between sample size and effect size it is a good indicator of limited publication bias. Pettigrew and Tropp employed this method and they found that the relationship between sample size \((r = 1.02, p = .67)\) and effect size \((r = .04, p = .33)\) was not significant.

The third method that Pettigrew and Tropp (2006) noted to limit publication bias is to develop a funnel graph consisting of a scatter diagram with the two variables under investigation (Light & Pillemer, 1984). A non-significant correlation and a symmetrical funnel graph each suggest minimal publication bias. Pettigrew and Tropp developed a scatter diagram and their graph resembled a funnel. The funnel was not sharply skewed and the mean effect remained approximately the same regardless of sample size which according to Light and Pillemer (1984) suggests that publication bias was not a major problem with the data set.

The fourth method employed by Pettigrew and Tropp (2006) is considered the “trim and fill” technique (Duval and Tweedies, 2000a, 2000b) which detects potentially missing studies by adjusting for funnel plot asymmetry. With \(Z\) as the effect size and using the random effects model, results indicated that 72 (10.3%) samples were missing. When the missing data was filled, the effect size estimate increased to a \(Z\) of -.245, with 95% confidence limits of -.258--.231 which was comparable to the mean effects (mean \(r = -.205--.217\)) found in Pettigrew and Tropp’s meta-analysis.

The fifth method that Pettigrew and Tropp (2006) employed was the general linear approach of Vevea and Hedges (1995) that focuses on the absence of small studies. It assumes that random effects are distributed normally and that the survival probability of a given study can be described by a stop function around such critical probability points as .05 and .01. Such funnel graph methods, however, tend to overestimate publication bias (Sterne & Egger, 2000). After adjusting for these cases, the relationship between contact and prejudice was not significant \((Z = -.02, ns)\). However, Pettigrew and Tropp (2006)
noted that for the 118 samples with between-groups designs and strong controls, the adjusted effect size did reach statistical significance (mean $Z = -.109$, one-tailed, $p < .02$).

Lastly, Pettigrew and Tropp (2006) employed a sixth method to test for publication bias by comparing the effect sizes between intergroup contact and prejudice from published sources (journals and books) and unpublished sources (graduate dissertations, conference papers, and other unpublished manuscripts). Pettigrew and Tropp noted that this method makes a critical assumption that the unpublished studies they uncovered constituted a random sample of unpublished research on this topic. They noted that the power of this direct approach, as Begg (1994) noted is “directly proportional to the assiduousness of the search” (p. 405). Thus, Pettigrew and Tropp (2006) expended great effort in obtaining as many unpublished manuscripts as possible (88 unpublished studies). Pettigrew and Tropp found that the unpublished works in their sample had a larger mean effect size between intergroup contact and prejudice (mean $r = -.237$) than did the published work (mean $r = -.211$) although the difference was not significant, $QB (1) = 2.17$, $p = 14$. In summary, the six tests that Pettigrew and Tropp employed to test for publication bias indicated that there was limited publication bias in their sample.

**Generalization of effects problem.** Pettigrew and Tropp (2006) noted that critics of intergroup contact effects generally concede that intergroup contact often leads to improved attitudes among the participants, but they do not generalize beyond the immediate intergroup contact situation. Such generalization is crucial to the application of intergroup contact theory. If the changes wrought by contact are limited to the particular situation and the immediate out-group participants, the practical value of the theory is obviously severely restricted. Thus, Pettigrew and Tropp examined whether each test of the link between contact and prejudice involves some generalization beyond the immediate contact situation and participants. They employed several tests of to examine whether or not intergroup contact effects generalize beyond the immediate situation. Results suggested that intergroup contact effects do generalize beyond the immediate contact situation. Results suggested that there is considerable generalization of intergroup contact effects across situations (mean $r = -.244$), generalization to the whole
out-group (mean $r = -.213$), and to other out-groups not involved in the contact situation (mean $r = -.190$), $p < .001$. Taken together, Pettigrew and Tropp asserted that these results suggests a far wider generalization net of contact effects than was previously thought.

**Rigor of research studies.** Pettigrew and Tropp (2006) also noted that a final test of validity involves the relationship between indices of research rigor and the magnitude of the contact-prejudice effect sizes. If less rigorous research was largely responsible for the average effect size between contact and prejudice, one would hesitate to accept it as established. If, however, more rigorous studies produced stronger contact effects, it would lend credibility to the results. Pettigrew and Tropp used five rated variables to test this issue: type of study, type of control group, type of contact measure, quality of the contact measure, and quality of the prejudice measure.

First, Pettigrew and Tropp (2006) examined study type. Results suggested that samples tested with true experiments (mean $r = -.336$) yield significantly higher larger effects than do those tested with either quasi-experiments (mean $r = -.237$), $QB$ (1) = 6.72, $p < .01$, or surveys and field studies (mean $r = -.204$), $QB$ (1) = 15.99, $p < .0001$. The contact effects on prejudice in experiments (mean $r = -.336$) approach what Cohen (1988) described as a “large” effect size for psychological data ($d = -.713$).

Second, Pettigrew and Tropp examined control groups. Results suggested that the samples with control groups that had no prior out-group contact (mean $r = -.244$) had a higher mean effect than did samples with controls that had either some prior out-group contact (mean $r = -.209$), or extensive prior out-group contact (mean $r = -.138$). Third, Pettigrew and Tropp examined type of contact measure used. Results suggested that samples with directly observed contact yielded the highest mean effect (mean $r = -.246$, $p < .001$). Significantly smaller effects were obtained from samples that used self-report measures of contact (mean $r = -.210$), $QB$ (1) = 6.39, $p = .01$, or assumed contact from a close, ongoing situation in which some degree of contact was unavoidable (mean $r = -.132$), $QB$ (1) = 11.82, $p < .001$. Lastly, Pettigrew and Tropp examined quality of contact and prejudice measures. Pettigrew and Tropp noted that the quality of contact and prejudice indicators is highly influential. Multiple-item measures with low or
unreported reliabilities render weaker effects than do other measures. This finding is important because intergroup contact researchers have often used these measures. Results, for intergroup contact indicators, suggested that samples tested with reliable multiple-item measures or experimentally manipulated contact (mean $r = -.296$) provided significantly larger effect sizes than did those with other measures combined (mean $r = -.189$), $QB (1) = 53.22$, $p < .0001$. Results, for prejudice indicators, suggested that samples tested with unreliable multiple-item measures provided smaller effects (mean $r = -.190$) than did each of the other types of measures: single items (mean $r = -.233$), $QB (1) = 2.89$, $p < .09$, reliable multi-item scales (mean $r = -.246$), $QB (1) = 16.38$, $p < .0001$, and other unreliable measures of the dependent variables (mostly high interrater reliability; mean $r = -.293$), $QB (1) = 6.60$, $p < .01$.

In summary, the results of Pettigrew and Tropp’s (2006) validity tests of rigor of research effects indicated that the more rigorous research produced stronger intergroup contact-prejudice effects. After Pettigrew and Tropp addressed the major threats to validity that may have limited the interpretability of their finding that intergroup contact does reduce prejudice, the next step in their analysis was to investigate their second research question regarding whether or not Allport’s (1954) conditions were necessary to produce the intergroup contact-prejudice effects.

Pettigrew and Tropp (2006) were interested in investigating whether or not Allport’s (1954) conditions were necessary to reduce prejudice and if not, what participant variables or study variables helped to explain the reduction in prejudice when Allport’s (1954) conditions were not met. Thus, the first step in their analysis was to determine if the conditions were necessary. Results indicated that those samples with optimal contact conditions yielded significantly greater reductions in prejudice (mean $r = -.287$) than did the other samples (mean $r = -.204$), $QB (1) = 20.19$, $p < .0001$. At the same time, as the results demonstrate, Pettigrew and Tropp noted that the inverse relationship between contact and prejudice persists, though not as strongly, even when the contact situation is not structured to match Allport’s (1954) conditions. The next step was to determine if intergroup contact effects occur between
intergroup contact with nonracial and ethnic target groups as they do for racial and ethnic groups. Comparisons across the racial and ethnic subsets and the nonracial and non-ethnic subsets yielded virtually identical mean estimates of intergroup contact-prejudice effect sizes (mean $r = -.218$ and -.220), $QB (1) = 0.027, p = .87$, respectively. Next, Pettigrew and Tropp (2006) investigated participant and study variables as moderators of the intergroup contact effects that were found when Allport’s (1954) conditions were met or not met. The following moderator variables were investigated: target group, participant age, geographical area, contact setting, and date of study. Only results that relate to the relevant participant and study variables that exist for this dissertation study will be presented (i.e., diversity of target groups, age, and setting)

*Diversity of target groups.* Intergroup contact with racial and ethnic groups (most studied target groups) (mean $r = -.214$), and people with disabilities (mean $r = -.202$), $QB (1) = 11.95, p < .001$, yielded average effects. The largest effects were found for samples involving intergroup contact between heterosexuals and gay men and lesbians (mean $r = -.217$) as well as contact with the physically disabled (mean $r = -.243$), $QB (1) = 11.95, p < .001$.

*Age.* Intergroup contact effects were significantly stronger for college students (mean $r = -.231$) than are those for adults (mean $r = -.197$), $QB (1) 6.68, p < .001$. The fact that college students yield significantly stronger average effects than do adults is consistent with Sear’s (1986) contentions that college students are generally more open to change than are older adults.

*Intergroup contact setting.* The largest mean effects emerged from intergroup contact that occurred in recreational and laboratory settings (mean $r = -.287$) compared to the other settings combined (mean $r = -.211$), $QB (1) = 11.14, p < .001$. In essence, intergroup contact effects were stronger in settings that involved direct intergroup contact such as recreational settings and controlled laboratory settings.

Results of Pettigrew and Tropp’s (2006) tests for moderator variable effects suggests that intergroup contact effects are found for different target groups. Results also suggested that intergroup
contact effects are stronger for college students than other age groups. Lastly, recreational and laboratory settings produce stronger effects over other research contexts such as tourism and work settings.

Summary Meta-analysis Findings

Results of Pettigrew and Tropp’s (2006) meta-analysis offered several points deserving emphasis. First, intergroup contact does reduce prejudice. Second, intergroup contact effects generalize beyond the immediate intergroup contact situation. Third, intergroup contact may be useful for reducing prejudice in a variety of intergroup situations and contexts. The patterns of intergroup contact-prejudice effects observed for racial and ethnic samples closely resemble those observed for effects observed in other samples (e.g., heterosexuals and LGB population, contact with physically disabled and mentally disabled individuals). In addition, although there is variability in the magnitude of contact-prejudice effects across different intergroup contexts, the relationships between contact and prejudice remain significant across samples involving different target groups, age groups, and contact settings. Although intergroup contact effects are stronger when intergroup contact situations are structured to follow Allport’s (1954) conditions, they are not necessary to reduce prejudice. Thus, Pettigrew and Tropp (2006) assert that consistent with Allport’s (1954) original contentions, optimal conditions for contact are best conceptualized as functioning together to facilitate positive intergroup outcomes rather than as entirely separate factors. In summary, Pettigrew and Tropp’s (2006) meta-analysis provides substantial evidence that intergroup contact can contribute to reductions in prejudice across a broad range of groups and contexts.

Although intergroup contact research is substantive, as demonstrated by the number and diversity of studies included in Pettigrew and Tropp’s (2006) meta-analysis, there are a number of areas in need of greater attention. Pettigrew and Tropp noted several areas that need greater research attention. They noted that more attention is needed on the impact of perspective taking (empathy) and other individual differences on intergroup contact effects. Specifically, Pettigrew and Tropp stated that contemporary research has begun to examine the role that perspective taking and various other individual differences
play in intergroup contact effects. For example, they noted individual difference factors such as the willingness to trust and forgive the out-group (Hewstone et al., 2005) have already been investigated and demonstrated to play an important role in intergroup contact effects. This dissertation attempts to address the aforementioned limitation of intergroup contact research, that is, the limited attention to factors that may enhance intergroup contact effects. The limitation will be addressed by examining two factors (empathy and information identity style) that may enhance intergroup contact effects. Given that the group will consist of intergroup contact encounters within groups, group cohesion will be investigated as a covariate. The following section will present scholarly and empirical evidence that supports the role of empathy on intergroup contact effects.

Empathy

In general, empathy refers to the ability to take the perspective of another (Duan & Hill, 1996). As mentioned earlier, the role of empathy in intergroup contact experiences has only begun to be investigated. To date, there are only five published quantitative studies that have investigated college-aged students’ empathy and attitudes/behaviors toward out-group members (Batson et al., 1997; Finlay & Trafimow, 1998; Finlay & Stephan, 2000; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Vescio, Sechrist & Paolucci, 2003). Williams and Bieschcke (2007), however, conducted a qualitative pilot study of undergraduate students’ experiences of intergroup contact within groups engaged in dialogue on race (in a Dialogue on Race course). Also, there have been a couple of studies that investigated children’s empathy toward out-group members (Bridgeman, 1981; Nesdale, Griffith, Durkin, & Maass, 2005).

Despite the limited empirical data available on the relationship between empathy and intergroup contact, as scholars have noted, empathy has been identified as playing a major role in enhancing intergroup contact effects (Pettigrew, 1998) and generally improved intergroup contact relations (McGregor, 1993; Smith, 1990). In this section, only the five quantitative studies that have investigated the relationship between college-aged students’ empathy toward racially and ethnically diverse populations will be reviewed because this is the population sampled for this dissertation. Williams and
Bieschke’s (2007) qualitative findings related specifically to the role of empathy and intergroup contact effects will also be reviewed.

Finlay and Trafimow (1998) examined the relationship between private self and helping victims with AIDS. More specifically, they tested whether increasing a person’s awareness of their private self would lead to increased empathy and helping behavior toward out-group members perceived as in need of help. In the study, private self was conceptualized as a cultural representation that is represented within the self. Further, the private self is located in memory where thoughts of one’s own states and traits are stored. A total of 162 (54% females, 46% males) undergraduate students participated in the study. Participants were randomly assigned to conditions. Participants in the “private” self priming condition read a short story and were asked to pretend that they were the main character in the story. After they read the short story, they were asked to respond to follow-up questions regarding their ability to identify with the main character in the story and what their participant gender was. All participants in both conditions received a questionnaire intended to assess empathic emotions toward people with AIDS. Empathic emotions was measured by Bentancourt’s (1990) empathy questionnaire which asked to what degree participants felt the following empathic emotions toward people with AIDS: compassion, sympathy, moved, grieved, upset, disturbed, and alarmed. Participants in the no prime condition only received the empathic emotions measure. The questionnaire employed a 7-point scale ranging from 1 (extremely) through 4 (neutral) to 7 (not at all). They did not read the priming short story.

After participants completed the empathy measure they were told that the experiment was finished, but were asked to read the contents of a manila envelope as a favor to the community organization that the experimenter had contacted to get background information about parts of the study. The envelope contained a statement that a New Mexico AIDS organization, ARDAC (AIDS Resources for Dona Ana County) was in need of volunteers. Participants were asked to volunteer for this organization and to indicate the amount of time they would be willing to spend helping. Helping behavior for the out-group was measured based on whether or not participants actually volunteered to help the
ARDAC within 1 month and 20 days after they were contacted by the ARDAC coordinator which followed directly after they submitted their initial interest during the experiment. Thus, participants who failed to do so within that time period were considered not to have helped.

Three main hypotheses were tested regarding the role that empathy plays in the relationship between the private self and attitudes and behaviors toward out-group members. First, increasing the accessibility of the private self should lead to increases in empathy and helping toward people with AIDS, as compared to a non-primed condition. An analysis of variance (ANOVA) indicated that participants in the private prime condition reported significantly more empathy toward people with AIDS than did participants in the no prime condition, $F(1,62) = 4.87, p < .05$. Second, empathy should mediate the prime-helping relationship. Third, if empathy completely mediates the prime-helping relationship, then controlling for empathy should eliminate the prime-helping relationship. A path analysis was performed to test the second and third hypotheses. Three standardized path coefficients were calculated. These were from (a) prime to empathy, (b) empathy to volunteer hours, and (c) prime to hours, not mediated by empathy. If the effect of prime on hours was mediated by empathy, then the standardized path coefficients from prime to empathy and from empathy to hours should be significant. However, if empathy did not mediate the path then the standardized path coefficient from prime to hours would not be significant. Results from the path analysis confirmed predictions. The first two path coefficients were significant (.17 and .24, respectively, $p < .05$, in both cases), while the third was not ($p > .1$). Results indicate that although the prime clearly affected empathy and helping, the effect on helping was completely mediated by empathy. Finlay and Trafimow’s (1998) study offers beginning support for the further empirical investigation of empathy as an important factor that may enhance intergroup contact effects because findings of their study suggest that inducing empathy toward out-group members is related to attitudes and behaviors toward the out-group. The remaining four quantitative and one qualitative study that will be reviewed in this section will offer further support that since empathy inducement decreases prejudice/racism attitudes toward out-group members. It is plausible that if
empathy is also specifically amenable to intergroup contact experiences, empathy may be seen as an important factor in the enhancement of intergroup contact effects such as reduced prejudice/racism.

Batson et al. (1997) conducted three experiments to investigate whether or not feeling empathy for a member of a stigmatized group can improve attitudes toward the group as a whole. Each experiment will be reviewed in detail.

First experiment. The first experiment investigated attitudes towards people with AIDS. A total of 96 female undergraduates participated in the first experiment. Batson and colleagues did not report any additional demographics. Using a randomized-block procedure, 12 participants were assigned to each cell of a 2 (empathy) x 2 (victim responsibility) x 2 (scope of stigmatized group) design. Each participant was first instructed that they would be listening to a broadcast of a woman with AIDS being interviewed about her personal experience of the tragedy. Next, each participant was told that they would receive written instructions about the listening perspective they were expected to take as they listened to the interview. Each participant was given either a high-empathy inducing listening perspective or a low-empathy inducing perspective. Instructions for the high-empathy perspective read: “Imagine how the woman who is interviewed feels about what has happened and how it has affected her life.” Instructions for the low-empathy perspective read: “Take an objective perspective toward what is described.” After each participant read the listening perspectives they listened to the tape recorded interview. Each participant listened to the same recorded interview except for the ending. Participants either listened to an interview that ended where the woman acknowledged her responsibility in contracting AIDS or they listened to an interview where the woman did not acknowledge responsibility for contracting AIDS. After each participant listened to the interview, they were given a list of 24 adjectives describing different emotional states which were used to measure empathic response. For each adjective, participants were asked to report how much (1 = not at all, 7 = extremely) they had experienced the emotion while listening to the broadcast. Each participant was also administered the Attitude Questionnaire: AIDS Victim which was modeled after McConahay’s (1986) Modern Racism Scale. The questionnaire they were given assessed
beliefs about or feelings toward people with AIDS on a 9-point Likert scale (1 = strongly disagree, 9 = strongly agree).

Results are reported based on Batson et al.’s (1997) major hypothesis: Attitudes toward people with AIDS will be more positive in the high empathy condition than in the low empathy condition. Results confirmed Batson et al.’s (1997) hypothesis. There was a significant main effect was found for participants in the high-empathy condition ($M = 6.93$) compared to participants in the low empathy condition ($M = 6.41$), $F (1, 88) = 5.10$, $p < .03$, on attitudes toward people with AIDS.

*Second experiment.* The second experiment investigated attitudes toward homeless people. A total of 46 (61% women, 39% men) undergraduates participated in the second experiment. Each participant was first instructed that they would be listening to a broadcast of a homeless man being interviewed about his experience of being homeless. Next, each participant was told that they would receive written instructions about the listening perspective they were expected to take as they listened to the interview. Each participant was given either a high-empathy inducing listening perspective or a low-empathy inducing perspective. Instructions for the high-empathy perspective read: “Imagine how the man who is interviewed feels about what has happened and how it has affected his life.” Instructions for the low-empathy perspective read: “Take an objective perspective toward what is described.” After each participant read the listening perspectives they listened to the tape recorded interview. Each participant listened to the same recorded interview except for the ending. When participants finished listening to the tape, participants in the victim responsibility condition read background information about the homeless man which described the man as becoming homeless because of external reasons. Participants in the victim-responsible condition read background information about the homeless man that described him as being the cause of his circumstances. After each participant read the background information, they were given a list of 24 adjectives describing different emotional states which were used to measure empathic response. For each adjective, participants were asked to report how much (1 = not at all, 7 = extremely) they had experienced the emotion while listening to the broadcast. Each participant was also administered
the Attitude Questionnaire which was modeled after McConahay’s (1986) Modern Racism Scale. The questionnaire they were given assessed beliefs about or feelings toward the homeless on a 9-point Likert scale (1 = strongly disagree, 9 = strongly agree).

Batson et al.’s (1997) major hypothesis was that attitudes toward the homeless will be more positive in the high empathy condition than in the low empathy condition. Batson and colleagues’ (1997) hypothesis was confirmed. There was a significant main effect for participants who reported higher empathy for a homeless person ($M = 7.00$) compared to participants who reported low empathy ($M = 5.61$), $F(1, 42) = 18.01$, $p < .0005$, with respect to more expressed positive attitudes toward homeless people.

**Third experiment.** The third experiment investigated attitudes toward murderers. A total of 60 (50% women, 50% men) undergraduates participated in the third experiment. Procedures for the third experiment followed the exact same procedures for experiment one and two except the interview participants listened to an interview of a murderer and the responded to the empathy and attitude measures based on their responses to murderers and not people with AIDS and the homeless.

Batson et al.’s (1997) major hypothesis was the same as in experiment one except the target out-group for this experience was murderers instead of people with AIDS and the homeless. Batson and colleagues hypothesis was confirmed. A significant main effect was also found for participants in the high empathy condition ($M = 3.33$) versus participants in the low empathy condition ($M = 2.50$), $F(1, 58) = 4.93$, $p < .04$, in regards to more positive feelings towards murderers. Collectively, the results from all three experiments suggest that there is a relationship between empathy and more positive attitudes towards stigmatized groups (people with AIDS, homeless, murders). Batson and colleagues proposed a three-step model to explain their results. First, taking the perspective of an individual leads to feelings of empathy for that person. Second, empathic feelings lead to a greater value of the welfare of the person. Third, if the person is a member of a social group, the concern for the person’s welfare generalizes to the entire group. Overall, Batson et al.’s (1997) experiments suggest that empathy plays an important role in
attitudes toward out-group members. Further, the collective results also suggest that induced empathy toward a member of a target out group also generalizes to other members of the target out-group. In summary, across the three experiments, empathy led to more positive attitudes toward stigmatized groups which provides further support for the direct examination of the relationship between empathy and intergroup contact experiences.

More recently, Finlay and Stephan (2000) conducted a study that examined the role the role of empathy and intergroup attitudes with respect to Anglo Americans attitudes toward African Americans. A total of 141 White undergraduates participated in the study. The authors did not report participant demographics. Their study was similar in design to Batson et al.’s (1997) study. Participants were randomly assigned to conditions. Each participant first read one of two scenarios involving acts of discrimination against either an African American or Anglo American. Before participants read the scenarios they were given empathy instructions similar to the empathy inducing instructions given in Batson et al.’s (1997) study. Two versions of empathy instructions were used and one control instruction was used. One type of empathy instructions requested that participants take the perspective of the authors of the scenarios. Specifically, the students in this condition were told: “While you are reading, try to imagine how each writer feels; Picture in your mind how he or she feels; As you read, concentrate on the author’s situation and their experiences.” The second type of empathy instructions requested that participants attend to their own emotions, as if they were the authors of the scenarios. The instructions read: “While you are reading, try to imagine how you would feel if you were the writer; Picture in your mind how you feel; As you read, concentrate on yourself in this situation and experience these situations for yourself; You should identify with your feelings and responses to the situation.” The control instructions read: “While you are reading, try to make careful mental notes about everything the writers do; Observe closely all characteristics of their behaviors; Observe the frequency and pattern of his or her behaviors; Note the language structures, expressions, and etc. After reading their respective scenario, under the guise of the instructions they received, each participant completed measures of reactive
empathy, parallel empathy, and attitudes in an effort to examine the effects of both reactive and parallel empathy on intergroup affect, cognition, and evaluation.

The reactive-empathy measure assessed the degree of experiencing positive emotions (e.g., compassion, sympathy, and understanding). The reactive-empathy index is the degree to which the participants felt compassion, sympathy, and understanding. The parallel-empathy index measured the degree to which students reported feeling negative emotions (e.g., anger, annoyance, hostility, discomfort, and disgust). The empathy measures asked participants to rate each word based on the degree to which they felt the emotions. The attitude measures were based on semantic-differential scales employed by Crites and his colleagues (Crites, Fabrigar, & Petty, 1994) to measure the affective, cognitive, and evaluative aspects of attitudes. The affective measure assessed the emotional quality of attitudes. The cognitive measure was essentially a measure of stereotyping. The evaluative measure assessed judgments toward the target group in the respective participant scenarios. Each participant completed the five measures that assessed reactive empathy, parallel empathy, and the affective, cognitive, and evaluative aspects of attitudes twice, once with respect to participants’ feelings about African Americans and once with respect to their feelings about Anglo Americans.

Finlay and Stephan’s (2000) hypothesized that empathy inducement would lead to reduced biased attitudes toward African Americans. Finlay and Stephan’s (2000) hypothesis was confirmed. An analysis of the degree to which the students reported experiencing the negative emotions in the parallel-empathy index toward African Americans yielded an empathy condition main effect, $F(1,105) = 9.01, p < .005$. This indicated that students who were given empathy instructions felt the negative emotions included in this index less strongly toward African Americans than did students who received the low-empathy instructions. No significant main effect was found for the reactive-empathy index. In addition, the empathy-inducing instructions also eliminated the differential responses to the in-group and the out-group compared to the control instructions for the affect measure, as shown by a significant empathy x group interaction, $F(1,92) = 7.26, p <.005$. Results also indicated that inducing empathy reduces in-group-out-
group bias in attitudes toward out-group members. Like Batson et al. (1997) study, Finlay and Stephan’s (2000) study offers further support for the relationship between empathy and intergroup attitudes and illuminated aspects of intergroup attitudes that may be more amenable to change.

More recently, Vescio, Sechrist, and Paolucci’s (2003) conducted a study similar in design to Batson et al. (1997) and Finlay and Stephan (2000) studies. The purpose of the Vescio and colleagues (2000) study was to examine whether perspective taking promotes improved intergroup attitudes regardless of the extent that stereotypes of out-group members are endorsed. They also examined the mechanism by which perspective-taking motivates improved intergroup attitudes. A total of 66 White (77% women, 23% men) undergraduate students participated in the study. Each participant was randomly assigned to one of four conditions (other-focused stereotype confirming, other-focused stereotype disconfirming, objective-focused stereotype confirming, and objective-focused stereotype disconfirming). Each participant listened to an interview with which an African American male described some difficulties he had faced with as a result of his racial group membership. Before listening to the interview, participants were given perspective taking instructions. Depending on the condition they were in they were told to either imagine how the person being interviewed feels about the experiences he/she describes and how it has affected his/her life or they were told to try not to get caught up in how the person being interviewed feels about his/her experiences. Level of empathy for the interviewee was determined by the empathy index. The empathy index was developed based on scores on five empathy adjectives that were embedded within a larger 24-item emotional response questionnaire. Participants were also given an attitude questionnaire in order to assess intergroup attitudes. Embedded in the questionnaire were Katz and Hass’s (1998) pro-Black and anti-Black attitude scales.

Vescio et al. (2003) hypothesized that perspective taking promotes improved intergroup attitudes. Pro-Black and anti-Black attitudes were submitted to a 2 (type of racial attitudes) x 2 (perspective taking) x 2 (target stereotypicality) mixed model ANOVA. Type of attitude (pro or anti) was treated as a within participants variable, while perspective target and target stereotypicality were between participant
variables. Two significant effects emerged from this analysis. First, there was a significant main effect of type of attitude, $F(1,59)=40.78, p < .0001$. Overall, participants more strongly endorsed pro-Black attitudes ($M = 34.95$) than anti-Black attitudes ($M = 28.63$). However, this effect was qualified by a significant type of attitude x perspective taking interaction, $F(1,59) = 7.20, p < 0.02$; pro-Black attitudes were more strongly endorsed in the other focused condition ($M = 37.03$) than in the objective focused condition ($M = 31.67$). In contrast, anti-Black attitudes did not differ across perspective taking conditions ($M = 28.24$ and $29.07$ other focused and objective focused, respectively), $F<1$. A significant main effect was also found for perspective taking $F(1,60) = 4.17, p < .05$. Empathy was higher in other focused conditions ($M = 5.24$) than in objective focused conditions ($M = 4.29$). These significant main effects found indicated that participants who adopted the perspective of an individual African American male reported more empathy and expressed more favorable attitudes toward African Americans.

Vescio et al. (2003) second major hypothesis was related to the mechanisms by which perspective taking promoted improved intergroup attitudes. Results indicated that perspective taking accounted for significant variation in pro-black attitudes ($\beta = 0.30, t(2.43), R^2 = 0.09, p < 0.05$) and empathy ($\beta =0.25, t(2.07), R^2 = 0.06, p < 0.05$). When pro-Black attitudes were simultaneously regressed on both empathy and perspective taking ($\beta = 0.34, t(2.87), R^2 = 0.19$), the relationship between perspective taking and pro-Black attitudes was slightly reduced ($\beta = 0.22$ versus $0.30$), while empathy continued to account for significant variation in pro-Black attitudes. While the sobel test for the empathy mediated path did not reach conventional levels of statistical significance, the effect was marginally significant, $z = 1.68, p <0.095$. Overall, these results suggests that empathy may be an important mediator between taking the perspective of an individual and improved intergroup attitudes for that specific target out-group member as well as the entire out-group. Furthermore, Vescio and colleagues’ (2003) collective results lend support to the important role that empathy plays in intergroup attitudes.

The increased attention to the role of empathy in intergroup contact research is further exemplified by the focus of Tam et al.’s (2006) study that examined intergroup contact and implicit and explicit
ageism. Specifically, they examined the role of grandparent-grandchild communication (in terms of disclosure) and its relationship to anxiety and empathy in improving attitudes toward grandparents. A total of 77 (35% male, 65% female) undergraduate native English speakers at a British university participated in the study. Tam et al. had several hypotheses regarding the relationship between quality and quantity of intergroup contact with grandparents and interpersonal variables (anxiety, self-disclosure, and empathy). Only the instruments, hypotheses, and respective results that are relevant for the current dissertation will be reported. Tam et al. hypothesized that empathy would mediate the effects of self-disclosure on ageist attitudes toward grandparents.

Global empathy was measured by the Interpersonal Reactivity Index (IRI; Davis, 1983). Explicit attitudes was assessed by the General Evaluation Scale which asked participants to indicate the degree to which they felt negative-positive, friendly-hostile, contempt-respect, and admiration-disgust toward older people on a 7-point Likert scale. Implicit attitudes was assessed by the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) which asked participants to indicate the degree to which they automatically associated old and young names with positive and negative evaluations on a five-point Likert scale (1 = very typical for young person, 5 = very typical for old person). A structural equation model was employed to test their mediational hypothesis.

The model tested considered the relationship between quantity and quality of contact with the elderly, as predictors, and explicit and implicit attitudes as criterion or outcome variables, and included variables related to grandparent-grandchild communication (self-disclosure, anxiety, and empathy) as potential mediators. Results indicated that the tested model fitted the data well: $X^2(12, N = 77) = 7.48, p = .82$; root mean square error of approximation (RMSEA) = .00; standardized RMR = .052; comparative fit index (CFI) = 1.00 (good fit is indicated by a non-significant chi-square test, an RMSEA of less than .06, a standardized RMR of less than .08, and a CFI value greater than 0.95; Hu & Bentler, 1999). The fact that the data fit the data well without the direct paths mentioned above confirmed the mediational role of self-disclosure, empathy, and anxiety. Overall, Vescio, Sechrist, and Paolucci’s (2003) findings
suggest that induced empathy toward out-group members is related to reduced prejudice/racism toward out-group members which offers further support for the direct empirical investigation of empathy and intergroup contact experiences on attitudes toward out-group members.

In summary, the quantitative studies that were reviewed offer support that there is a relationship between empathy and reduced prejudice. Likewise, Williams and Bieschke’s (2007) qualitative pilot study also offers support that there is a relationship between empathy and intergroup contact effects. A total of six (2 male, 4 female; 2 African American, 3 Caucasian, 1 Asian American) undergraduate students responded to the study. The mean age for participants was 21. Participant classification at the university ranged from sophomore to senior. All participants were former students in a race dialogue class held during the 2005-2006 academic year. Each participant completed either a one-hour face-to-face or telephone interview. Two students participated in a face-to-face interview and four participated in telephone interviews.

Using a phenomenological approach to analyze the interview data, six themes were identified that characterized participants’ experience in their respective groups within the Dialogue on Race (DOR) group. Six major themes were identified: (1) significance of ethnic representation, (2) understanding, (3) emotional experience, (4) understanding truths about self and others, (5) cohesion, and (6) outcomes. The theme that is relevant to this section of chapter two is the theme of general understanding (i.e., empathy). Pseudonyms assigned to participants will be used throughout this review of results in order to identify their respective voices in the data (Williams & Bieschke, 2007).

Participants consistently used the word “understanding” when reflecting on their group experiences. Participants expressed a process of general understanding that occurred throughout their group experience as well as being able to take the perspective of others. General references to a level of understanding consisted of reported statements from participants such as “It is understandable,” “So, now I think we have a better understanding of each other”, “I mean, I can understand because I would be the same way,” and “So, I mean, I mean they kind of understand that a little bit more now.”
With respect to being able to take the perspective of others, Jody, while reflecting on her initial anxiety and discomfort about being the only White person in her group, expressed:

But I guess like when the subject is raised and you’re one of the only White people there that’s where it is really leaving your comfort zone. And I figure like some of that discomfort maybe is pretty similar to what students of color feel on this campus.

When reporting what he learned about other cultures because of his group experience, Derrick stated:

In reference to I guess the other cultures, I learned that I guess that they also have, like it’s not as easy as it is, what I am trying to say, it’s not, like they go through the same things as we go through. I guess I kind of just always was like oh, Blacks kind of have it worse or always like we’re always like getting a bad rap but I guess other cultures do as well.

Participants reported a general understanding of one another which involved the ability to take the perspective of others. In essence, participants consistently reported a new level of understanding for out-group members through their ability to take the perspective of another (i.e., ability to empathize). Our findings can be explained by the results of Batson et al.’s (1997) study presented earlier in this section of chapter two. Our findings are consistent with the results of the quantitative studies reviewed earlier in this section (Batson et al., 1997; Finlay & Stephan, 2000; Finlay & Trafimow, 1998; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Vescio, Sechrist & Paolucci, 2003) because participants expressed a level of understanding of one another that seemed to enable them to empathize with each other despite their out-group memberships.

While the research investigating the relationship between empathy and attitudes towards out-group members is sparse, the findings offered in the studies reviewed offer support that empathy may be an important factor to investigate as it relates to intergroup contact effects (Pettigrew, 1998; Pettigrew and Tropp, 2006).
Summary of the Role of Empathy on Intergroup Contact Effects

As mentioned earlier in this chapter, intergroup contact research is expanding in the direction of exploring variables that may help to explain other factors of intergroup contact experiences that influence intergroup contact effects (Pettigrew & Tropp, 2006). The major limitation in the available literature on college-aged individuals’ empathy toward racial and ethnic groups is the lack of repeated measures designs and the reliance on adjective lists as measures of empathy instead of measures of empathy with excellent validity and reliability. All the quantitative studies reviewed (Batson et al., 1997; Finlay & Stephan, 2000; Finlay & Trafimow, 1998; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Vescio, Sechrist & Paolucci, 2003) measured empathy at one time point which limits the interpretability of the effect of empathy and attitudes toward out-group members.

The lack of repeated measure designs in this line of research limits interpretation of understanding of how empathy may change due to intergroup contact encounters. In essence, the available literature supports that induced empathy toward out-group members reduced prejudice/racism, but has not specifically addressed whether or not intergroup contact experiences, themselves, increase empathy toward out-group members and thereby reduce prejudice/racism. Additionally, with repeated measure designs, the utility of more valid and reliable self-report measures of empathy such as the Interpersonal Reactivity Index (IRI, Davis, 1986) or Balanced Emotional Empathy Scale (BEES; Mehrabian, 1996) will provide more understanding regarding the relationship between empathy and intergroup contact effects over time versus the utilization of an empathy adjective list that occurred in each quantitative study reviewed in this section.

The previous section demonstrated that there is a relationship between empathy and attitudes toward out-group members which provides the foundation for directly examining the relationship between empathy and intergroup contact experiences to determine if level of empathy toward out-group members changes through intergroup contact experiences which may explain resultant prejudice/racism reduction. The following sections will attempt to further address the gap in intergroup contact research concerning
the role of individual differences and intergroup contact effects. In this dissertation, identity style is the second individual difference variable investigated. Identity style has not been directly investigated in intergroup contact research. However, out of the three types of identity styles (informational, normative, diffuse/avoidant), significant relationships have been found for an informational identity style and higher levels of empathy and reduced prejudice (Soenens, Duriez, & Goossens, 2005). Therefore, the author of the current study chose to investigate this variable in the current study because there is a significant relationship between an informational identity style and outcomes of intergroup contact that have been supported empirically (empathy and reduction in prejudice; Batson et al., 1997; Finlay & Stephan, 2000; Vescio, Sechrist & Paolucci, 2003). In the next section, I will first describe the theoretical foundation of identity style. I will then review the literature that illuminates the relationship between an informational identity style and reduced prejudice. My hope is that the empirical review will provide a foundation and set the stage for examining the specific relationship between an informational identity style and reduced prejudice in intergroup contact experiences.

Identity Style

Theoretical Development of Identity Styles

Erikson’s (1968) psychosocial theory of personality development indicates that the formation of a stable and coherent sense of self-identity is one major developmental task confronting late adolescents. Empirical research on Erikson’s theory of identity development has been guided by the identity status paradigm outlined by Marcia (1966; 1967; 1980). According to Marcia (1966) identity development results from two basic dimensions: exploration and commitment. Exploration refers to the degree to which an individual engages in a personal search for values, beliefs, and goals, and the process of exploration implies experimenting with different social roles, plans, and ideologies (Marcia, 1966). Commitment refers to the determined adherence to a set of convictions, goals, and values. Based on these two dimensions Marcia (1966) conceptualized four identity statuses: achievement (high on both
commitment and exploration), moratorium (low commitment, high exploration), foreclosure (high commitment and low exploration), and diffusion (low on both commitment and exploration).

Marcia’s identity status paradigm (1966; 1967; 1980) focused primarily on the outcomes of the process of identity formation whereby identity was described as a stable outcome with dispositional characteristics. Marcia’s identity status paradigm which was focused on the process of identity development was later shifted by scholars and researchers (Cote & Levine, 1988). The shift was from outcomes of the process of identity formation, that is, identity mainly in terms of enduring outcomes of stable, dispositional characteristics to the information processing styles that determine identity development (Cote & Levine, 1988). Berzonsky (1990) took such attention further and proposed three social-cognitive identity styles: the informational style, the normative style and the diffuse/avoidant style as reliable stylistic differences in how individuals approach identity-relevant tasks, make personal decisions, and approach identity-relevant problems in particular. Therefore, Berzonsky took the old focus on the outcome of identity development and shifted it further to the processing styles that determine this development.

Identity style theory is therefore focused on the information processing styles that determine identity development rather than on outcomes of this development. Identity styles are conceptualized as social-cognitive styles, in general and as ways of processing identity relevant information, making personal decisions, and approaching identity-relevant problems in particular (Berzonsky, 1990). As such, these styles are thought to be important determinants of identity. More generally, identity style pertains to the array of strategies that individuals characteristically use or prefer to utilize across a diversity of environment and social contexts (Berzonsky, Nurmi, Kinney, & Tammi, 1999). As mentioned earlier, Berzonsky (1988) distinguished three types of identity styles: (1) informational, (2) normative, (3), and diffuse/avoidant. An informational identity style involves actively searching for, elaborating, and evaluating issue-relevant information (Berzonsky, 1989). A normative identity style focuses on internalized conventions, standards, and expectations (Berzonsky, 1989). A diffuse identity style is
characterized by avoiding or procrastinating until the affective cues in a given situation dictate behavioral reactions (Berzonsky, 1989). As mentioned earlier, the focus of this section is presenting support for a relationship between an informational identity style and intergroup contact effects because this particular identity style has been empirically linked to higher levels of empathy and reduced prejudice (Soenens, Duriez, & Goossens, 2005).

Although there has been a considerable amount of attention on the relationship between identity styles and attitudes and behaviors, there are only two studies that have investigated the relationship between identity styles and prosocial behaviors such as empathy and reduced racism/prejudice (Berzonsky & Kuk, 2005; Soenens, Duriez, & Goossens, 2005). I will review both studies in order to offer support for the relationship between an informational identity style and higher levels of empathy and reduced prejudice. My hope is that by illuminating these relationships, a foundation will be established for the examination of the relationship between an informational identity style and reduced prejudice.

Berzonsky and Kuk (2005) examined the role that differences in identity style may play in how effectively students adapt to a college context. Specifically they investigated identity style differences related to psychosocial development and academic performance. A total of 460 university freshman (60% women, 40% men) participated in the study. Identity style was measured by the Identity Style Inventory (ISI; Berzonsky, 1992b). On a 1 (not at all like me) to 5 (very much like me) Likert scale, students rated the extent to which they considered 40 statements to be self-descriptive. The ISI contains three continuous style scales: (1) The informational-style scale (11 items: e.g., “I’ve spent a great deal of time thinking seriously about what I should do with my life”): coefficient alpha was = .74. (2) The diffuse-avoidant-style scale (10 items: e.g., “I’m not really thinking about my future now; it’s still a long way off”): coefficient alpha = .79. (3) The normative-style scale (9 items: e.g., “I prefer to deal with situations where I can rely on social norms and standards”): coefficient alpha = .67. The ISI also contains an identity commitment scale (10 items: e.g., “Regarding religious beliefs, I know basically what I believe and don’t believe”): coefficient alpha = .81.

Berzonsky and Kuk (2005) hypotheses were related to identity style differences on all the psychosocial variables examined in their study. Only hypotheses and results related to the psychosocial variables that may be more relevant to their interpersonal interactions will be reported. It is important to evaluate the results of Berzonsky and Kuk’s study based on relevance to identity style differences in interpersonal interactions because the variables under investigation in this dissertation involve interpersonal dynamics related to empathy and reduced prejudice towards out-group members, the role of individual differences (e.g., an information identity style) and intergroup contact, and level of cohesion in intergroup contact context.

Berzonsky and Kuk (2005) hypothesized that students with an informational style would perform better than their normative and diffuse-avoidant counterparts on measures involving openness (e.g., tolerance of others, cultural participation) and independent self-regulation (e.g., emotional autonomy). Berzonsky and Kuk’s hypothesis was confirmed. A multivariate analysis of variance (MANOVA) was performed on all dependent measures from the SDTLI (the Winston psychosocial scales). A significant main effect was found for identity style \( F[24,866] = 4.37, p < .01 \). Results suggested that, in general, students with an informational identity style tended to perform the best on all of the student developmental scales assessed by the Student Developmental Task and Lifestyle Inventory (SDTLI; Winston & Miller, 1987), while diffuse-avoidant fared the worst.

Students with an informational identity style scored significantly higher than both their normative and diffuse-avoidant counterparts on scales that assessed taking part in a variety of cultural activities \( M = 3.54 \); respecting and being tolerant of individuals who differed from themselves \( M = 6.79 \); forming
intimate relations ($M = 13.94$); and being emotionally independent and self-assured ($M = 5.00$). These results suggested that students with an informational identity style are more likely to engage in cultural activities, be open and tolerant to in-group and out-group members, develop intimate interpersonal relationships, and be more emotionally independent compared to individuals with a normative ($M = 3.05$, $M = 5.98$, $M = 12.75$, $M = 4.16$) or diffuse-avoidant identity style ($M = 2.63$, $M = 5.65$, $M = 11.85$, $M = 4.31$) respectively.

The results of Berzonsky and Kuk’s (2005) study lend support for the empirical investigation examining the effects of having a greater degree of an informational identity style and intergroup contact-prejudice effects. Their study lends support because results suggest that this particular identity style may enable in-group members to be more open and tolerant of out-group members, more able to develop intimate relationships with out-group members, and be more willing to participate in intergroup contact experiences (e.g., cultural activities). All of the psychosocial factors aforementioned may make an informational identity style more amenable to decreasing prejudicial attitudes toward out-group members through intergroup contact experiences.

The major limitation of the study is its correlational design. For example, results could not be interpreted in a way that would suggest that an information identity style is the cause of greater emotional autonomy, tolerance of others, and acceptance of diverse beliefs or whether an information identity style enhances the potential of an individual to develop these prosocial attitudes and behaviors. Therefore, it is hard to determine whether or not having an informational identity style may make an individual more amenable to developing empathy and reduced prejudice towards out-group members as a result of intergroup contact or whether these individuals would naturally possess limited prejudice and increased empathy toward out-group members irrespective of intergroup experiences due to their greater ability to be open and tolerant of others.

Soenens, Duriez, and Goossens (2005) also conducted a correlational study investigating the relationships between the three identity styles (informational, normative, and diffuse/avoidant) and a
number of social-cognitive and attitudinal variables including empathy and racism. A total of 393 (80% female) Dutch undergraduate students participated in the study. All measures used in the study were Dutch. The Dutch version of the Interpersonal Reactivity Index (IRI; Davis, 1983) was used to measure empathy and identity style was measured using the Dutch version of the Identity Style Inventory (ISI3; Berzonsky, 1992a). The Racism Scale (Billiet & De Witte, 1991) was used to assess racism. The Cultural Conservatism Scale (De Witte, 1990) was used to assess cultural conservatism which relates to the endorsement of traditional values and norms as opposed to the freedom to arrange life according to one’s own insights. An example of an item on the Cultural Conservatism Scale is “Women should do the household and men should go out making money.”

Soenens and Goossens (2005) had several hypotheses related to identity style differences on a variety of attitudinal and social-cognitive correlates of late adolescence. Hypotheses and results from their study, however, will be presented as they relate to identity style differences in level of empathy and racism. The focus of results will be solely on the relationship between an informational identity style and empathy and racism. Soenens and Goossens hypothesized that there would be a positive relationship between empathy and an informational identity style. To test their several hypotheses, zero-order correlations between identity styles and the social-cognitive or attributional variables were computed. Results suggested that an informational identity style was positively correlated with the general empathy score on the IRI ($r = .26$, $p < .01$). Soenens and Goossens also hypothesized that there would be a negative relationship between an informational identity style and prejudice. Results indicated that an informational identity style was negatively correlated with prejudice ($r = -.30$, $p < .01$) and cultural conservatism ($r = -.08$, $p < .01$). Conversely, a normative identity style was not significantly correlated with the empathy score ($r = -.02$, $p < .01$) and a diffuse-avoidant identity style was negatively correlated with the empathy score ($r = -.16$, $p < .01$). Soenens and Goossens’ study is the first to show a relationship between Berzonsky’s identity styles and measures of prejudice. In summary, results offer support that an
informational identity style is related to higher levels of empathy and reduced prejudice. Additionally, results illuminate that identity style clearly discriminate between these variables.

The authors explained their results by stating that their findings are consistent with Berzonsky’s (1990) expectation that information-oriented individuals would show high levels of experiential openness and liberal thinking. The major limitation of the study is that all measurements were obtained at one point in time. Therefore it is not apparent whether or not identity styles can change over time due to certain life events or if they are relatively stable. The following section is a summary of the identity style literature.

Summary of Identity Style Literature

The empirical literature on identity style suggests that the identity style that late adolescent’s employ may play an important role in how actively and thoroughly they explore identity-relevant issues. The literature also suggests that an informational identity style is associated with higher levels of empathy, negatively associated with racism, and is positively associated with tolerance of the beliefs and values of others.

The empirical literature reviewed investigating the relationship between identity styles and empathy and reduced prejudice (Berzonsky & Kuk, 2005; Soenens, Duriez, & Goossens, 2005) have examined identity style correlates at one time point. Due to the fact that repeated measure designs have not been employed, it is hard to determine whether or not identity style is a relatively stable construct or whether it is amenable to change via certain life events. Despite the limitations of identity style research there appears to be consistent support that an informational identity style is linked to higher empathy and reduced prejudice. The current dissertation attempts to address the limitation in the research that demonstrates a relationship between an informational identity style and empathy and reduced prejudice by employing a repeated measures design to examine the relationship between an information identity style and empathy and reduced prejudice over time.

So far, support has been presented for the role of empathy and intergroup contact effects (Batson et al., 1997; Finlay & Stephan, 2000; Finlay & Trafimow, 1998; Tam, Hewstone, Harwood, Voci, &
Kenworthy, 2006; Vescio, Sechrist & Paolucci, 2003) and an informational identity style and intergroup contact effects (Berzonsky & Kuk, 2005; Soenens, Duriez, & Goossens, 2005). In the current study, intergroup contact experiences were investigated in the context of small groups. In order to take into account group effects group cohesion and group leader characteristics were examined. The following section describes the operational definition of group cohesion that was used and illuminates the importance of examining this particular group factor in the current study. The section following will provide support for the examination of group leader characteristics in the current study.

Group Cohesion

History of the Conceptualization of Group Cohesion

The word cohesion derives from the Latin word cohaesus meaning “to cleave or stick together” (Dion, 2000). In psychology and the social sciences, the term cohesion or cohesiveness describes the process of keeping members of a small group or larger social entity (e.g., military unit, business organization, sports team, ethnic group, or society) together and united to varying degrees (Dion, 2000). In a review article about the history of the conceptualization of group cohesion Dion (2000) stated that group cohesion has clear historical roots in both the psychology and sociology of the later 19th century and earlier 20th century as illustrated by the writings of Freud that focused on aspects of social cohesion which he conceptualized as the forces that bind men together in groups (Dion, 2000).

In the 20th century the theoretical and empirical investigation of cohesion stemmed mainly from the work of Kurt Lewin and colleagues (Dion, 2000). In the late 1930’s and 1940’s Lewin laid the foundation for the concept of group cohesion (Dion, 2000). He believed that cohesiveness was an essential part of groups without which they could not exist (Dion, 2000). He defined cohesion as the set of forces keeping members together, including both the positive forces of attraction and the negative forces of repulsion (Dion, 2000). Lewin’s conceptualization of cohesion became known as the field of forces definition of cohesion (Dion, 2000). Lewin was also responsible for introducing the term group
dynamics into the field of psychology which yielded many contributions to the field that helped launch experimental research into group cohesiveness by social psychologists (Dion, 2000).

Soon after, Lewin’s contributions to the field, Festinger and his colleagues, in 1950, conducted the best known study of cohesion in which he found that a group’s cohesion defined and delimited its power to influence members’ behavior and attitudes as well as maintain and enforce group standards (Dion, 2000). They offered yet another conceptualization of cohesion that expanded Lewin’s operationalization. They defined cohesion as “the total field of forces which act on members to remain in the group (Dion, 2000).” Later, in 1957, the first measure of cohesion was developed. The Gross Cohesion Questionnaire (GCQ) was developed which assessed cohesion as operationalized by the field-of-forces definition of group cohesion as defined by Lewin and later expanded into a modified direction by Festinger (Dion, 2000). The development of the GCQ sparked a swelling of analytic discourse about the competing definitions of cohesion and how to best measure this construct (Dion, 2000). Such inquisition and numerous criticism paved the way toward the 21st century which produced additional conceptualizations of group cohesion and has offered two distinct domains of measurement in groups: individual analysis and group analysis. The following section will describe the various competing definitions of group cohesion that saturate current theoretical and empirical literature.

Various Competing Conceptualizations

As mentioned earlier, the cohesion construct has sparked the interest of various professional across disciplines for centuries. With such diverse individuals across distinctively different disciplines, the conceptualizations of cohesion have been equally diverse. Other terms such as attraction, morale, syntality, and solidarity have been used synonymously with cohesion (Dion, 1990). Likewise, cohesion has been conceptualized as unidimensional, bi-dimensional and multidimensional with numerous terms describing different dimensions.

Recently, definitions of group cohesion have been primarily dominated by the group therapy literature. Various authors have described group cohesiveness as the group counterpart to the “therapeutic
alliance” in individual psychotherapy (Budman, Soldz, Demby, & Feldstein, 1993; Marziali, Munroe-Blum, & McClearly, 1997). Yalom (1975) described cohesiveness as the “necessary precondition for effective therapy,” and he argued that the experience of being in a cohesive group enabled group members to engage in the necessary self-disclosure and the personal exploration that is the hallmark of effective therapy. Further, he elaborated that cohesiveness was an agent of change in group members’ lives through “the interrelation of group self esteem and self esteem” (Yalom, 1975). Additionally, the developers of one measure of group cohesiveness, the Group Environment Questionnaire, defined the construct as a “dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Carron, Brawley, & Widmeyer, 1998, p. 213). Another definition of cohesion is the concept of perceived cohesion which in 1990, Bollen and Hoyle defined as “an individual’s sense of belonging to a particular group and his or her feelings of morale associated with membership in the group” (Dion, 2000). In essence, there is no generally accepted definition of the cohesion construct.

Although the significance of group cohesion is supported in the literature, the actual relationship between cohesiveness and positive treatment outcome in group therapy has been inconsistent and indirect in nature. Some studies have shown a direct, positive relationship between cohesion (Budman, et al., 1990; Holtz, 2004; Lent, Schmidt, & Schmidt, 2006; Marmarosh, Holtz, & Schottenbauer, 2005; Midtgaard, Rorth, Stelter, & Adamsen, 2006; Terry et al., 2000) and outcome while others have found an indirect relationship (Budman, Soldz, Demby, & Feldstein, 1990; Tschuschke & Dies, 1994) or no relationship (Butler & Fuhriman, 1983). For example, Tschuschke and Dies (1994) studied two long-term analytic groups and found that cohesiveness did not directly predict outcome and instead set the stage for group process to occur. Butler and Fuhriman (1983) found that group cohesion did not relate significantly to outcome, such as lack of dropout and therapeutic group leader alliance. Further, Budman, Soldz, Demby, and Feldstein (1990) found that cohesiveness was indirectly related to outcome through dropout rate and attraction to the group. The inconsistent picture of the relationship between cohesiveness and
outcome must be interpreted within the framework of the variety of measures and ways of measuring cohesion which contribute to the muddled picture. Despite the inconsistent empirical findings, numerous cohesion scholars and researchers still attest that cohesion is an important group dynamic variable which must be examined when investigating outcome (Budman, Soldz, Demby, & Feldstein, 1990; Budman, et al., 1990; Holtz, 2004; Lent, Schmidt, J., & Schmidt, L., 2006; Marmarosh, Holtz, & Schottenbauer, 2005; Midtgaard, Rorth, Stelter, & Adamsen, 2006; Terry et al., 2000; Tschuschke & Dies, 1994). More importantly, the current study examined attitudinal outcomes within a group context and group cohesion has been shown to be positively related to group attitudes (Holtz, 2004).

In the current study, group cohesion was conceptualized as “group members’ involvement in and commitment to the group and the concern and friendship they show for one another” (Moos, 1994). There are various measures of group cohesion such as the Group Environment Questionnaire (GSQ-S; MacKenzie, 1983) and Cohesiveness Questionnaire (Schutz, 1966). The group cohesion subscale of the Group Environment Scale (GES; Moos, 1994) was used in the current study. The rationale for choosing this measure versus the other measures of group cohesion is presented in chapter 3.

Group cohesion has been shown to be positively related to a variety of outcomes such as therapy effectiveness (Budman, et al., 1990), group performance, collective efficacy, (Lent, Schmidt, & Schmidt, 2006), mood in sport teams (Terry et al., 2000), psychological well-being of group members (Marmarosh, Holtz, & Schottenbauer, 2005), quality of life of group members (Midtgaard, Rorth, Stelter, & Adamsen, 2006), and group member attitudes (Holtz, 2004). Research has demonstrated that group cohesion is significantly related to outcome, but why should this particular group process variable, be examined as a covariate in the current study? The three reasons supporting the rationale to examine group cohesion are provided in the following paragraphs.

The current study is not only aimed at examining the outcome of intergroup contact experiences within Dialogue on Race (DOR) groups, but also in explaining why the outcomes may occur. In Bednar and Kaul’s (1994) article on the strength and limitations of group research, they noted that if outcome
studies tell us that our treatments or interventions work, then process studies can tell us why. They suggested that the discipline of group research has been successful in empirically identifying that group treatment/intervention is effective, but has not been as successful empirically examining why group treatment/intervention is effective. Therefore, as Bednar and Kaul (1994) suggest it is important to continue examining of group process variables and their role in group outcome. The current study addresses this methodological concern. By examining group cohesion the researcher was able to determine if the Dialogue on Race (DOR) groups were operating as expected.

Group cohesion is a particularly important process variable to take into account because it has been empirically shown to be significantly related to outcome. In their review of the empirical and scholarly literature on process, outcome, and methodology in group counseling research, Kivlighan, Coleman, and Anderson (2000) noted the research that has identified group cohesion as a significant predictor of group outcome suggests that it s a critical process dimension that may have impacts on the process and outcome of diverse groups. Therefore, as aforementioned, not taking into account the role of group cohesion in the Dialogue on Race (DOR) groups may lead to false interpretations of the relationships between the study variables and also limit the ability to accurately answer the second research question in the current study. Lastly, it is also important to note that as groups develop; levels of cohesion change (Johnson, 2007). Thus, the cohesion should be examined at different time points to assess change. In the current study, group cohesion was assessed at two different time points as many notable researchers have also employed (Piper, Marrache, Lacroi, Richardsen, & Jones, 1983; Roark & Sharah, 1989; Wright & Duncan, 1986; van Andel, Erdman, Karsdorp, Appels, & Trijsburg, 2003). In summary, group cohesion was examined in the current study because it has been shown to be a significant predictor of group outcome and not taking group cohesion into account would limit interpretably of the results found. The following section will describe the operational definition of group leadership characteristics that was used and illuminate the importance of examining this particular group factor in the current study.
Group Leadership

An essential component related to the effectiveness of groups is leadership. The leader plays a vital role in both the dynamics of the group and the outcomes of its members (Riva, Wachtel, & Lasky, 2004). More specifically, several leader characteristics and behaviors have been correlated with group effectiveness (Riva, Wachtel, & Lasky, 2004). Research firmly supports the view that group leaders are crucial in the development of a positive group climate and that for group members, a supportive relationship with the leader is necessary for client change (Dies, 1994). Group leaders who have a favorable view of their leaders are more likely to make substantial progress (Antonuccio, Davis, Lewinson, & Breckenridge, 1987). It is not surprising that group leaders who are warm, supportive, and genuinely interested in individual members, as well as the group as a whole, have group members who make more positive gains (Riva, Wachtel, & Lasky, 2004). In a review of 135 studies, Dies (1994) concluded that group members favor and seem to benefit more from a positive style of intervention.

There are few measures of group leadership characteristics. The Counselor Rating Form-Short (Corrigan & Schmidt, 1983) is the most widely used measure of group leadership characteristics and it was used in the current study because it adequately assessed the positive dimensions of group leadership that have been shown to influence group effectiveness. A detailed description of the measure is found in chapter 3. The CRFS measures three separate group leader characteristics: attractiveness, expertness, and trustworthiness. It also examines the total positive quality of interpersonal relating of the group leaders as measured by the total score of the CRFS. The following section is a description of the study purpose and hypotheses.

Study Purpose and Hypotheses

The purpose of the current study is to examine empathy and an informational identity style as factors that may help to enhance the effects of intergroup contact on prejudice within dialogue on race groups. The first research question for the current study is as follows: Does intergroup contact significantly increase empathy and informational identity style, and decrease color-blind racism?
The hypotheses for the first research question are as follows:

(1) Color-blind racism, as measured by the three sub-scales of the Color-blind Racism Scale: unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues (COBRAS; Neville, Lilly, Lee, Duran, & Brown, 2000) will decrease in the intervention group from time one to time two and will not decrease in the control group from time one to time two.

(2) Empathy, as measured by the Interpersonal Reactivity Index (IRI; Davis, 1983) and Balanced Emotional Empathy Scale (BEES; Mehrabian, 1996) will increase in the intervention group from time one to time two and will not increase in the control group from time one to time two.

(3) Informational identity style, as measured by the Identity Style Inventory-Third Revision (ISI3; Berzonsky, 1997) will increase in the intervention group from time one to time two and will not increase in the control group from time one to time two.

The second research question is as follows: What explains change in color-blind racism? The hypotheses for the second research question are as follows:

(1) Group cohesion, empathic concern, and an informational identity style will explain change in color-blind racism as measured by the unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues subscales of the CoBRAS (Neville, Lilly, Lee, Duran, & Brown, 2000).

(2) Empathy will account for greater variance in color blind racism than informational identity style.
Chapter 3: METHODOLOGY

Participants

Participants were undergraduate students at Pennsylvania State University who were enrolled in the CNED 498a Dialogues on Race (DOR) course for the spring 2008 semester. The CNED 498a Dialogues on Race (DOR) course was made up of two seven-week sections during the course of a semester. Students were required to complete all study measures as part of their course requirements. On the first day of their group meeting, participants in both sections were verbally recruited to participate in the study (see Appendix E) and signed an informed consent form which enabled them to indicate whether they agreed to have their data subjected to analysis (see Appendix D). A total of 97 undergraduate students were enrolled in the CNED 498a Dialogues on Race (DOR) course. A total of 42 students were enrolled in the first section of the course (intervention condition) and a total of 55 students were enrolled in the second section of the course (control condition). The first section consisted of five groups (9, 10, 8, 8, and 7 members each respectively) and the second section consisted of four groups (16, 14, 11, and 14 members each respectively).

Tables 1 and 2 summarize the gender, sexual orientation, race/ethnicity, age, and university classification of study participants. A total of 37 students out of 42 in the intervention condition completed both the pre- and post-test measures. All students (n = 37) out of the total 37 students who completed both study administrations gave consent for their data to be analyzed. A total of 37 students out of 55 in the control condition completed both the pre- and post-test measures. All students (n = 37) out of the total of 37 who completed both study administrations gave consent for their data to be analyzed.

Procedures

The researcher contacted the coordinator of the CNED 498c Dialogues on Race course to obtain permission to invite students to participate in the study. Students applied to participate in the DOR course on-line using PsychData (http://www.psychdata.com) which is a web-based company dedicated to hosting social science related research.
On PsychData, application materials consisted of the standard DOR course application (see Appendix A) that has been used since the course was established, the study’s pre-test measures, and a written recruitment letter inviting students to participate in the study and explaining that they will have an opportunity to sign an informed consent form on the first day of their respective groups (see Appendix D). A detailed description of the DOR course and the changes that were made to the DOR course for the spring 2008 semester follows.

Description of the dialogues on race (DOR) course. The basic concept and design of the DOR course is based on intergroup contact theory (Allport, 1954; Pettigrew & Tropp, 2006). The course is primarily experiential and is intended to facilitate group discussions about various issues related to culture among students from diverse and traditionally separate racial and ethnic backgrounds. While the primary component of these groups is participating in group discussions, students are also expected to fulfill additional requirements (e.g., self-reflection assignments and a one-day retreat focused on team building activities).

The DOR course consists of various groups that meet throughout the course of a semester. Each group within the DOR course meets for three hours weekly and is co-facilitated by two group facilitators. Serving as a DOR course group facilitator is voluntary. Group facilitator pairs are matched to allow for maximum diversity regarding race, ethnicity, and gender. Group facilitators participate in two hours of group supervision weekly, which is facilitated by the program coordinator. The focus of each group within the DOR course is intended to be on race, ethnicity, race relations, and a wide range of culturally relevant topics (e.g., religion, sexual orientation, and SES) are also covered. During the semester that the current study was conducted the format of the DOR course was changed slightly.

Format of the DOR course during the 2008 spring semester. As mentioned earlier, the application process for participation in the DOR course was altered during the data collection period (2008 spring semester). In the past, interested students would complete an application and return it through email or
directly to the program coordinator. During the spring 2008 semester the application process took place on PsychData (http://www.psychdata.com).

In the past, the DOR course consisted of one section over the course of a 16-week semester. Within this section, there were several groups that met three hours each week over the course of a 16-week semester. During the spring 2008 semester, the DOR course consisted of two different sections which lasted seven weeks each and met for four hours per week. A total of 12 Penn State University graduate students or professionals (e.g., advisor in the multicultural resource center) led groups for one section only or for both sections. In the following section, the demographic breakdown of the group facilitators for each section is presented.

*Group facilitators during the first section (intervention condition).* Group facilitator pairs were matched to allow for maximum diversity regarding race, ethnicity, and gender. There were 10 facilitators during the first section of the course: Four Caucasian Americans, one African American, two bi-racial Americans (both Mexican-White American), two Korean Americans, and one Napoli individual. Gender representation was not equal; nine female and one male served as facilitators. Therefore, pairings were created to maximize the racial/ethnic diversity of co-facilitator pairs. Only one facilitator in the first section had prior DOR group facilitation experience.

*Group facilitators during the second section (control condition).* There were a total of eight facilitators during the second section of the course: Three African Americans, two Caucasian Americans, two Korean Americans, and one bi-racial (Mexican-White) American. Gender representation was not equal, with six female and two male facilitators. Therefore, pairings were created to maximize the racial/ethnic diversity of co-facilitator pairs. There were two new group facilitators during this section that did not facilitate during the first section. Therefore, six facilitators had prior experience during the first section and one facilitator (the program coordinator) had substantive experience. Group facilitators participated in two hours of weekly group supervision facilitated by the program coordinator.
Pre-test administration for intervention and control condition. Table 3 provides an overview of the pre- and post-test administration for both the intervention and control condition. After students completed the application process for the DOR course on PsychData, they were randomly assigned to the intervention or control condition. Random assignment was facilitated by a computer generator (http://www.mdani.demon.co.uk/para/random.htm) which assigns random numbers within the parameters that you identify. Participants were randomly assigned, within their availability for group times, to either the intervention (first section) or control condition (second section) of the DOR course. After random assignment to condition, stratified sampling was used to assign participants to the respective groups that they would participate in within each condition. The stratification criteria used was based on the following demographic variables: gender and race/ethnicity. The stratification process was employed to promote balanced gender and race/ethnic representation in each group which is necessary and essential to the theoretical framework in which the DOR course was established (Allport, 1954; Pettigrew & Troop, 2006).

Once all participants were assigned to their group and section, they received an acceptance letter from the DOR program coordinator with their section and specific group assignment (see Appendix C). The acceptance letter also directed students to complete the study pre-test measures (survey). The researcher created three versions of the pre-test survey. Each version contained study measures that were randomly ordered using the computer generator described earlier. The researcher also randomly assigned students to complete one of the three versions of the survey. Thus, the accepted letter directed students to complete one of the three survey versions. The survey versions that each student completed included: a demographic questionnaire (see Appendix F), the Color-Blind Racial Attitudes Scale (CoBRAS; see Appendix G), two measures of empathy (i.e., Interpersonal Reactivity Instrument [IRI; see Appendix H], and Balanced Emotional Empathy Scale [BEES; see Appendix I], and the Identity Style Inventory-3rd Revision (ISI3; see Appendix J).
During the fourth week (7th group meeting out of 14) of the first section of the DOR course, all participants in the intervention condition completed the group cohesion subscale of the Group Environment Scale (GES; see Appendix J). Participants were instructed to put their Penn State student ID number on their measure so that it could be matched with their other pre- and post-test data. Participants completed the pre-test measure of group cohesion the fourth week for two reasons. First, participants in the intervention condition were not part of a group yet when they completed the pre-test measures on PsychData. Second, when assessing change in group cohesion over time, various researchers have assessed group cohesion at two time points. The first time point was either 50% (Wright & Duncan, 1986; van Andel, Erdman, Karsdorp, Appels, & Trijsburg, 2003) or 60% (Piper, Marrache, Lacroi, Richardsen, & Jones, 1983; Roark & Sharah, 1989) from the start of the group and the second time point was at the end of the group experience (Piper et al., 1983; Roark & Sharah, 1989; Wright & Duncan, 1986; van Andel et al., 2003). Therefore the intervention condition participants completed the group cohesion subscale during their fourth week of group (7th group meeting out of 14) in order to give the newly formed dialogue on race groups enough time to develop initial group cohesion (Piper et al., 1983; Roark & Sharah, 1989; Wright & Duncan, 1986; van Andel et al., 2003). The post-test of group cohesion was completed during the last week of their group (7th week; 14th group meeting). Participants in the control condition (second section of the course) did not complete the group cohesion subscale of the GES (Moos, 1994) since they completed the post-test survey administration just prior to the beginning of their DOR group.

Post-test administration for intervention condition. During the post-test administration (like the pre-test administration), participants in both the intervention and control condition were randomly given one out of three versions of the survey. During the last week, within their last group meeting (7th week/14th group meeting) of the first section of the DOR course, participants in the intervention condition completed the same measures they completed during the pre-test with the exception of the demographic questionnaire, and with the addition of the Counselor Rating Form-Short (CRF-S; Corrigan & Schmidt,
1983) and the group cohesion subscale of the Group Environment Scale (GES; Moos, 1994). Participants were required to put their PSU ID on their instruments so that their data could be matched with pre-test data. Unlike the pre-test administration which was conducted on-line using PsychData, all post-test measures were completed within each respective group using paper and pencil. For the post-test administration, participants were given their packet of the post-test measures in a letter-sized envelope. Like the pre-test administration, instruments within each survey version were randomly ordered.

Post-test administration for control condition. On the first day of group for the control condition (second section; 6th week of the semester), participants in the control condition completed the same post-test measures as the intervention group with the exception of the group cohesion subscale of the Group Environment Scale (GES; Moos, 1994), and the Counselor Rating Form-Short (CRF-S; Corrigan & Schmidt, 1983). Like the intervention condition, all post-test measures were completed within each respective group using paper and pencil and were placed in a letter-sized envelope.

Instruments

Demographic Questionnaire (see Appendix F). The demographic questionnaire asked participants for age, gender, sexual orientation, race/ethnicity, university classification, and past participation experience in groups in dialogue on race groups.

The Color-Blind Racial Attitudes Scale (CoBRAS; Neville, Lilly, Duran, & Brown, 2000). The 20-item self-report Color-Blind Racial Attitudes scale was used to assess participant’s degree of racial prejudice (CoBRAS; see Appendix G). Racism refers to the belief in racial superiority and also the structures of society, which create racial inequalities in social and political institutions; thus, racism consists of both ideological (belief) and structural (institutional) components (Thompson & Neville, 1999). In contrast, color-blind racism has only an ideological component and refers to the denial of racial dynamics (i.e., the belief that ideological and structural racism does not exist). Thus, color-blind racial attitudes do not necessarily reflect a belief in racial superiority, just an unawareness of the existence of racism (Neville et al., 2000).
The scale was developed to measure color-blind racial attitudes and beliefs. This scale requires participants to indicate agreement with racial attitudes on a six-point Likert-type scale ranging from 1 (strongly agree) to 6 (strongly disagree). There are three subscales of the CoBRAS: Unawareness of racial privilege (seven items), unawareness of institutional discrimination (seven items), and unawareness of blatant racial issues (six items). Sample items include: “Everyone who works hard, no matter what race they are, has an equal chance to become rich” (unawareness of racial privilege subscale), “Immigrants should try to fit into the culture and adopt the values of the U.S” (unawareness of institutional discrimination subscale), and “Racial problems in the U.S. are rare, isolated situations” (unawareness of blatant racial issues subscale). Participant responses on each of the three subscales of the CoBRAS were summed and higher scores indicated greater unawareness of racial privilege, institutional discrimination, and blatant racial issues (Neville et al., 2000). Additionally, the total score of the CoBRAS was also computed and higher scores indicated greater overall color-blind racial attitudes.

Five studies (Neville et al., 2000) on the CoBRAS with over 1,100 observations provide initial reliability and validity data and support for the 3-factor solution. Neville et al. (2000) found that the three subscales had good internal consistency reliability: unawareness of racial prejudice (α = .83), unawareness of institutional discrimination (α = .81), unawareness of blatant racial issues (α = .76), and the total score had a Chronbach’s alpha of .91. The three subscales were also found to be positively correlated. Intercorrelation among the three CoBRAS factors ranged from .42 to .59. The intercorrelations suggest good discriminant validity between subscales. The total score of CoBRAS was found to be positively related to other indexes of racial attitudes (e.g., Quick Discrimination Index and The Modern Racism Scale), as well as two measures of belief in a just world (e.g., Global Belief in a Just World Scale and Multidimensional Belief in a Just World Scale). This indicates that greater endorsement of color-blind racial attitudes is related to greater levels of racial prejudice and a belief that society is just and fair. Results from Neville et al. (2000) suggested that higher scores on each of the CoBRAS
subscales and the total score are related to greater (a) global belief in a just world; (b) sociopolitical dimensions of a belief in a just world, (c) racial and gender intolerance, and (d) racial prejudice.

This instrument was chosen for three important reasons. First, it was chosen because it has been used in a variety of studies and has consistently demonstrated good validity and reliability (Awad, Cokley, & Ravitch, 2005; Neville, Coleman, Falconer, & Holmes, 2005). Second, the intervention condition in the current dissertation study consisted of five groups of undergraduate students engaged in intergroup contact with members from a variety of dominant and marginalized groups including, but not limited to, members of different racial/ethnic backgrounds. Therefore, a measure of racial attitudes toward a variety of different racial and ethnic groups was needed. The CoBRAS satisfies this requirement because it is designed to measure racial prejudice towards a variety of ethnic groups and not solely African Americans. Specifically, the CoBRAS addresses the gap in the racial prejudice literature that has historically measured overt racial prejudice toward one particular ethnic group. For example, the Modern Racism Scale (MRS; McConahay, 1986) is only an assessment of racial prejudice toward African Americans. Third, the CoBRAS was also chosen for the current dissertation study because Neville et al. (2000) found that it was sensitive to multicultural training instruction. In study five of Neville et al.’s (2000) initial validation of reliability and validity data, color-blind racial attitudes as measured by the CoBRAS were found to be sensitive to a one-year multicultural training course. It was hypothesized that undergraduate students would report a statistically significant decrease in color-blind racial attitudes after completing multicultural training instruction. The hypothesis was confirmed. A repeated measures ANOVA was performed to test for significant differences in the total CoBRAS score. Results identified a statistically significant decrease in CoBRAS total scores, $M = 50.21$ versus $45.71$; $F (1, 27) = 5.27$, $p = .03$. This finding is relevant for the current study because the context of the study is participants’ intergroup contact experience within groups and the CoBRAS was administered at two different time points. Thus, Neville et al.’s (2000) findings suggest that the CoBRAS is a good measure to assess the effects of an intervention aimed toward undergraduates.
Interpersonal Reactivity Index (IRI; Davis, 1983). The self-report, 28-item Interpersonal Reactivity Index (IRI; see Appendix H) was used to assess participant’s level of empathy for people in general. The IRI, developed by Davis (1980), is an individual difference measure of empathy based on a multidimensional conceptualization of empathy. Rather than treating empathy as a single one-dimensional construct (e.g., either cognitive or emotional), the rationale underlying the IRI is that empathy can best be considered as a set of related, but distinct constructs regarding concern for others.

The IRI is comprised of four, seven-item subscales: Perspective-Taking Scale (PT), Fantasy Scale (FS), Empathic Concern Scale (EC), and Personal Distress Scale (PD). The PT scale assesses the tendency to spontaneously adopt the psychological point of view of others; the FS scale assesses the tendency to transpose oneself imaginatively into the feelings and actions of fictitious characters in books, movies, and plays; the EC scale assesses “other-oriented” feelings of sympathy and concern for unfortunate others; and the PD scale assesses “self-oriented” feelings of personal anxiety and unease in tense interpersonal settings (Davis, 1983). Sample items include: “I sometimes find it difficult to see things from the “other guy’s” point of view” (PT); “I daydream and fantasize, with some regularity, about things that might happen to me” (FS); I often have tender, concerned feelings for people less fortunate than me” (EC); In emergency situations, I feel apprehensive and ill-at-ease” (PD). Participant responses on each subscale of the IRI were summed and high scores indicated greater empathy.

The IRI requires that participants indicate the degree to which items describes them on a five-point Likert-type scale ranging from strongly disagree (1, does not describe me well) to strongly agree (5, describes me very well). The results from Davis’s (1980) validation of the IRI, which was initially validated on a college sample, demonstrated that the questionnaire evidenced substantial test-retest reliability, ranging from .62 to .71 and internal reliabilities ranging from .71 to .77. Davis (1980) also established that the IRI had good convergent and discriminant validity and correlated with existing tests of empathy and with other studies which demonstrated that the IRI had good concurrent validity and construct validity (Davis & Franzoi, 1991).
This instrument was chosen for two main reasons. First, utilization of the IRI addressed a methodological limitation in empathy research that has limited the understanding of the relationship between empathy and other variables under investigation (Duan & Hill, 1996). In their review of the status of empathy research, Duan and Hill (1996) noted that the lack of specificity and organization of different views of empathy has led to theoretical confusion, methodological difficulties, and inconsistent findings. One way to address the conceptualization limitation is to utilize two different measures of empathy in an empirical investigation or use a multi-dimensional measure of empathy in order to ensure greater likelihood that you are adequately examining the construct. The current dissertation addresses the methodological confusion in assessing empathy by utilizing two separate measures of empathy which tap different aspects of the construct. With respect to the IRI, it was specifically chosen because it assesses a multidimensional conceptualization of empathy which offers a more global understanding of the relationship between empathy and the variables under investigation in the current study.

Secondly, the IRI was chosen because it has been used in several studies examining the relationship between empathy and several variables related to attitudes toward out-group members (Burkard & Knox, 2004; Miville, Carlozzi, Gushue, Schara, & Ueda, 2006; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006) with consistent validity and reliability. For example, Burkard and Knox (2004) used the Color Blind Racism Scale as their measure of color-blind racial attitudes and they used the Interpersonal Reactivity Index as their measure of general empathy. A significant main effect was found for therapist level of color-blindness and empathy, $F(2,234) = 3.52$, $p = .03$, $\eta^2 = .03$. Pairwise comparisons indicated that therapists high in color-blind racial attitudes rated themselves as less empathic ($M = 40.20$, $SD = 6.05$) in comparison to therapists low in color-blindness ($M = 42.53$, $SD = 6.09$). Therapists with moderate color-blindness ($M = 41.12$, $SD = 4.75$) were not found to be statistically significantly different from either the low or the high color-blindness groups within their study (Burkard & Knox, 2004). Burkard and Knox provide support for the use of the IRI as a measure of global empathy in the current study, because results of their study suggest that empathy is related specifically to racial
attitudes, as measured by the CoBRAS which is the attitudes instrument that is utilized in the current study.

**Balanced Emotional Empathy Scale (BEES; Mehrabian, 1996).** The 30-item self-report Balanced Emotional Empathy Scale was used to assess participants’ tendency to feel and vicariously experience the emotional experiences of others (BEES; see Appendix I). The BEES requires that participants indicate the degree of their agreement or disagreement to each item on a nine-point Likert-type scale ( +4 = very strong agreement, 0 = neither agreement nor disagreement, -4 = very strong disagreement). The BEES contains questions such as “I cannot feel much sorrow for those who are responsible,” “I am moved deeply when I observe strangers who are struggling to survive,” and “I cannot easily empathize with the hopes and aspirations of strangers.” The BEES instrument has excellent internal consistency (alpha = .87; Mehrabian, 2000). Test-retest reliability of the BEES was assessed by administering it to 56 individuals over a six-week interval. The resulting test-retest reliability coefficient of .79 was deemed satisfactory (Mehrabian, 2000). Mehrabian (2000) reported that the validity of the concurrent validity of the BEES was established by comparing the BEES with the original Emotional Empathic Tendency Scale (EETS; Mehrabian & Epstein, 1972) which yielded a high positive correlation of .77. Mehrabian (2000) reported that strong support for the validity of the BEES has been demonstrated by numerous subsequent studies. The BEES has been used in a variety of empathy research (LeSure-Lester, 2000; Macaskill, Maltby, & Day, 2002; Shapiro, Morrison, & Boker, 2004; Singer, Seymour, O’Doherty, Kaube, Dolan, & Frith, 2004) and it has demonstrated good internal consistency across studies. For example, in Shapiro, Morrison, and Boker’s (2004) pre- and post-test examination of emotional empathy, they reported that the mean coefficient alpha reliability for the BEES was .81. Participant responses on the BEES were summed and high scores indicated greater emotional empathy.

This empathy instrument was chosen because it has good validity and reliability across studies and the Interpersonal Reactivity Index (IRI; Davis, 1983) does not directly measure emotional empathy as assessed by the BEES. This distinction is important because a prominent intergroup contact researcher
Pettigrew (1998) noted that emotion is critical in intergroup contact and empathy plays an important role in enhancing positive intergroup contact effects irrespective of the anxiety that increases when people experience intergroup contact encounters (Islam & Hewstone, 1993; Stephan, 1992). Therefore, a measure of emotional empathy is critical to the current study because of the specific role that emotional empathy may play in enhancing positive outcomes of intergroup contact effects as investigated in the current study.

Identity Style Inventory-Third Revision (ISI3; Berzonsky, 1997). The 40-item self-report Identity Style Inventory (ISI3; see Appendix J) was used to assess participant’s identity style. Identity style represents the usual manner in which one addresses (or fails to address) life choices, life dilemmas, and identity issues. The ISI3 consists of four subscales: Informational, normative, diffuse/avoidant, and commitment. Earlier versions of the ISI only assessed three identity styles: Informational, normative, and diffuse/avoidant. Eleven items measure the informational style, which refers to the active problem-focused and exploratory orientation that moratorium-and achievement-based individuals tend to adopt when faced with life issues (e.g., “I find that personal problems often turn out to be interesting challenges”). Nine items measure the normative style, which refers to the tradition- and rule-focused orientation that foreclosure-based individuals adopt when making choices and solving problems (e.g., “I generally rely on others’ advice when I have a problem”). Ten items measure the diffuse/avoidant style, which refers to the evasive and procrastinatory orientation that diffusion-based individual adopt toward problem solving and decision making (e.g., “I don’t worry much about the future”). Ten additional items comprise the commitment scale. Participants indicate their level of agreement to items on a five-point Likert scale (1 = not at all like me; 5 = very much like me).

The ISI3 has established test-retest reliability, over a two-week period, for each scale ranging from .87 (informational) to .87 (normative) to .83 (diffuse/avoidant) to .89 (commitment; Berzonsky, 1997). The ISI3 has moderate internal consistency ranging from .70 (informational) to .64 (normative) to .76 (diffuse/avoidant) to .71 (commitment). Higher scores on each scale indicate greater degree of the
specific identity style. Passamore, Fogarty, Bourke, and Baker-Evans (2005) noted the internal consistency of the ISI3 in their study (.67 to .77) as lower than those reported by Berzonsky (1997), but comparable. In the third revision of the ISI only the informational and normative scales were modified (ISI3; Berzonsky, 1997). Correlations between the second revision of the ISI2 and the third revision of the ISI scales were: Informational (.98) and Normative (.94).

The Identity Style Inventory (ISI; Berzonsky, 1992) is the only measure of identity style and it has been used in a variety of studies examining different correlates of identity style (Adams, Berzonsky, & Keating, 2006; Schwartz, Cote, & Arnett, 2005; Vleioras & Bosma, 2005). The validity and reliability for the instrument has persisted across studies. The ISI3 measure was chosen because it is the current version of the ISI and it has retained comparable reliability and validity as the original ISI (Berzonsky, 1992). Although the complete ISI3 measure was administered, only the Informational subscale of the ISI3 was used in the analysis. The range on the Informational scale is 11 to 55. Participant responses on the informational identity style subscale were summed and higher scores indicated greater degree of an Informational identity style.

Group Environment Scale (GES; Moos, 1994). The 9-item group cohesion subscale of the 90-item self-report Group Environment Scale was used to measure group cohesion in the groups within the Dialogues on Race (DOR) course (GES; see Appendix K). The GES was normed on an overall sample of 305 groups (101 task oriented groups, 62 social-recreational groups, 54 psychotherapy and supervision groups, and 88 self-help and mutual support groups; Moos, 1986; 1994). The GES requires that participants indicate whether or not statements about their group are true or false. The GES contains questions such as: “There is a feeling of unity and cohesion in this group,” “When members disagree with each other, they usually say so,” and “Members are often critical of other members.” The GES is comprised of 10 subscales categorized under three factors: Relationship Dimensions, Personal Growth Dimensions, and System Maintenance and Change Dimensions. The 10 subscales are cohesion, leader support, expressiveness, independence, task orientation, self-discovery, anger and aggression, order and
organization, leader control, and innovation. The GES has established good content and construct validity. Additionally, the total score of the GES has established good concurrent and convergent validity respectively and the subscales of the GES have been shown to have good concurrent and convergent validity. For example, in a study of members of a personal growth group, the cohesion subscale of the GES was highly related to a measure of group attraction (Evans & Jarvis, 1986). The cohesion subscale was also significantly related to the Perceived Depth of Interaction Scale which is an index of the quality of group interaction (Rose & Bednar, 1980). Only the group cohesion subscale of the GES was used in the current study.

The internal consistency established for the cohesion subscale is .86 (Moos, 1994). Test-retest reliability for the cohesion subscale is .79 (Moos, 1994). The GES has been used in a variety of group outcomes studies with consistently good validity and reliability (Tian & Browne, 2006; Kacen & Rozovski, 1998). The group cohesion subscale of the GES was chosen because the subscale retains adequate internal consistency and test-retest reliability when used alone. For example, Lent, Schmidt, and Schmidt (2005) examined the relationship between collective efficacy beliefs and group cohesion within the context of work teams. Lent and colleagues’ (2005) used only the cohesion subscale of the GES (Moos, 1986) and found that the subscale demonstrated adequate internal consistency (α = .86) and one-month test-retest reliability (r = .79). Scores on the group cohesion subscales can range from 0-9.

Participant responses were summed and higher scores indicated greater cohesion.

**Counselor Rating Form-Short** (CRF-S; Corrigan& Schmidt, 1983). The 12-item self-report, Counselor Rating Form-Short (CRF-S; see Appendix L) was used to as a measure of group facilitator effectiveness. The CRF-S has three subscales: attraction, trustworthiness, and expertness. Participants were required to respond using a seven-point Likert scale anchored by the words “not very” and “very.” Participants were required to rate the extent to which each of their group facilitators demonstrated the characteristics of 12 positive adjectives (e.g., friendly, experienced, sincere, and trustworthy). The mean split-half reliability coefficients for the scales were .90 for expertness, .91 for attractiveness, and .87 for
trustworthiness. The validity of the instrument was established through factor analysis, which found distinctive loadings among the three scales (Ponterotto & Furlong, 1985).

The CRF-S is reported to have attained or exceeded the objective of improving the utility of the original CRF without sacrificing its validity or reliability (Corrigan & Schmidt, 1983). It is comprised of 12 items instead of the 36 items that make up the CRF. Both instruments are designed to measure the social influence attributes of attractiveness, expertness, and trustworthiness. Validation of both the CRF and the CRF-S has been substantial when compared with alternate methods of measuring social influence. Both instruments have been used in recent studies that attempt to examine the complex phenomenon of counselor effectiveness. The 12 items on the CRF-S were selected on the basis of their high loading on the appropriate dimension in previous factor analyses and the educational level required for understanding the positive adjectives in the items (Corrigan & Schmidt, 1983). The CRF-S is intended for use both with college and with non-college populations, and in experimental as well as in field settings (Ametrano, 1996).

This instrument was chosen for three important reasons. First, it was chosen because group leadership has been empirically supported to impact groups in six general ways, including group cohesion, an important factor in the current study: group cohesion (Riva, Wachtel, & Lasky, 2004). Second, it was chosen because it has demonstrated consistent validity and reliability with diverse populations (Lin, 2001; Priester, Azen, Speight, & Vera, 2007). Third, it was chosen because it is the most commonly used counseling process instruments and there is extensive research offering support for its validity (Priester et al., 2007). It has demonstrated internal consistency, for the total score, with coefficient alpha ranging from .89 (Priester et al., 2007) to .93 (Fuertes & Gelso, 2002).

Each subscale score can range from 4 to 28. The potential total score for the CRF-S ranges from 12-84. The total score is computed by summing the total for all three subscale scores, with higher scores denoting positive interpersonal relating. The scores for each subscale and the total score was computed for each facilitator. Higher scores on each subscale indicate higher degree of attractiveness, expertness,
and trustworthiness respectively. Participant responses on each subscale were summed and higher scores indicated greater expertise, attractiveness, and trustworthiness respectively. Participant responses were also summed for the total score and higher scores indicated greater degree of positive interpersonal relating.
Table 1. Summary of Demographic Variables by Condition

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention Condition</th>
<th>Control Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 37</td>
<td>n = 37</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>17</td>
<td>45.9%</td>
</tr>
<tr>
<td>Transgender</td>
<td>20</td>
<td>54.1%</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
<td>45.9%</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>37</td>
<td>100%</td>
</tr>
<tr>
<td>Gay/Lesbian</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bisexual</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
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<td></td>
</tr>
<tr>
<td>Black/African American</td>
<td>12</td>
<td>32.4%</td>
</tr>
<tr>
<td>Hispanic or Latino (of any race)</td>
<td>6</td>
<td>16.2%</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>White</td>
<td>9</td>
<td>24.3%</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander</td>
<td>1</td>
<td>2.7%</td>
</tr>
<tr>
<td>Asian</td>
<td>7</td>
<td>18.9%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>5.4%</td>
</tr>
<tr>
<td>Classification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>6</td>
<td>16.2%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>12</td>
<td>32.4%</td>
</tr>
<tr>
<td>Junior</td>
<td>9</td>
<td>24.3%</td>
</tr>
<tr>
<td>Senior</td>
<td>10</td>
<td>27.0%</td>
</tr>
</tbody>
</table>
Table 2. Age: Means, Median, Standard Deviation, and Ranges by Condition

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M$</th>
<th>Median</th>
<th>$SD$</th>
<th>Min-Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention (n = 37)</td>
<td>21.13</td>
<td>21.00</td>
<td>1.11</td>
<td>19-24</td>
</tr>
<tr>
<td>Control (n = 37)</td>
<td>20.86</td>
<td>21.00</td>
<td>1.23</td>
<td>19-23</td>
</tr>
</tbody>
</table>
Table 3. Pre- and Post-test Administration for Intervention and Control Condition

<table>
<thead>
<tr>
<th></th>
<th>Demo</th>
<th>CoBRAS</th>
<th>BEES</th>
<th>IRI</th>
<th>ISI3</th>
<th>GC</th>
<th>CRFS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention Condition</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>_</td>
</tr>
<tr>
<td>Post-test</td>
<td>_</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Control Condition</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Post-test</td>
<td>_</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>_</td>
<td>_</td>
</tr>
</tbody>
</table>

*Note.* X- respective measure was administered during indicated study administration period; Demo-Demographic Questionnaire; CoBRAS-Color-blind Racial Attitudes Scale; IRI-Interpersonal Reactivity Index; ISI3-Identity Style Inventory-Third Revision; GC-group cohesion subscale of the Group Environment Scale; CRFS- Counselor Rating Form-Short (measure of group co-leader characteristics)
Chapter 4: RESULTS

Results

This chapter provides a summary of the analysis of data collected in the current study. The research questions that were asked in the study are as follows:

Research Question. Does intergroup contact significantly increase empathy and informational identity style, and decrease color-blind racism?

Hypothesis 1: Color-blind racism, as measured by the three sub-scales of the Color-blind Racism Scale: Unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues (CoBRAS; Neville, Lilly, Lee, Duran, & Brown, 2000) will decrease in the intervention group from time one to time two and will not decrease in the control group from time one to time two.

Hypothesis 2: Empathy, as measured by the Interpersonal Reactivity Index (IRI; Davis, 1983) and Balanced Emotional Empathy Scale (BEES; Mehrabian, 1996) will increase in the intervention group from time one to time two and will not increase in the control group from time one to time two.

Hypothesis 3: Informational identity style, as measured by the Identity Style Inventory-Third Revision (ISI3; Berzonsky, 1997) will increase in the intervention group from time one to time two and will not increase in the control group from time one to time two.

Research Question. What explains change in color-blind racism?

Hypothesis 4: Group cohesion, empathic concern, and an informational identity style will explain change in color-blind racism as measured by the subscales of the CoBRAS (unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues; Neville, Lilly, Lee, Duran, & Brown, 2000) for those in the intervention group.

Hypothesis 5: Empathy will account for greater variance in color blind racism than informational identity style.

Prior to addressing the two research questions, results of preliminary analyses are presented and descriptive statistics are described for the data. Then, univariate analyses run to assess the quality of the
DOR groups are presented. Lastly, the univariate and multivariate results are presented for research question one, followed by the presentation of the sequential regression results for the second research question.

**Pre-Analysis**

Prior to conducting analyses, data were checked for missing values. Four cases had one or two items missing on one or two study measures. For example, one case had item 16 missing from the IRI and item 32 missing from the ISI3. These cases were not deleted from study analyses due to the small sample in the current study and pairwise deletions was utilized for repeated measures MANOVA and related follow-up procedures. For the multiple regression analysis, missing data was deleted using list-wise deletion.

**Summary Statistics of Scales**

Means, standard deviations, skewness, kurtosis, and range for each study measure were calculated and are presented in tables 4-8. Scale means suggests that participants in the intervention condition perceived that their groups were high in cohesiveness at post-test. Scale means also suggest that participants in both conditions reported high empathy regarding perspective taking, fantasy, empathic concern and personal distress at post-test. Scale means also suggest that participants in both conditions reported a high degree of informational identity style at post-test. Lastly, scale means suggest that participants in the intervention condition perceived their co-facilitators as very high in attractiveness, expertness, trustworthiness, and generally interpersonally positive (as measured by total score of Counselor Rating Form-Short).

**Internal Consistency of Study Measures**

Pre- and post-test internal consistency reliability was assessed for each measure administered to both conditions and at both time points, using Cronbach’s alpha coefficient (see Tables 9 & 10). Thus, the following measures have pre- and post-test reliability data available for both the intervention and control condition: three subscales of the CoBRAS (unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues), the informational identity style
subscale of the ISI3, and the total score of the BEES and the IRI. With two exceptions, all of these measures were administered at two time points in the intervention and control condition. The group cohesion subscale was administered at two time points in the intervention condition only and the CRFS was administered in regard to each co-leader at post-test only.

While coefficient alpha for the majority of study measures was at least acceptable, for other measures it was quite low. Of particular concern is the unawareness of institutional discrimination CoBRAS subscale for the control condition at post-test (alpha=.53); the unawareness of blatant racial issues subscale for the control condition at pre-test (alpha=.56); the informational identity subscale (of the ISI3) Cronbach alpha for the intervention condition at pre-test (alpha=.58).

Cronbach alpha coefficient ranges in value from 0 to 1 and may be used to describe the reliability of factors extracted from multi-point formatted questionnaires or scales (i.e., rating scale: 1 = poor, 5 = excellent). Coefficient alpha estimates should always equal or exceed .70 (Nunnaly, 1978). The higher the score, the more reliable the generated scale is (Nunnaly, 1978). The particular quality and degree of reliability sought, however, depends on the nature of the variables being measured (Sowell & Casey, 1982). For example, the reliability coefficient for an intelligence test or achievement test would have to be in the range of .80 and up to be acceptable to most researchers (Sowell & Casey, 1982). On the other hand a reliability coefficient from a measure of attitudes or personal-social adjustment may be lower and still acceptable (Sowell & Casey, 1982). “Thus tests yielding low reliabilities can be useful if decisions are applicable to group of individuals rather than to specific individuals” (Sax, 1974). Thus, although the values are questionable regarding the three subscales mentioned, the researcher decided to retain study measures above .50.

The BEES, however, had unacceptable internal consistency. In the current study, the BEES Cronbach alpha for the intervention at pre test was .42 and at post test it was .70. With regard to the control group, the Cronbach alpha was .38 at pre-test and .50 at post test. The BEES has demonstrated excellent internal consistency in past research ranging from .81 (Shapiro, Morrison, & Boker, 2004) to .87 (Meharabian, 2000). Due to the unexpected low reliability of the BEES the researcher performed the
following functions to determine if the low reliability was due to a mistake in data entry or in analysis. The author first re-imported the BEES pre-test data, from the PsychData excel file sheet, back into the SPSS database for analysis and compared the data featured in the PsychData excel file to the imported data in SPSS to check for any errors. The researcher then double-checked to make sure that there were no mistakes in the data entered for the post-test data. Once all the data was imported and checked, the author repeated the re-coding process done previously with the BEES data. The re-coding process performed in SPSS was performed in order to convert imported data to data in the proper form to be scored based on BEES scoring manual. The researcher then examined whether the re-coded values represented the scoring system for the BEES. The reliability analysis was conducted again and the reliability data remained the same. Based on investigative steps and consistent low internal consistency, the BEES data was eliminated from further analysis procedures.

*Testing Assumptions of the Statistical Analyses*

According to Tabachnick and Fidell (2007), data must be reviewed to determine if all assumptions for statistical analyses are met. To address the first study research question the researcher either performed a repeated measures analysis of variance (ANOVA) or a repeated measures multivariate analysis variance (MANOVA). Thus, before the either analyses were performed the researcher had to determine whether the assumptions for the analyses were met.

Regarding repeated measures MANOVA it is recommended that observations are independent of each other and that there are significant correlations between dependent variables (Myers, Gamst, & Guarino, 2006; Tabachnick & Fidell, 2001). Significant tests for repeated measures MANOVA are based on several assumptions: presence of multivariate normality, absence of outliers, presence of homogeneity of variance/covariance, presence of linearity, presence of homogeneity of regression, and absence of multicollinearity and singularity (Tabachnick & Fidell, 2007, pp. 250-254). We first examined the data to be certain variables were correlated as expected. Correlations between variables was checked by examining a bivariate correlation matrix of all study variables (see Tables 11 & 12). All study variables were significantly correlated except for group cohesion at pre- and post-test. Thus, differences in group
cohesion were assessed via a repeated measures ANOVA instead of a repeated measures MANOVA. Results of the repeated measures ANOVA that examined group cohesion is presented later in the chapter.

After checking for correlations between variables, multivariate normality was examined. With respect to multivariate normality there is no standard analysis within SPSS to verify this assumption (Tabachnick & Fidell, 2007) if the variables evidence univariate normality and if there are more than 20 people in each condition, then one can assume that multivariate normality is present (Garson, 2008).

Since there were 37 participants in each condition, univariate normality of all the variables in the MANOVA was assessed. The assumption for univariate normality was checked by examining the Levene’s test for each variable. Univariate normality is met if the significance for the Levene’s test is greater than .05. The researcher examined the Levene’s test and the significance values were all greater than .05. Normal distribution of variables was also verified by checking the skewness and kurtosis values in the SPSS explore program. Acceptable skewness guidelines for a normal distribution for all variables are when skewness is -1 to +1. The author of the current study examined the skewness values for all variables and they ranged from -1.3 to +1.1 indicating that they were in the acceptable range. Acceptable kurtosis values for a normal distribution were judged for all variables using the criterion of <10 (Kline, 1998). The researcher examined the kurtosis values for all variables and they were all < 1.6. Thus, multivariate normality is assumed because univariate normality was present (Garson, 2008) indicating that study variables are normally distributed.

After checking for the presence of multivariate normality, the next assumption to be examined was absence of univariate and multivariate outliers. Multiple measures were employed and no moderate or high univariate or multivariate outliers were identified (see Appendix M).

After checking for the absence of univariate and multivariate outliers, the next assumption to be examined was presence of homogeneity of variance. It was examined by checking the Box’s M test overall, and for each variable the Levene’s test was examined. In order for this assumption to be met, the
alpha level for the Box’s M test overall and the Levene’s test for each variable must be greater than .05. The significance values for the Box’s M test and Levene’s tests were all greater than .05.

After checking for the presence of homogeneity of variance, the next assumption examined was the presence of linearity. Linearity refers to residuals being fairly randomly distributed. Distribution of residuals was checked by examining a plot of the z predicted values on the x-axis of a scatterplot and the z residual values on the y-axis and examining whether residuals followed a random pattern. Based on examination it was determined that the residuals were fairly randomly distributed.

After checking for the presence of linearity, the next assumption examined was the presence of homogeneity of regression. In order to check this assumption the procedures identified by Tabachnick and Fidell (2001) were used wherein syntax statements are written. SPSS does not provide a test for this, but by writing syntax statements one is able to test whether the slope of the regression lines are statistically similar. Homogeneity of regression was determined.

After checking for the presence of homogeneity of regression the last assumption examined was the absence of multicollinearity and singularity. In addition to examining the bivariate correlation matrix for high correlations (r > .8, p < .05) between the predictor variables, the following collinearity diagnostics were examined. First, Tolerance (Tolerance (TOL) values and then Variance Inflation Factor (VIF) values were examined. Tolerance is the amount of variability for a specific predictor variable not explained by the other predictor variables. Low tolerance values of less than .01 are commonly viewed as indicators of potential multicollinearity issues. The VIF is the reciprocal of the tolerance value, and values of greater than 4.0 are generally viewed as indicators of multicollinearity. For the regression results summarized in Table 15 the TOL values ranged from .884 to .950, and the VIF values ranged from 1.052 to 1.131. For the regression model in Table 16 the TOL values ranged from .891 to .952, and the VIF values ranged from 1.051 to 1.123. For the regression results in Table 17 the TOL values ranged from .884 to .950, and the VIF values ranged from 1.052 to 1.131. Based on results of examination procedures it was determined that there was no concern about multicollinearity and singularity.
Before addressing study research questions, it was important to know whether the groups were working as anticipated. In order to examine group functioning, group cohesion and group leader characteristics were assessed and the findings are described below.

Were The Groups Cohesive?

Table 13 summarizes results from a total of 37 participants in the intervention condition that were used in the repeated measures analysis of variance (ANOVA) to determine whether group cohesion increased over time in the DOR groups. Alpha was set at .05 and partial eta-squared was used for effect size. Based on Cohen’s (1988) f interpretation, partial eta squared effect sizes would be interpreted as .1 (small effect), .25 (medium effect) and .40 (large effect).

There was a significant within-group main effect for group cohesion \([F (1, 32) = 20.703, p < .001, \text{partial } \eta^2 = .39]\). Group cohesion increased from pre- to post-test in each of the five groups. The first intervention group (\(n = 9\)) had a significant increase in group cohesion from pre-test (\(M = 4.44, SD = 2.60\)) to post-test (\(M = 7.67; SD = 1.94\)). The second intervention group (\(n = 9\)) also had a significant increase in group cohesion from pre-test (\(M = 3.22; SD = 1.09\)) to post-test (\(M = 6.78; SD = 2.86\)). The third intervention group (\(n = 6\)) also had a significant increase in group cohesion from pre-test (\(M = 5.50; SD = 2.66\)) to post-test (\(M = 5.67; SD = 1.75\)). The fourth intervention group also had a significant increase in group cohesion from pre-test (\(M = 4.67; SD = 3.20\)) to post-test (\(M = 7.83; SD = 1.47\)). The fifth intervention group (\(n = 7\)) also had a significant increase in group cohesion from pre-test (\(M = 7.00; SD = .82\)) to post-test (\(M = 8.14; SD = .90\)). No interaction was found \([F (1.79 = 1.79, p = .156, \text{partial } \eta^2 = .18)\].

Group cohesion has been shown to change over time (Johnson, 2007). Group cohesion has also been shown to be significantly related to group outcome (Budman, et al., 1990; Holtz, 2004; Lent, Schmidt, & Schmidt, 2006; Marmarosh, Holtz, & Schottenbauer, 2005; Midtgard, Rorth, Stelter, & Adamsen, 2006; Terry et al., 2000). The significant increase in group cohesion, within the five different groups in the intervention condition suggests that the groups were functioning as expected and that group cohesion might be significantly related to group outcomes examined in the current study. This finding
provides support for the researcher to examine the relationship among group cohesion and color-blind racism as assessed by the three different subscales of the CoBRAS (unawareness or racial privilege, unawareness of institutional discrimination, unawareness of blatant racial issues). A significant between-group main effect was also found \[ F (4, 32) = 3.139, p = .028, \text{partial } \eta^2 = .28 \]. Therefore, based on the significant within and between groups differences found in group cohesion, group cohesion was entered into the sequential multiple regression models that are presented later in the chapter.

**Group Co-Facilitator Characteristics**

Due to the significant correlations found between subscales of the CRFS a repeated measures multivariate analysis of variance (MANOVA) was performed to determine if there was a main effect for the subscales (Table 14). Alpha was set at .05. Based on Cohen’s (1988) \( f \) interpretation partial eta squared effect sizes would be interpreted as .1 (small effect), .25 (medium effect) and .40 (large effect). The multivariate effect was not significant, Wilk’s \( \lambda = .939, F = .735 (3, 34), p = .539, \eta^2 = .010 \) (see Table 14). Results suggest that there were no significant differences in co-facilitator level of attractiveness, expertness, or trustworthiness within and between each intervention condition group. Thus, no further post hoc analysis was needed (Tabachnick & Fidell, 2007). This finding suggests that there were no differences in group leader characteristics, across intervention condition groups. The researcher wanted to determine if there were differences in group leader characteristics within and across intervention condition groups in order to determine if such differences would need to be examined as influential on changes in the study’s dependent variables (i.e., empathy, color-blind racism, and informational identity style). Scale means suggested that participants perceived both of their respective co-facilitators as high in attractiveness, expertness, trustworthiness, and overall interpersonally positive. Scale means also suggested that across groups, all co-facilitators were also viewed similarly. Thus, no further examination was needed because there was no support found for a possible differential influence of group leader characteristics on dependent variables examined in the study.

**Results for Research Question One**
It was hypothesized that participants that experienced intergroup contact (intervention condition) would have a decrease in unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues, from time one to time two, as measured by the three subscales of the CoBRAS, while participants who did not experience intergroup contact (control condition) would not.

The researcher had to decide whether to use a repeated measures analysis of variance (ANOVA) or repeated measures multivariate analysis of variance (MANOVA) to test the aforementioned hypothesis. In order to make this decision, the correlations between the subscales of the CoBRAS was calculated because if significant correlations were found a repeated measures MANOVA would have to be performed instead of a repeated measures ANOVA. Due to the significant correlations found between two subscales of the CoBRAS, a repeated measures multivariate analysis of variance (MANOVA) was performed. Alpha was set at a .05. The multivariate effect was not statistically significant, Wilk’s $\lambda = .932$, $F (3, 66) = 1.164$, $p = .195$, $\eta^2 = .068$ (see Table 14). Thus, no further post hoc analysis was needed (Tabachnick & Fidell, 2007).

Although there was no significant main effect or interaction found, it is important to note that three means, at post test, for the intervention condition (2.81, 1.88, 7.54) were slightly lower than the means for the control condition (3.07, 1.99, 7.71) for unawareness of racial privilege, unawareness of blatant racial issues and the total score of the CoBRAS. The following section describes study results related to hypothesized change in empathy.

**Change in Empathy**

It was also hypothesized that participants that experienced group intergroup contact (intervention condition) would have an increase in empathy, from time one to time two, as measured by the IRI, while participants who did not experience intergroup contact (control condition) would not.

The current author used the same rationale and related procedures used to test the first hypothesis to determine if a repeated measures ANOVA or repeated measures MANOVA needed to be performed to test the second hypothesis. Due to the significant correlations found between subscales of the IRI a repeated measures multivariate analysis of variance (MANOVA) was performed. Alpha was set at a .05
level. Based on Cohen’s (1988) f interpretation, partial eta squared effect sizes would be interpreted as .1 (small effect), .25 (medium effect) and .40 (large effect). The multivariate effect was not significant, Wilk’s $\lambda = .977$, $F (4/67) = .397$, $p = .810$, $\eta^2 = .023$ (see Table 14). Thus, no further post hoc analysis was needed (Tabachnick & Fidell, 2007).

*Change in Informational Identity Style*

It was also hypothesized that participants that experienced group intergroup contact (intervention condition) would have an increase in informational identity style, from time one to time two, as measured by the IRI, while participants who did not experience intergroup contact (control condition) would not.

The researcher used the same rationale and related procedures used to test the first and second hypotheses to determine if a repeated measures ANOVA or repeated measures MANOVA needed to be performed to test the second hypothesis. Thus, since the bivariate correlational matrix revealed that the pre and post test of the informational identity style were correlated (see Table 3) a repeated measures MANOVA was performed. Table 14 summarizes the repeated measures MANOVA results from the 74 participants, in the intervention and control conditions, that were used in the analysis. Alpha was set at .05 and partial eta-squared was used for effect size. The multivariate effect was not significant, Wilk’s $\lambda = .922$, $F (2/71) = .288$, $p = .751$, $\eta^2 = .008$ (see Table 14). Thus, no further post hoc analysis was needed (Tabachnick & Fidell, 2007).

**Results for Research Question Two**

As mentioned earlier, Tabachnick and Fidell (2007) stated that the data must be reviewed to determine if all assumptions for the analysis is met. Assumptions based on sequential multiple regression include: collinearity, normal distribution of variables, and normal distribution of residuals. The first assumption checked was collinearity, using the VIF and tolerance values. VIF factors of <.1 and tolerance values >4 indicate potential problems with collinearity. Examination of both VIF factors and tolerance values indicated all were in acceptable range.

After checking collinearity, normal distribution of variables was checked with skewness and kurtosis values in the SPSS explore program. Acceptable skewness guidelines for a normal distribution
for all variables are when skewness is -1 to +1. The author of the current study examined the skewness values for all variables and they ranged from -1.3 to +1.1 which means that they were in the acceptable range. Acceptable kurtosis values for a normal distribution were judged for all variables using the criterion of <10 (Kline, 1998). The researcher examined the kurtosis values for all variables and they were all < 1.6.

After checking normal distribution of variables, normal distribution of residuals was the next assumption checked. It was checked using the Durbin Watson statistic and also by examining standardized residual plots where the z predicted value appears on the x axis and the z residual value appears on the y axis. Acceptable ranges of the Durbin Watson statistic are +1.5 to +2.5. The author of the current study examined the Durbin Watson statistics and the values ranged from +1.9 to +2.2. In addition to the Durbin Watson values the author of the current study visually examined the standardized residual plots in order to determine whether the pattern of errors above the line were similar to those below the lines across the graphs (Munro 2005, pp.289-290; Field, 2005). In essence, the graphs were examined to determine whether the pattern of errors above the line were similar to the pattern below the lines. Examination of the standardized residual plots revealed consistent patterns of errors above and below the lines.

Research Question Two

The second study research question asks what explains change in color-blind racism. Based on the non-significant repeated measures MANOVA’s performed to examine change in color-blind racism the researcher considered not running the regression analyses. The researcher, however, decided to conduct exploratory regression analyses due to the small sample size and because scale means evidenced a trend consistent with change. Sequential multiple regression analyses were run in order to examine the contribution of group cohesion, empathic concern, and informational identity style on change in unawareness of racial privilege, institutional discrimination, and blatant racial issues. The rationale for exploring the relationships of the variables was partially based on Hucks’ (2008, pp 169-172) suggestion
to further explore variables of interest in a circumstance where statistically significant results were not found and the researcher has some basis to explore based on literature.

As aforementioned, a sequential multiple regression was used to explore the hypotheses for research question two. According to Tabachnick and Fidell (2007), sequential multiple regression allows the researcher to enter variables into the equation in a specific order to assess the amount of variance each variable predicts above and beyond the previously entered variables. Sequential multiple regression was used in the current study to determine the contribution of group cohesion, empathic concern, and an informational identity style on unawareness of racial privilege, unawareness of institutional discrimination, and blatant racial issues. The researcher chose to enter the variables in the following order: group cohesion, empathic concern, and informational identity style. Group cohesion was entered first because it was important to take into account any group effects first before examining the contribution of empathic concern and informational identity style. Empathic concern was entered second because it was hypothesized that it would explain more of the variance than informational identity style since empathy has a more substantive empirically supported relationship with reduced prejudice (Batson et al., 1997; Bridgeman, 1981; Finlay & Stephan, 2000; Finlay & Trafimow, 1998; Nesdale, Griffith, Durkin, & Maass, 2005; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Vescio, Sechrist & Paolucci, 2003) versus informational identity style (Soenens, Duriez, & Goossens, 2005). Thus, informational identity style was entered last. Change scores for unawareness of racial privilege, unawareness of institutional discrimination, and blatant racial issues were used to assess these respective variables. Change scores for group cohesion, empathic concern, and an informational identity style were also used to assess the respective contribution of those variables on unawareness of racial privilege, institutional discrimination, and blatant racism. Tables 15-17 summarize the results from the multiple regression equations predicting unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues respectively.

*Explaining Change in Color-blind Racism*
Unawareness of racial privilege. Table 15 displays the $R^2$, adjusted $R^2$, change in $R^2$ for each block in the sequential multiple regression equation as well as unstandardized ($\beta$) and standardized ($\beta$) beta values. Group cohesion was entered into the first step in the regression equation and it failed to account for a significant amount of the variance of unawareness of racial privilege ($R^2 = .009, F = .330, p = .569$). In the second step, the addition of empathic concern also failed to account for a significant amount of the variance of unawareness of racial privilege ($R^2 = .127, \Delta R^2 = .075, \Delta F = 2.464, p = .100$). In the third step, the addition of an informational identity style also failed to account for a significant amount of variance of unawareness of racial privilege ($R^2 = .140, \Delta R^2 = .062, \Delta F = .794, p = .167$).

Unawareness of institutional discrimination. Table 16 displays the $R^2$, adjusted $R^2$, change in $R^2$ for each block in the sequential multiple regression equation as well as unstandardized ($\beta$) beta and standardized ($\beta$) beta values. Group cohesion was entered into the first step in the regression equation and it failed to account for a significant amount of the variance of unawareness of institutional discrimination ($R^2 = <.001, F = .001, p = .977$). In the second step, the addition of empathic concern also failed to account for a significant amount of the variance of unawareness of institutional discrimination ($R^2 = .017, \Delta R^2 = .042, \Delta F = .290, p = .750$). However, in the third step, the addition of an informational identity style significantly contributed to the variance of unawareness of institutional discrimination ($R^2 = .287, \Delta R^2 = .221, \Delta F = 4.301, p = .012$).

Unawareness of blatant racial issues. Table 17 displays the $R^2$, adjusted $R^2$, change in $R^2$ for each block in the sequential multiple regression equation as well as unstandardized ($B$) and standardized ($\beta$) beta values. Group cohesion was entered into the first step in the regression equation and it failed to account for a significant amount of the variance of unawareness of blatant racial issues ($R^2 = .003, F = .090, p = .766$). The addition of empathic concern, in the second step also failed to account for a significant amount of the variance of unawareness of blatant racial issues ($R^2 = .005, \Delta R^2 = .055, \Delta F = .084, p = .918$). In the third step, the addition of an informational identity style also failed to account for a significant amount of variance of unawareness of blatant racial issues ($R^2 = .005, \Delta R^2 = -.088, \Delta F = .000, p = .983$).
Lastly, it was hypothesized that empathy would account for greater variance in color blind racism than informational identity style. The hypothesis was rejected. Results of one of the multiple regression analyses performed indicated that informational identity style, not empathy, accounted for a significant variance of unawareness of blatant racial issues (see Table 16).

Post-hoc Analyses

Study results regarding color-blind racism were not consistent with the literature. Thus, the examiner decided to evaluate whether White participants significantly differed from non-white participants on the CoBRAS total score and three subscale scores. Factorial analysis of variance was used to examine whether there was an interactive effect between treatment group (intervention or control) and ethnicity of the participant (White or non-White) on the COBRAS total score, Unawareness of racial privilege score, Unawareness of Institutional Discrimination score, or Unawareness of Blatant Racial Issues score. Tables 18 and 19 summarize the descriptive statistics for the interactive effects of treatment group and ethnicity on each of the subscales scores.

Table 20 summarizes the results of the factorial analysis of variance examining the results for each of the two main effects (treatment group or ethnicity) and the combined interactive effects of these two variables. As reflected in Table 20, there is no statistically significant interactive effect (p > .05) between treatment group and ethnicity on COBRAS total score, unawareness of racial privilege score, Unawareness of Institutional Discrimination score, or Unawareness of Blatant Racial Issues score.
Table 4. Means, Standard Deviations, Skewness, Kurtosis, and Range for CoBRAS Subscales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Pre (I)</th>
<th>Post (I)</th>
<th>Pre (C)</th>
<th>Post (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoBRAS Unawareness of Racial Privilege</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.27</td>
<td>2.81</td>
<td>3.13</td>
<td>3.07</td>
</tr>
<tr>
<td>SD</td>
<td>.91</td>
<td>.82</td>
<td>.88</td>
<td>1.02</td>
</tr>
<tr>
<td>Skewness</td>
<td>.302</td>
<td>.175</td>
<td>.548</td>
<td>.797</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.059</td>
<td>-.337</td>
<td>.023</td>
<td>.314</td>
</tr>
<tr>
<td>Range (min-max)</td>
<td>1- 5</td>
<td>1- 5</td>
<td>2 - 5</td>
<td>2 - 6</td>
</tr>
<tr>
<td>CoBRAS Unawareness of Institutional Discrimination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.00</td>
<td>2.87</td>
<td>2.93</td>
<td>2.65</td>
</tr>
<tr>
<td>SD</td>
<td>.90</td>
<td>.91</td>
<td>.74</td>
<td>.71</td>
</tr>
<tr>
<td>Skewness</td>
<td>.122</td>
<td>.248</td>
<td>.398</td>
<td>.484</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.468</td>
<td>-.207</td>
<td>-.066</td>
<td>-.419</td>
</tr>
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<td>Range (min-max)</td>
<td>1 - 5</td>
<td>1 - 5</td>
<td>2 - 5</td>
<td>1 - 4</td>
</tr>
<tr>
<td>CoBRAS Unawareness of Blatant Racial Issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.04</td>
<td>1.88</td>
<td>2.15</td>
<td>1.99</td>
</tr>
<tr>
<td>SD</td>
<td>.73</td>
<td>.60</td>
<td>.80</td>
<td>.71</td>
</tr>
<tr>
<td>Skewness</td>
<td>.200</td>
<td>.392</td>
<td>.650</td>
<td>1.103</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.745</td>
<td>-.382</td>
<td>-.115</td>
<td>1.556</td>
</tr>
<tr>
<td>Range (min-max)</td>
<td>1 - 4</td>
<td>1 - 3</td>
<td>1 - 4</td>
<td>1 - 4</td>
</tr>
</tbody>
</table>

Note. CoBRAS-Color-blind Racial Attitudes Scale
Table 5. Means, Standard Deviations, Skewness, Kurtosis, and Range for CoBRAS Total Score

<table>
<thead>
<tr>
<th>Scale</th>
<th>Pre (I)</th>
<th>Post (I)</th>
<th>Pre (C)</th>
<th>Post (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoBRAS Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$M$</td>
<td>8.31</td>
<td>7.54</td>
<td>8.21</td>
<td>7.71</td>
</tr>
<tr>
<td>$SD$</td>
<td>1.92</td>
<td>1.71</td>
<td>1.68</td>
<td>1.60</td>
</tr>
<tr>
<td>Skewness</td>
<td>.275</td>
<td>.319</td>
<td>.377</td>
<td>.217</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>.319</td>
<td>-.527</td>
<td>-.373</td>
<td>-.213</td>
</tr>
<tr>
<td>Range (min-max)</td>
<td>5 - 14</td>
<td>5 - 12</td>
<td>5 - 12</td>
<td>4 - 11</td>
</tr>
</tbody>
</table>

Note: CoBRAS Total-Color-blind Racial Attitudes Scale total score
Table 6. Means, Standard Deviations, Skewness, Kurtosis, and Range for Empathy: PT, FS, EC, PD Subscales of the IRI

<table>
<thead>
<tr>
<th>Scale</th>
<th>Pre (I)</th>
<th>Post (I)</th>
<th>Pre (C)</th>
<th>Post (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRI Perspective Taking (PT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.64</td>
<td>3.80</td>
<td>3.61</td>
<td>3.73</td>
</tr>
<tr>
<td>SD</td>
<td>.75</td>
<td>.58</td>
<td>.67</td>
<td>.68</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.239</td>
<td>-.151</td>
<td>.334</td>
<td>-.144</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.486</td>
<td>-.677</td>
<td>-.411</td>
<td>-.073</td>
</tr>
<tr>
<td>Range (min-max)</td>
<td>2 - 5</td>
<td>3 - 5</td>
<td>2 - 5</td>
<td>2 - 5</td>
</tr>
<tr>
<td>IRI Fantasy (FS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.42</td>
<td>3.60</td>
<td>3.28</td>
<td>3.31</td>
</tr>
<tr>
<td>SD</td>
<td>.71</td>
<td>.77</td>
<td>.65</td>
<td>.83</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.055</td>
<td>-.162</td>
<td>.251</td>
<td>-.069</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.963</td>
<td>-1.164</td>
<td>-.528</td>
<td>-.813</td>
</tr>
<tr>
<td>Range (min-max)</td>
<td>2 - 5</td>
<td>2 - 5</td>
<td>2 - 5</td>
<td>2 - 5</td>
</tr>
<tr>
<td>IRI Empathic Concern (EC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.69</td>
<td>3.96</td>
<td>3.67</td>
<td>3.93</td>
</tr>
<tr>
<td>SD</td>
<td>.51</td>
<td>.52</td>
<td>.63</td>
<td>.74</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.089</td>
<td>-.082</td>
<td>.015</td>
<td>-.415</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.780</td>
<td>-.634</td>
<td>-.771</td>
<td>-.212</td>
</tr>
<tr>
<td>Range (min-max)</td>
<td>3 - 5</td>
<td>3 - 5</td>
<td>2 - 5</td>
<td>2 - 5</td>
</tr>
<tr>
<td>IRI Personal Distress (PD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.76</td>
<td>2.65</td>
<td>2.59</td>
<td>2.47</td>
</tr>
<tr>
<td>SD</td>
<td>.56</td>
<td>.73</td>
<td>.63</td>
<td>.69</td>
</tr>
<tr>
<td>Skewness</td>
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<td>.555</td>
<td>.084</td>
<td>.075</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.426</td>
<td>-.046</td>
<td>-.702</td>
<td>-.267</td>
</tr>
<tr>
<td>Range (min-max)</td>
<td>2 - 4</td>
<td>1 - 4</td>
<td>1 - 4</td>
<td>1 - 4</td>
</tr>
</tbody>
</table>

Note. IRI: Interpersonal Reactivity Index has a Likert response scale that ranges from 1 = strongly disagree to 5 = strongly agree.
Table 7. Means, Standard Deviations, Skewness, Kurtosis, and Range for Informational Identity Style and Group Cohesion Subscales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Pre (I)</th>
<th>Post (I)</th>
<th>Pre (C)</th>
<th>Post (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISI3 Informational Identity Style Subscale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.54</td>
<td>3.63</td>
<td>3.62</td>
<td>3.76</td>
</tr>
<tr>
<td>SD</td>
<td>.47</td>
<td>.51</td>
<td>.49</td>
<td>.44</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.528</td>
<td>-.121</td>
<td>.372</td>
<td>-.310</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.045</td>
<td>-.524</td>
<td>-.831</td>
<td>-.272</td>
</tr>
<tr>
<td>Range (min-max)</td>
<td>2 - 4</td>
<td>2 - 5</td>
<td>3 - 5</td>
<td>3 - 5</td>
</tr>
<tr>
<td>GES Group Cohesion Subscale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>4.84</td>
<td>7.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>2.44</td>
<td>2.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td>-.163</td>
<td>-1.313</td>
<td></td>
<td></td>
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<tr>
<td>Kurtosis</td>
<td>-1.382</td>
<td>1.281</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range (min-max)</td>
<td>1 - 8</td>
<td>1 - 9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Group cohesion subscale was administered at two time points to the intervention condition only. The ISI3 response scale was a 5-point scale that ranged from 1=not at all like me to 5=very much like me.
### Table 8. Means, Standard Deviations, Skewness, Kurtosis, and Range for Group Co-Facilitator Characteristics

<table>
<thead>
<tr>
<th>Scale</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Range (min-max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRFS 1/Attractiveness</td>
<td>24.70</td>
<td>3.05</td>
<td>-1.068</td>
<td>.833</td>
<td>16-28</td>
</tr>
<tr>
<td>CRFS1/Expertness</td>
<td>22.57</td>
<td>3.39</td>
<td>-.738</td>
<td>.823</td>
<td>13-28</td>
</tr>
<tr>
<td>CRFS1/Trustworthiness</td>
<td>24.84</td>
<td>3.05</td>
<td>-1.029</td>
<td>.843</td>
<td>16-28</td>
</tr>
<tr>
<td>CRFS1 Total</td>
<td>72.08</td>
<td>7.95</td>
<td>-1.105</td>
<td>1.367</td>
<td>47-84</td>
</tr>
<tr>
<td>CRFS2/Attractiveness</td>
<td>24.57</td>
<td>3.51</td>
<td>-1.115</td>
<td>1.014</td>
<td>14-28</td>
</tr>
<tr>
<td>CRFS2/Expertness</td>
<td>22.32</td>
<td>3.82</td>
<td>-.613</td>
<td>.118</td>
<td>14-28</td>
</tr>
<tr>
<td>CRFS2/Trustworthiness</td>
<td>25.19</td>
<td>2.58</td>
<td>-.713</td>
<td>-.032</td>
<td>19-28</td>
</tr>
<tr>
<td>CRFS2 Total</td>
<td>72.08</td>
<td>7.95</td>
<td>-.294</td>
<td>-.764</td>
<td>55-84</td>
</tr>
</tbody>
</table>

*Note.* CRFS1 - Counselor Rating Form-Short which was for one member of the co-facilitator pair in each group; CRFS2 - Counselor Rating Form-Short for the second member of the co-facilitator pair in each group.
Table 9. Summary of Internal Consistency for CoBRAS, BEES, IRI, Informational Identity Subscale, Group Cohesion Subscale

<table>
<thead>
<tr>
<th>Scale</th>
<th>n (# of items)</th>
<th>Intervention (Pre) α</th>
<th>Control (Pre) α</th>
<th>intervention (Post) α</th>
<th>Control (Post) α</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoBRAS RP Subscale</td>
<td>74(7)</td>
<td>.74</td>
<td>.72</td>
<td>.65</td>
<td>.82</td>
</tr>
<tr>
<td>CoBRAS ID Subscale</td>
<td>74(6)</td>
<td>.68</td>
<td>.61</td>
<td>.65</td>
<td>.53</td>
</tr>
<tr>
<td>CoBRAS BR Subscale</td>
<td>73(7)</td>
<td>.72</td>
<td>.74</td>
<td>.56</td>
<td>.68</td>
</tr>
<tr>
<td>CoBRAS Total</td>
<td>73(20)</td>
<td>.80</td>
<td>.75</td>
<td>.74</td>
<td>.72</td>
</tr>
<tr>
<td>BEES</td>
<td>73(30)</td>
<td>.42</td>
<td>.38</td>
<td>.70</td>
<td>.50</td>
</tr>
<tr>
<td>IRI PT Subscale</td>
<td>73(7)</td>
<td>.78</td>
<td>.75</td>
<td>.81</td>
<td>.85</td>
</tr>
<tr>
<td>IRI F Subscale</td>
<td>73(7)</td>
<td>.70</td>
<td>.61</td>
<td>.74</td>
<td>.80</td>
</tr>
<tr>
<td>IRI EC Subscale</td>
<td>74(6)</td>
<td>.53</td>
<td>.70</td>
<td>.66</td>
<td>.89</td>
</tr>
<tr>
<td>IRI PD Subscale</td>
<td>74(7)</td>
<td>.61</td>
<td>.69</td>
<td>.77</td>
<td>.76</td>
</tr>
<tr>
<td>Info. Identity Subscale</td>
<td>74(11)</td>
<td>.58</td>
<td>.66</td>
<td>.64</td>
<td>.64</td>
</tr>
<tr>
<td>GC Subscale</td>
<td>37(9)</td>
<td>.72</td>
<td>.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. CoBRAS RP Subscale-unawareness of racial privilege subscale; CoBRAS ID Subscale-unawareness of institutional discrimination subscale; CoBRAS BR Subscale-unawareness of blatant racial issues subscale; BEES-Balanced Emotional Empathy; IRI PT Subscale-IRI perspective taking subscale; IRI F Subscale-IRI Fantasy subscale; IRI EC Subscale-IRI Empathic Concern Subscale; IRI PD Subscale-IRI Personal Distress Subscale; Info. Identity Subscale-Informational Identity Style Subscale; GC Subscale-Group Cohesion Subscale of the Group Environment Scale
Table 10. Summary of Internal Consistency for CRFS

<table>
<thead>
<tr>
<th>Scale</th>
<th>n (# of items)</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRFS 1/Attractiveness Subscale</td>
<td>37(4)</td>
<td>.86</td>
</tr>
<tr>
<td>CRFS1/Expertness Subscale</td>
<td>37(4)</td>
<td>.76</td>
</tr>
<tr>
<td>CRFS1/Trustworthiness Subscale</td>
<td>37(4)</td>
<td>.85</td>
</tr>
<tr>
<td>CRFS1 Total</td>
<td>37(12)</td>
<td>.91</td>
</tr>
<tr>
<td>CRFS2/Attractiveness Subscale</td>
<td>37(4)</td>
<td>.83</td>
</tr>
<tr>
<td>CRFS2/Expertness Subscale</td>
<td>37(4)</td>
<td>.84</td>
</tr>
<tr>
<td>CRFS2/Trustworthiness Subscale</td>
<td>37(4)</td>
<td>.72</td>
</tr>
<tr>
<td>CRFS2 Total</td>
<td>37(4)</td>
<td>.87</td>
</tr>
</tbody>
</table>

Note. CRFS1 (Counselor Rating Form-Short; first co-facilitator in pair), CRFS2 (Counselor Rating Form-Short; second co-facilitator in pair).
Table 11. Correlation Matrix for Dependent Variables in Intervention Condition

<table>
<thead>
<tr>
<th>Variable</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
<th>X9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Cohesion Post (X1)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unawareness of Racial Privilege Post (X2)</td>
<td>.097</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unawareness of Institutional Discrimination Post (X3)</td>
<td>.005</td>
<td>.137</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unawareness of Blatant Racial Issues Post (X4)</td>
<td>.203</td>
<td>.509**</td>
<td>.318</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informational Identity Style Post (X5)</td>
<td>-.131</td>
<td>-.229</td>
<td>.451**</td>
<td>-.230</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Fantasy Post (X6)</td>
<td>.220</td>
<td>-.138</td>
<td>-.084</td>
<td>-.076</td>
<td>.034</td>
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<tr>
<td>Perspective Taking Post (X7)</td>
<td>.015</td>
<td>.056</td>
<td>.280</td>
<td>-.010</td>
<td>.394*</td>
<td>.264</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathic Concern Post (X8)</td>
<td>.128</td>
<td>-.327</td>
<td>-.130</td>
<td>-.242</td>
<td>.291</td>
<td>.399*</td>
<td>.581**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Personal Distress Post (X9)</td>
<td>.083</td>
<td>.306</td>
<td>-.235</td>
<td>.386</td>
<td>-.361*</td>
<td>-.604</td>
<td>-.120</td>
<td>-.146</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note. * indicates significant at p <.01; ** indicates significant at p <.05
<table>
<thead>
<tr>
<th>Variable</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unawareness of Racial Privilege Post (X1)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unawareness of Institutional Discrimination Post (X2)</td>
<td>-0.033</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unawareness of Blatant Racial Issues Post (X3)</td>
<td>0.294</td>
<td>0.5119</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informational Identity Style Post (X4)</td>
<td>0.099</td>
<td>0.134</td>
<td>-0.201</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fantasy Post (X5)</td>
<td>-0.197</td>
<td>-0.066</td>
<td>-0.210</td>
<td>0.177</td>
<td>1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Perspective Taking Post (X6)</td>
<td>0.060</td>
<td>-0.011</td>
<td>0.122</td>
<td>0.238</td>
<td>0.282</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathic Concern Post (X7)</td>
<td>-0.024</td>
<td>-0.128</td>
<td>0.014</td>
<td>0.218</td>
<td>0.409*</td>
<td>0.536**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Personal Distress Post (X8)</td>
<td>-0.225</td>
<td>-0.118</td>
<td>0.308</td>
<td>-0.290</td>
<td>0.036</td>
<td>0.184</td>
<td>0.103</td>
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</tr>
</tbody>
</table>

Note. * indicates significant at p <.01; ** indicates significant at p <.05
Table 13. Repeated Measures ANOVA Results for Group Cohesion

<table>
<thead>
<tr>
<th>Measures</th>
<th>n</th>
<th>SS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Within Analysis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>37</td>
<td>90.67</td>
<td>20.70</td>
<td>&lt; .001</td>
<td>.39</td>
</tr>
<tr>
<td>Interaction of Pre and Post with Intervention Group</td>
<td>37</td>
<td>31.31</td>
<td>1.79</td>
<td>.156</td>
<td>.18</td>
</tr>
<tr>
<td><strong>Between Analysis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>37</td>
<td>27.67</td>
<td>3.14</td>
<td>.028</td>
<td>.28</td>
</tr>
</tbody>
</table>
Table 14. Summary MANOVA Results for ISI3, CoBRAS, IRI, and CRFS

<table>
<thead>
<tr>
<th>Measure</th>
<th>Test</th>
<th>Statistic</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISI3</td>
<td>Wilk’s Lambda</td>
<td>.922</td>
<td>.288</td>
<td>2/71</td>
<td>.751</td>
<td>.008</td>
</tr>
<tr>
<td>CoBRAS</td>
<td>Wilk’s Lambda</td>
<td>.932</td>
<td>1.164</td>
<td>3/66</td>
<td>.195</td>
<td>.068</td>
</tr>
<tr>
<td>IRI</td>
<td>Wilk’s Lambda</td>
<td>.977</td>
<td>.397</td>
<td>4/67</td>
<td>.810</td>
<td>.023</td>
</tr>
<tr>
<td>CRFS</td>
<td>Wilk’s Lambda</td>
<td>.939</td>
<td>.735</td>
<td>3/34</td>
<td>.539</td>
<td>.010</td>
</tr>
</tbody>
</table>

*Note.* ISI3-Identity Style Inventory-Third Revision; CoBRAS-Color-blind Racial Attitudes Scale; IRI-Interpersonal Reactivity Index; CRFS-Counselor Rating Form-Short
Table 15. Summary of Regression Analysis for Variables Explaining Change in Unawareness of Racial Privilege

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th></th>
<th></th>
<th>Step 2</th>
<th></th>
<th></th>
<th>Step 3</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>Beta</td>
<td>p</td>
<td>b</td>
<td>Beta</td>
<td>p</td>
<td>b</td>
<td>Beta</td>
<td>p</td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>.038</td>
<td>.097</td>
<td>.569</td>
<td>.056</td>
<td>.141</td>
<td>.390</td>
<td>.047</td>
<td>.120</td>
<td>.475</td>
</tr>
<tr>
<td>Empathic Concern</td>
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<td>_</td>
<td>_</td>
<td>-.542</td>
<td>-.345</td>
<td>.040</td>
<td>-.481</td>
<td>-.306</td>
<td>.083</td>
</tr>
<tr>
<td>Informational Identity Style</td>
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<td>_</td>
<td>_</td>
<td>-.198</td>
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<td>.474</td>
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<td>2.534</td>
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<td>4.555</td>
<td>_</td>
<td>&lt;.001</td>
<td>5.094</td>
<td>_</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Model F and (p)</td>
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<td>(.569)</td>
<td>2.464</td>
<td>.100</td>
<td>1.794</td>
<td>.167</td>
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<tr>
<td>Total R²</td>
<td>.009</td>
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<td>.140</td>
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<tr>
<td>Adjusted R²</td>
<td>-.019</td>
<td>.075</td>
<td>.062</td>
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<tr>
<td>R² Change</td>
<td>.009</td>
<td>.117</td>
<td>.014</td>
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</table>
Table 16. Summary of Regression Analysis for Variables Explaining Change in Unawareness of Institutional Discrimination

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th></th>
<th></th>
<th></th>
<th>Step 2</th>
<th></th>
<th></th>
<th></th>
<th>Step 3</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>Beta</td>
<td>$p$</td>
<td>$b$</td>
<td>Beta</td>
<td>$p$</td>
<td>$b$</td>
<td>Beta</td>
<td>$p$</td>
<td>$b$</td>
<td>Beta</td>
<td>$p$</td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>.002</td>
<td>.005</td>
<td>.977</td>
<td>.010</td>
<td>.023</td>
<td>.897</td>
<td>.049</td>
<td>.113</td>
<td>.465</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Empathic Concern</td>
<td>__</td>
<td>__</td>
<td>__</td>
<td>-.228</td>
<td>-.133</td>
<td>.452</td>
<td>-.517</td>
<td>.300</td>
<td>.067</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informational Identity Style</td>
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<td>__</td>
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<td>__</td>
<td>__</td>
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<td>.550</td>
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<tr>
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<td>.276</td>
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<td>__</td>
<td>.443</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Model $F$ and ($p$)</td>
<td>.001</td>
<td>(.977)</td>
<td></td>
<td>.290</td>
<td>(.750)</td>
<td></td>
<td>4.301</td>
<td>(.012)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>&lt;.001</td>
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<td></td>
<td>.017</td>
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<td>.287</td>
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</tr>
<tr>
<td>Adjusted $R^2$</td>
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<td></td>
<td>-.042</td>
<td></td>
<td></td>
<td>.221</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$ Change</td>
<td>&lt;.001</td>
<td></td>
<td></td>
<td>.017</td>
<td></td>
<td></td>
<td>.270</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Table 17. Summary of Regression Analysis for Variables Explaining Change in Unawareness of Blatant Racial Issues

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th></th>
<th></th>
<th></th>
<th>Step 2</th>
<th></th>
<th></th>
<th></th>
<th>Step 3</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>Beta</td>
<td>$p$</td>
<td></td>
<td>$b$</td>
<td>Beta</td>
<td>$p$</td>
<td></td>
<td>$b$</td>
<td>Beta</td>
<td>$p$</td>
<td></td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>-0.018</td>
<td>-0.051</td>
<td>0.499</td>
<td></td>
<td>0.056</td>
<td>-0.058</td>
<td>0.743</td>
<td></td>
<td>-0.020</td>
<td>-0.057</td>
<td>0.753</td>
<td></td>
</tr>
<tr>
<td>Empathic Concern</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.071</td>
<td>-0.051</td>
<td>0.289</td>
<td></td>
<td>0.071</td>
<td>0.050</td>
<td>0.791</td>
<td></td>
</tr>
<tr>
<td>Informational Identity Style</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.002</td>
<td>0.002</td>
<td>0.993</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
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<td></td>
<td>0.499</td>
<td></td>
<td>0.046</td>
<td></td>
<td>0.964</td>
<td></td>
<td>0.040</td>
<td></td>
<td>0.975</td>
<td></td>
</tr>
</tbody>
</table>

| Model $F$ and $(p)$            | 0.090 (.766) | 0.086 (.918) | 0.055 (.983) |
| Total $R^2$                    | 0.003     | 0.005     | 0.005     |
| Adjusted $R^2$                 | -0.027   | -0.055   | -0.088   |
| $R^2$ Change                   | 0.003    | 0.003    | <.001     |
Table 18. Summary descriptive statistics examining the interactive effects of treatment and ethnicity.

<table>
<thead>
<tr>
<th>Dependent Variable by Treatment by Ethnicity</th>
<th>Frequency</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>COBRAS Pretest Total Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention White</td>
<td>9</td>
<td>8.82</td>
<td>2.36</td>
</tr>
<tr>
<td>Intervention All other ethnic groups</td>
<td>27</td>
<td>8.14</td>
<td>1.77</td>
</tr>
<tr>
<td>Control White</td>
<td>5</td>
<td>8.09</td>
<td>2.40</td>
</tr>
<tr>
<td>Control All other ethnic groups</td>
<td>30</td>
<td>8.23</td>
<td>1.59</td>
</tr>
<tr>
<td>COBRAS Posttest Total Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention White</td>
<td>9</td>
<td>8.11</td>
<td>2.08</td>
</tr>
<tr>
<td>Intervention All other ethnic groups</td>
<td>27</td>
<td>7.35</td>
<td>1.56</td>
</tr>
<tr>
<td>Control White</td>
<td>5</td>
<td>7.58</td>
<td>1.98</td>
</tr>
<tr>
<td>Control All other ethnic groups</td>
<td>30</td>
<td>7.73</td>
<td>1.57</td>
</tr>
<tr>
<td>Unawareness of Racial Privilege Pre Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention White</td>
<td>9</td>
<td>3.54</td>
<td>.89</td>
</tr>
<tr>
<td>Intervention All other ethnic groups</td>
<td>27</td>
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<td>.92</td>
</tr>
<tr>
<td>Control White</td>
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<td>3.09</td>
<td>1.20</td>
</tr>
<tr>
<td>Control All other ethnic groups</td>
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<td>3.14</td>
<td>.84</td>
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<tr>
<td>Unawareness of Racial Privilege Post Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention White</td>
<td>9</td>
<td>2.84</td>
<td>.83</td>
</tr>
<tr>
<td>Intervention All other ethnic groups</td>
<td>27</td>
<td>2.80</td>
<td>.83</td>
</tr>
<tr>
<td>Control White</td>
<td>5</td>
<td>3.31</td>
<td>1.47</td>
</tr>
<tr>
<td>Control All other ethnic groups</td>
<td>30</td>
<td>3.04</td>
<td>.96</td>
</tr>
</tbody>
</table>
Table 19. Summary descriptive statistics examining the interactive effects of treatment and ethnicity.

<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
<th>White</th>
<th>All other ethnic groups</th>
<th>Control</th>
<th>White</th>
<th>All other ethnic groups</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unawareness of Institutional Discrimination Pre Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>9</td>
<td>27</td>
<td>35</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>2.99</td>
<td>3.43</td>
<td>2.85</td>
<td>2.93</td>
<td>3.17</td>
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</tr>
<tr>
<td></td>
<td>.90</td>
<td>1.30</td>
<td>.78</td>
<td>.74</td>
<td>.80</td>
<td>.74</td>
</tr>
<tr>
<td><strong>Unawareness of Institutional Discrimination Post Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>9</td>
<td>27</td>
<td>35</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>2.87</td>
<td>3.38</td>
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</tr>
<tr>
<td></td>
<td>.90</td>
<td>1.23</td>
<td>.72</td>
<td>.71</td>
<td>.74</td>
<td>.72</td>
</tr>
<tr>
<td><strong>Unawareness of Blatant Racial Issues Pre Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>9</td>
<td>27</td>
<td>35</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>2.04</td>
<td>1.85</td>
<td>2.10</td>
<td>2.15</td>
<td>1.83</td>
<td>2.20</td>
</tr>
<tr>
<td></td>
<td>.73</td>
<td>.88</td>
<td>.68</td>
<td>.80</td>
<td>.75</td>
<td>.81</td>
</tr>
<tr>
<td><strong>Unawareness of Blatant Racial Issues Post Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>9</td>
<td>27</td>
<td>35</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>1.88</td>
<td>1.89</td>
<td>1.88</td>
<td>1.99</td>
<td>1.67</td>
<td>2.04</td>
</tr>
<tr>
<td></td>
<td>.60</td>
<td>.67</td>
<td>.59</td>
<td>.72</td>
<td>.42</td>
<td>.74</td>
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Table 20. Factorial Anova results examining the interactive effects of treatment and ethnicity

<table>
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<th>Dependent Variable by Effect</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
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<tr>
<td><strong>COBRAS Pretest Total Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>.327</td>
<td>.570</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>1</td>
<td>.230</td>
<td>.633</td>
</tr>
<tr>
<td>Treatment x Ethnicity</td>
<td>1</td>
<td>.526</td>
<td>.471</td>
</tr>
<tr>
<td><strong>COBRAS Posttest Total Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>.021</td>
<td>.887</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>1</td>
<td>.353</td>
<td>.554</td>
</tr>
<tr>
<td>Treatment x Ethnicity</td>
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<td>.797</td>
<td>.375</td>
</tr>
<tr>
<td><strong>Unawareness of Racial Privilege Pre Scale Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>.794</td>
<td>.376</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>1</td>
<td>.285</td>
<td>.595</td>
</tr>
<tr>
<td>Treatment x Ethnicity</td>
<td>1</td>
<td>.546</td>
<td>.462</td>
</tr>
<tr>
<td><strong>Unawareness of Racial Privilege Post Scale Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>1.513</td>
<td>.223</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>1</td>
<td>.307</td>
<td>.581</td>
</tr>
<tr>
<td>Treatment x Ethnicity</td>
<td>1</td>
<td>.172</td>
<td>.680</td>
</tr>
<tr>
<td><strong>Unawareness of Institutional Discrimination Pre Scale Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>.197</td>
<td>.659</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>1</td>
<td>2.933</td>
<td>.091</td>
</tr>
<tr>
<td>Treatment x Ethnicity</td>
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<td>.334</td>
<td>.565</td>
</tr>
<tr>
<td><strong>Unawareness of Institutional Discrimination Post Scale Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>2.812</td>
<td>.098</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>1</td>
<td>1.628</td>
<td>.206</td>
</tr>
<tr>
<td>Treatment x Ethnicity</td>
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<td>2.265</td>
<td>.137</td>
</tr>
<tr>
<td><strong>Unawareness of Total Blatant Racial Issues Pre Scale Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>.286</td>
<td>.872</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>1</td>
<td>1.703</td>
<td>.196</td>
</tr>
<tr>
<td>Treatment x Ethnicity</td>
<td>1</td>
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<td>.812</td>
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<tr>
<td><strong>Unawareness of Total Blatant Racial Issues Post Scale Score</strong></td>
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<td></td>
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</tr>
<tr>
<td>Treatment</td>
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<tr>
<td>Treatment x Ethnicity</td>
<td>1</td>
<td>.882</td>
<td>.351</td>
</tr>
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</table>

*Note:* The equal variance assumption for each analysis was met (Levene’s test for homogeneity of variance p > .05)
Chapter 5: DISCUSSION

Discussion

This chapter discusses the implications of the results presented in Chapter 4. First, the validity of the intervention groups is described in order to provide a context within which to interpret findings. Next, results are discussed in reference to possible explanations for the findings and their convergence or divergence with existing literature. Limitations of the study are discussed, as well as implications for future research and practice.

Validity of the Dialogues on Race Groups

Findings suggest that each group within the intervention condition developed increased cohesion which is important because group cohesion is theoretically purported to be an important state in group process (Yalom, 1975). The finding is consistent with the literature which suggests that the level of cohesiveness changes over time (Johnson, 2007). Findings also suggest that group co-facilitators were in general perceived as positive, and specifically, were perceived as attractive, expert, skilled, and trustworthy. Thus despite intervention groups running for a shorter period than they have in past semesters, it appears that groups were cohesive and participants evaluated leaders positively. The following section is a description of the results addressing the first study research question.

Research Question One

The first research question sought to determine whether participation in the intervention condition would lead to increased empathy and informational identity style, and decreased color-blind racism as measured by the three subscales of the CoBRAS. It was hypothesized that color-blind racism would decrease from time one to time two for participants in the intervention condition, but would remain the same for participants in the control condition. This hypothesis was not supported by the results. A statistically significant change in unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues was not found.

Intergroup contact research is substantive (Pettigrew & Tropp, 2006). Past reviews show general support for contact theory, suggesting that intergroup contact typically reduces intergroup prejudice
Therefore study findings that suggest that there was no significant change in aspects of color-blind racial attitudes are inconsistent with the existing literature. There are several possible explanations for why this study hypothesis was rejected. One explanation for the findings is that two subscales of the CoBRAS had very low reliability in this sample which suggests that there is reason to question whether findings are valid. A second explanation for the findings can be explained by Stephan’s (1987) conclusions regarding intergroup contact. He acknowledged that intergroup contact has the potential to reduce prejudice, but he emphasized the complexity involved in the link between intergroup contact and prejudice. For example, characteristics of the contact setting, the groups under study, and the individuals involved may all contribute to enhancing or inhibiting contact’s effects (Stephan, 1987). One factor that may have inhibited the contact effects in the current study is the limited time participants spent within their group intergroup contact experience. Another possible explanation why significant change in the CoBRAS was not found may be due to the small sample size which reduced the statistical power of the analyses run.

Due to the possibility that the findings may have been due to limitations in statistical power due to sample size the researcher chose to evaluate the means on the CoBRAS subscales and total score for the intervention and control condition separately to determine if there was any support that intergroup contact may have been influential in changes in unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues. If the means in the intervention condition differed from the control condition, such a finding suggests that if the sample size was larger a significant difference might have been identified.

Evaluation of the means for the intervention condition and control condition revealed that at post-test, participants in both conditions reported low levels of unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues. However, participants in the intervention condition reported a somewhat reduced mean compared to control condition participants indicating that participants that experienced intergroup contact reported a reduction in unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues and
participants that did not experience intergroup contact did not report the same comparable reduction. Thus, it seems plausible that the differences reflecting in the means may have been statistically significant if the sample size was larger and power was enhanced. One explanation for why control condition participants reported lower means at post-test on all subscales was that they may have experienced vicarious intergroup contact by watching the 2008 U. S. presidential primaries that occurred during the study period.

During the primaries two members of marginalized groups (a woman and a bi-racial man) were campaigning to be the democratic presidential candidate. It was shown that, during this time, more young people had become interested in the presidential race and thus may have engaged in more conversations and political participation. The Center for Information and Research on Civic Learning and Engagement (CIRCLE) is a non-partisan organization that conducts research on the civic and political engagement of Americans between the ages of 15-25. On their website it was reported that “Young people’s interest in this year’s presidential election was at its highest since 1992” and 81 percent of young registered voters paid close attention to the campaign compared to 85 percent in 1992, the last time youth voter turnout broke its decline (http://www.civicyouth.org). Therefore, it is unclear how this historic event may impacted control condition participants.

Change in Empathy

Additionally, it was hypothesized that empathy would increase from time one to time two for participants in the intervention condition and would remain the same for participants in the control condition. This hypothesis was not supported. A statistically significant change in empathy was not found.

Research has shown that the development of empathy or increased empathy is related to reduced negative intergroup attitudes (Batson et al., 1997; Finlay & Trafimow, 1998; Finlay & Stephan, 2000; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Vescio, Sechrist & Paolucci, 2003). Thus, given that a decrease in color-blind racism was not identified, past research suggests that there would also be no significant change in empathy. However, again due to the small sample size and power limitations, the
researcher decided to evaluate the means to determine whether there was any support that empathy did change in the intervention condition. Evaluation of the means for the intervention condition and control condition revealed that at post-test, groups in the intervention condition had lowered means on all four subscales of the IRI compared to than the control condition. This observation suggests that intergroup contact may have played a role in the decrease in those areas even though the difference between conditions was not statistically significant. Therefore as mentioned earlier a larger sample size and increased power may have made it easier to detect the differences as statistically significant.

Change in Informational Identity Style

Additionally, it was hypothesized that informational identity style would increase from time one to time two for participants in the intervention condition and would remain the same for participants in the control condition. This hypothesis was not supported. A statistically significant change in informational identity style was not found. There is no existing data examining the relationship between intergroup contact and informational identity style in the available literature to date. However, there is empirical support that an informational identity style is related to increased empathy and lower prejudice (Soenens, Duriez, & Goossens, 2005). Thus, a relationship between intergroup contact and informational identity style can be theoretically suggested since reduced prejudice is an empirically supported outcome of intergroup contact (Pettigrew & Tropp, 2006) and empathy has been shown to be significantly related to reduced prejudice (Batson et al., 1997; Bridgeman, 1981; Finlay & Trafimow, 1998; Finlay & Stephan, 2000; Nesdale, Griffith, Durkin, & Maass, 2005; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Vescio, Sechrist, & Paolucci, 2003). The researcher decided to inspect the means and it appeared that participants reported a high degree of informational identity style at post-test. As mentioned earlier, one possible explanation for both conditions demonstrating high empathy at post-test may be due to the influence of the 2008 U.S. presidential primary that took place during the study period. Thus, it is unclear how such an historical event and dialogue may have influenced informational identity style for participants since an informational identity style is associated with tolerance for people and diverse perspectives (Berzonsky & Kuk, 2005; Soenens, Duriez, & Goossens, 2005).
Research Question Two

This research question sought to identify the contribution of group cohesion, empathic concern, and an informational identity style to explaining unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues. Despite not finding a statistically significant change in unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues, the researcher conducted exploratory analyses using sequential regression analyses in order to examine the contribution of group cohesion, empathic concern, and informational identity style on change in unawareness of racial privilege, institutional discrimination, and blatant racial issues. As mentioned in chapter 4, the rationale for exploring the relationships of the variables was partially based on Hucks’ (2008, pp 169-172) suggestion to further explore variables of interest in a circumstance where statistically significant results were not found and the researcher has some basis to explore based on literature. Evaluation of the means demonstrated that participants in the intervention condition reported lower means at post-test in unawareness of racial privilege, unawareness of blatant racial issues, and the total CoBRAS score. In addition, the rejection of the study hypothesis regarding change in color-blind racism was not supported by past intergroup contact research (Pettigrew & Tropp, 2006). Thus, the researcher wanted to explore further.

It was hypothesized that group cohesion, empathic concern, and an informational identity style would significantly predict change in unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues in the intervention condition. The hypothesis that group cohesion, empathic concern, and informational identity style would predict unawareness of racial privilege and unawareness of blatant racial issues was not supported. However, the hypothesis that group cohesion, empathic concern, and an informational identity style would predict unawareness of institutional discrimination was supported. Specifically, informational identity style contributed a significant amount of the variance in institutional discrimination.

One explanation for why group cohesion, empathic concern, and informational identity style did not significantly predicting change in unawareness of racial privilege and unawareness of blatant racial
issues is that fact that the examination was exploratory only since a significant change in the subscales was not found. However, the supported hypothesis for explaining change in unawareness of institutional discrimination was surprising since there was no significant change found in unawareness of institutional discrimination in the previous analysis. As mentioned earlier, evaluation of the means suggest that participants in both conditions reported lower means on institutional discrimination at post-test. One explanation for group cohesion, empathic concern, and informational identity style significantly predicting unawareness of institutional discrimination may be due to the boundaries of the statistical analyses employed. In essence, the MANOVA employed to investigate change in unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues examined the relationships between multiple dependent variables whereas the regression analyses employed investigated each subscale individually. Thus, the MANOVA was not able to detect significant change in institutional discrimination because it was analyzed with the other two subscales, but the regression analyses was able to investigate each individual subscale which many explain why significance was highlighted.

This finding is consistent with the literature that suggests informational identity style is related to reduced prejudice (Soenens, Duriez, & Goossens, 2005). More importantly, this finding offers a theoretical extension of intergroup contact literature by offering support that informational identity style is a significant predictor of change in prejudice/racism (i.e., unawareness of institutional discrimination). This suggests that while specific conditions of intergroup contact are not necessary to reduce prejudice (Pettigrew & Tropp, 2006) being a person with an identity style (informational) wherein one is actively searching for and evaluating issue-relevant information (Berzonsky, 1989) may enhance intergroup contact effects. Similarly, having a proclivity to engage in cultural activities (intergroup contact experiences; Berzonsky & Kuk, 2005), and being respectful and tolerant of individuals who differ from oneself (Berzonsky & Kuk, 2005; Soenens, Duriez, & Goossens, 2005), which are empirically supported characteristics of informational identity style, may also enhance effects.
It was also hypothesized that empathic concern would explain more variance than informational identity style to change in unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues since research has consistently established that induced empathy toward out-group members leads to reduction in prejudice/racism (Batson, 1997; Bridgeman, 1981; Finlay & Trafimow, 1998; Finlay & Stephan, 2000; Nesdale, Griffith, Durkin, & Maass, 2005; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Vescio, Sechrist, & Paolucci, 2003). Results did not support this hypothesis. Informational identity style explained more variance in unawareness of institutional discrimination than empathic concern.

Overall results were not consistent with the literature regarding outcomes of intergroup contact (Pettigrew & Tropp, 2006). Post-hoc analyses comparing White participants and non-White participants, on color-blind racism did not suggest that ethnicity had a significant impact on the effects of intergroup contact experience.

Study Limitations

As mentioned previously, though sample size was adequate for the statistical analyses performed, it may have limited the effects that could be detected. Sample bias may explain the lack of significant increase in empathy and unawareness of racial privilege, unawareness of institutional discrimination, and unawareness of blatant racial issues because students who volunteer to take the DOR course may have higher empathy and lower color-blind racism than their counterparts who do not select to participate in the intergroup contact experience. Therefore, changes in empathy and color-blind racism may not be as great since they may start at a high level initially than their counterparts. For example, in both the intervention and control conditions, participants started out with a high level of empathy on each of the subscales of the IRI at pre-test.

In addition, the self-report nature of the instruments is another limitation. Social desirability may have affected the way that participants responded to questions which may offer one explanation for why participants in the intervention condition and control condition both reported lower means on the dependent variables at post-test. Another study limitation is the length of the group intergroup
contact experience. In the current study the academic semester was divided into two sections in order to have a control condition that matched intervention condition participants. However, the division into two separate sections of the Dialogue on Race course (DOR) limited the amount of intergroup contact experience (7 weeks) that participants in both conditions had. The non-statistical outcomes of intergroup contact found in the current study may be due to limited intergroup contact experience. In essence, more than seven weeks may have been needed for the intergroup contact experience to yield a significant reduction in unawareness of racial privilege, unawareness of institutional discrimination, unawareness of blatant racial issues, and increase in empathy.

Additionally, while coefficient alpha for the majority of study measures was at least acceptable, for other measures it was quite low. The researcher was particularly concerned with three subscales (the unawareness of institutional discrimination and unawareness of blatant racial issues subscales of the CoBRAS subscale and the informational identity subscale of the ISI3). The researcher decided to retain these study measures. However, the Balanced Emotional Empathy Scale (BEES) was eliminated from study analyses after the internal consistency was calculated and found to be unacceptably low. Thorndike (1997) supports elimination of variables with low reliability because the lower the reliability values the greater the differences in scores are attributed to errors of chance measurement. The reason why the three subscales were retained and not deleted from analyses like the BEES is because study analyses would have been greatly comprised if they were also deleted. Due to the elimination of the BEES and retaining of subscales with low reliabilities, the findings in the current study are questionable. Similarly, during the researcher’s administration of post-test study measures to participants, in both conditions, it was observed that participants were engaging in behaviors that also call into question the validity of the responses. In essence, participants did not seem motivated to complete the measures which may have resulted in random responding.

Finally, the instruments in the current study primarily measured cognitive domains. Thus, only cognitive change was evaluated not emotional change. Although the Balanced Emotional Empathy scale that was administered (later deleted from analysis) was a measure of emotional empathy it still tapped
into participants’ cognitive appraisal of emotional aspects of empathy. Thus, the current study was limited in assessing emotional change which is an important variable in outcomes of intergroup contact (Pettigrew & Tropp, 2006). The following section describes recommendations of how to address study limitations in future research.

**Recommendations of How to Minimize Limitations for Study Replication**

*Pre- and post-test administration.* There are three ways to address the study limitations due to the pre- and post-test administration design. The first category concerns the context within which participants in both conditions complete the study measures. The second category addresses who should administer the study measures to participants. The third category addresses limitation of domains measured by instruments used.

Participants in both conditions completed the pre-test measures on-line and the post-test measures in person within the context of their group. The pre-test Cronbach alpha for study measures were typically lower than the post-test which may suggest that participants were more motivated to respond consistently to the measures when they completed them in person versus on-line. Thus, it may be important in the future to have students in both conditions complete the pre-test measures in person as it may be more motivating.

With regard to who should administer the study measures to participants in person, it may be better to have the group facilitators administer the study measures. In the current study, the researcher administered the post-test study measures to participants in both conditions as required by the university research institutional review board. Participants were informed on the informed consent forms that the study measures were a part of their coursework. However, based on the evidence that even though students responded more consistently to study measures when completed in person (post-test administration), the low Cronbach alphas at post-test for several measures suggest there may have still been a lowered motivation to complete measures during this administration as well. The low internal consistency present may have also been due to participants’ confused cognitive state due to cognitive and emotional processing occurring in group.
called into question the validity of the responses. One way to increase motivation would be to have
the group facilitators administer the study measures. This may communicate more effectively that the
measures are part of their coursework. It would also be beneficial to ask participants what it felt like to
complete instruments in order to determine factors that may have impacted their responses during pre and
post-test administrations.

Survey administration. Participants in the current study completed a total of seven measures. In
future studies with a similar population, reducing the number of measures to increase participant
motivation to authentically complete them may improve the relatively low Cronbach alphas.

The pre-test administration was completed on-line before the DOR course started. Since the pre-
test measures were a part of the application for the DOR course, participants may have felt their responses
on the surveys would be evaluated to gain entrance into the course. Thus, feeling evaluated may have
influenced participant responses on the pre-tests measures on-line. Therefore, for research replication it
would be important to either explicitly state (on the DOR application) that the survey responses would not
be used for evaluation criteria for course participation or have participants complete the measures after
they have applied and been accepted into the course, but before their first group meeting.

Control group. The control group in the current study matched the participants in the intervention
condition in that all of them volunteered to enroll in the DOR course. The amount of group intergroup
contact experience was shortened to seven weeks from the usual 14 weeks in order to have a control
group that matched intervention group participants. Although the DOR course was shortened to two,
seven-week sections, the number of intergroup contact hours, however, remained the same. It is not clear
how the decreased length of time influenced the results of the study but it is clear that obtaining a matched
control group halved the number of participants eligible to participate in the intervention condition. Thus,
it may be important, due to the limitation just described, to have a control group of participants that did
not volunteer to participate in the intergroup contact experience (DOR course), increasing the sample pool
available for the intervention condition and control condition respectively and allowing participants in the
intervention condition to participate over a greater period of time. One way to obtain a comparable control group, from different sources, would be to get students from various sociology or psychology courses and asking them about their level of interest in participating in the DOR course.

The following section describes implications for research and practice.

**Summary, Conclusions, and Implications for Research and Practice**

It is important to note that findings were discussed within the narrow scope of the current study. Discussion centered on one major possible outcome of intergroup contact: reduction in prejudice. However, there are countless others that could have been investigated. Therefore study results should not be interpreted to highlight the ineffectiveness of intergroup contact to bring about change, but results should be understood only within the limitation of the specific outcome variables studied.

Based on the discussion of results presented in the chapter, several conclusions were drawn from the study. First, it appears that participants in the DOR groups perceived their groups as cohesive and evaluated their group leaders positively. Second, results suggest that that informational identity style predicts change in unawareness of institutional discrimination (one aspect of color-blind racism).

An informational identity style involves actively searching for, elaborating, and evaluating issue-relevant information (Berzonsky, 1989). Past research has demonstrated a relationship between having an informational identity style and a high degree of empathy, less prejudice (Soenens, Duriez, & Goossens, 2005), proclivity to engage in cultural activities (Berzonsky & Kuk, 2005), and being respectful and tolerant of individuals who differ from oneself (Berzonsky & Kuk, 2005; Soenens, Duriez, & Goossens, 2005). Thus, it appears that having an informational identity style is an important factor in explaining change in one aspect of color-blind racism. Prior to this study, identity style had not been investigated in the intergroup contact literature. This new empirical finding has interesting implications for future research and practice.
Future research and practice implications. The current study should be replicated such that study limitations are addressed to determine whether group cohesion, empathy, and an informational identity style help to explain reduction in color-blind racism as an outcome of group intergroup contact experience. Such research endeavors will serve as an important contribution to the intergroup contact literature that is weakened by the current lack of empirical attention regarding what explains change in empirically supported outcomes of intergroup contact.

According to results, informational identity style is a significant predictor of unawareness of institutional discrimination, but it is unclear why it was not a significant predictor of unawareness of racial privilege and unawareness of blatant racial issues. Future research should first examine the reason for the differential effects. Secondly, research should investigate the relationship among intergroup contact, informational identity style, and unawareness of institutional discrimination. This line of research is invaluable for a variety of reasons. First, institutional discrimination is correlated with the poor health of minority populations (Gee, 2002). Therefore, investigating the relationship among these phenomena is essential to address practical implications of reducing institutional discrimination that proves detrimental to the health of minority populations. Second, there is a move in higher education from a color-blind approach to enhancing successful intergroup contact on university campuses through intergroup awareness. It is thus ever more important to understand factors that reduce color-blind perspectives. Naturally then future research should examine whether increase in informational identity style and reduction in unawareness of institutional discrimination, via intergroup contact experience, leads to behavior change that may impact systems that contribute to unsuccessful intergroup relations on university campuses and the health of impacted students.

The current study did not examine behavior change. While research on attitude change is invaluable, more research is needed regarding examining behavior change. In the future it would invaluable if behavioral outcomes of intergroup contact experience are measured at different time points after the end of the experience to determine if behavior change occurs and persists. Secondly, future research should specifically examine whether increase in informational identity style and reduction in
unawareness of institutional discrimination persists beyond the initial intergroup contact experience and whether these outcomes are linked to behavior change.

Replication of the current study should include follow-up interviews with participants and/or group leaders in order to develop greater understanding of findings. Follow-up interview questions could center on the following: (1) perceptions of DOR course format change, (2) experience of completing questionnaires, (2) why participants or leaders chose to participate in DOR course, (3) participants’ or leaders’ expectation for the experience, and (4) examples of behavior changes. Which questions are most appropriate for follow-up would be determined by the timing of the follow-up interviews.

Lastly, as mentioned earlier, the results discussed within this chapter are within the narrow scope of one possible outcome (e.g., color-blind racism), but there are countless others that could have been investigated. For example, in this predominantly non-White sample, various qualitative and quantitative measures of change could have been considered such as: (1) examination of whether participants were able to reach their personal goals through participation (e.g., be able to communicate authentic thoughts about race and culture in the company of White students), (2) examination of whether there was change in empathy specifically for White individuals, (3) examination of whether non-White participants perceived a reduction of racial micro-aggressions over the course of the group experience, or (4) examination of facilitators’ perception of change on study variables in their group members in comparison to student perception.

As mentioned earlier, results suggest that informational identity style is a significant predictor of unawareness of institutional discrimination. Though this finding is somewhat tentative, given the exploratory nature of the analysis, it has implications for practice regarding intergroup relations’ programming on university campuses. First, experiences that may enhance the development of an informational identity style should be incorporated in such programming. Second, programming would
benefit from the incorporation of intergroup contact experiences. Such programming initiatives may lead to greater intergroup success on university campuses.
References


CIRCLE (The Center for Information and Research on Civic Learning & Engagement Staff (n.d.) “The 2008 presidential election and young voters” retrieved on September, 21, 2008 from *www.civicyouth.org.*


Appendix A

Application for DOR Course

There are two sections of the Dialogues on Race (DOR) course this semester. The first section of the course will begin on (place date here) and last until (place date here). The second section of the course will begin on (place date here) and last until (place date here). Each section will consist of 4 hours of group experience per week. Groups will also attend a one day retreat at Shaver's Creak date TBA. Efforts will be made to ensure as diverse and equal racial and ethnic representation as possible in each group. You will be assigned to start your group either during the first or second section of the semester. Participation in this program is worth three CNED course credits.

Name: Phone #: 
Gender: Age: 
Email Address: 
Major: Have you participated before? Y/N 
Semester you plan to graduate: 
Grad or undergrad status: 
Race/ethnic background: 
What do you hope to gain from participation in a Dialogue on Race group?

What times are you available for your DOR group? (next to answers with two choices you can enter both choices if you are available)

(place group days and times here)
(place group days and times here)
(place group days and times here)
(place group days and times here)
(place group days and times here)
Appendix B

Written Recruitment Script

Hi! My name is Jocelyn Williams. I am a 3rd year Counseling Psychology doctoral student here at Penn State. I am looking for volunteers to participate in my research study. This study has been approved by the Institutional Review Board at Penn State. I am recruiting all students age 18 and over to participate in the study. The purpose of the study is to research factors that influence the process of intergroup contact in the Dialogues on Race (DOR) course/groups. I do not want you to make a decision at this time. I want to give you some time to think about it and ask me questions. I will offer you the informed consent form at the first group meeting in the DOR course. At that time you can make your decision about whether you would like to participate in the study. You may contact me at jaw1017@psu.edu or 814-574-7657 if you have any questions regarding the study.
Appendix C

Acceptance Letter

Hello,

Your application of interest to participate in the DOR course was successfully submitted on Psych Data. All of the group/course applications for this semester have finally been processed and section assignments made. Everyone was assigned to either the first section or the second section of the group/course for this spring 2008 semester.

If you are receiving this email, then you have been assigned to the (place section here) section. Since you were assigned to (place section here) of the group/course your first day of the group/class will begin on (place date here). The group that you were assigned to meets on (place days and times here). Your group meets in (class location). Your group facilitators are (place names here). Note that these groups are experiential in nature. Therefore, attendance and participation are crucial and will affect your grade.

You must go online to the website: http://www.psychdata.com and complete survey# (place survey number here). After you complete the survey, you will be registered for the course and may report to your assigned group.

We’re anticipating another good semester of dialogues and hope that you are looking forward to a stimulating, challenging and educational experience. The goal is to learn about your own cultural values and beliefs as well as those of others. Hopefully you will challenge yourself to do just that. If you have any further questions contact Jocelyn Williams at jaw1017@psu.edu.

Sincerely,

Jocelyn Williams, M.Ed

and

D’Andre Wilson, Ph.D. Program Coordinator
Appendix D

Informed Consent Form for Social Science Research
The Pennsylvania State University

Title of Project: Dialogues on Race (DOR) course: Factors that Influence Process

Principal Investigator: Jocelyn Williams
1013 S. Allen St. Apt. 205
State College, PA 16801
814-574-7657; jaw1017@psu.edu

Advisor: Kathleen Bieschke, Ph.D.
306 CEDAR Building, University Park, PA 16802
814-865-3296; kbieschke@psu.edu

1. Purpose of the Study:
The purpose of the study is to research factors that influence the process of intergroup contact in the Dialogue on Race (DOR) course/groups.

2. Procedures to be followed:
Participation in this research will not require any activities beyond those expected as part of participation in the DOR course. Procedures involve completing a questionnaire at the beginning and the end of the semester. Completing the questionnaires will take approximately 30 minutes. You will be asked to answer questions about your thoughts and feelings about people and your way of processing identity relevant issues. The researchers would like to use the coursework for research purposes, but would only do so if the student agrees in writing to do this.

3. Discomforts and Risks:
There are no risks in participating in this research beyond those experienced in everyday life.

4. Benefits:
This research might provide a better understanding of factors that influence the process of course/groups focused on dialogue about race. This information could also help to plan programs and make student services better.

5. Duration/Time:
Participation in the research will not require any time beyond participation in the group. Survey forms will be completed during the application process for the DOR course and for the second administration of the survey forms, time will be provided during the DOR groups to complete the forms. It will take approximately 30 minutes to complete the questions during the application process as well as during the DOR groups. The current research project will last for a total of 8 weeks (total of 2 months). During this time, you will spend approximately 1 hour completing questionnaires. The questionnaires are considered coursework for the DOR course. Thus, you will be completing the questionnaires anyway. Therefore the research project does not require any work beyond what is required as part of the course.

6. Statement of Confidentiality: Only the program coordinator and the principal investigator will know your identity. Group facilitators will not know whether or not you have chosen to participate in the study. If this research is published, no information that would identify you will be written. Your participation in this
research is confidential. Only the person in charge, and his/her assistants, will know your identity. The data will be stored and secured at the principal investigator’s home in a locked file cabinet and on a password protected computer. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet by any third parties. The following may review and copy records related to this research: The Office of Human Research Protections in the U.S. Department of Health and Human Services, Penn State University’s Social Science Institutional Review Board, and Penn State University’s Office of Research Protections.

7. Right to Ask Questions: You can ask questions about this research. Contact Jocelyn Williams at (814) 574-7657 or via email at jaw1017@psu.edu with questions. You can also call this number if you have concerns about this research or if you feel that you have been harmed by this study. If you have questions about your rights as a research participant or you have concerns or general questions about the research, contact Penn State University’s Office for Research Protections at (814) 865-1775.

8. Payment for participation: There is no compensation for completing the survey forms during the application process or during class time.

9. Voluntary Participation: Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

10. Age Requirement: You must be at least age 18 or older to participate in the research. If you agree to the information noted above, please sign and date the document below.

11. May the researcher use your coursework for research purposes? Please choose one response. Please circle one option:
1. I DO give my consent to have my work included in this study
2. I DO NOT give my consent to have my work included in this study

Please sign your name and date that you have read and understood this informed consent.

Signature of the Principal Investigator Date

Signature of the Research Participant Date
Hello everyone. My name is Jocelyn Williams. I am a 3rd year Counseling Psychology doctoral student here at Penn State. I am looking for volunteers to participate in my research study. This study has been approved by the Institutional Review Board at Penn State. I am recruiting all students age 18 and over to participate in the study. The purpose of the study is to research factors that influence the process of intergroup contact in the Dialogues on Race (DOR) course/groups. I will now hand out the informed consent that will explain in more detail the study purpose and procedures. After you read, I will collect them. It is important to note that I will collect the consent forms from everyone no matter is you signed them or not in order to protect the confidentiality of those who agree to participate in the study and those who choose not to. You may contact me at jaw1017@psu.edu or 814-574-7657 if you have any questions regarding this study. Thank you for your time today
Appendix F

Demographic Questionnaire

PSU#________________

Date of Birth: ________

Please answer all questions by responding with the answer that best reflects your current situation.

1. What is your age?________

2. What is your gender?________
   1. Male
   2. Female
   3. Transgender

3. What is your sexual orientation?________
   1. Heterosexual
   2. Gay/Lesbian
   3. Bisexual
   6. Other:________

4. Which of the following best describes your race, ethnicity, or cultural background?
   1. Black or African American
   2. Hispanic or Latino (of any race)
   3. American Indian and Alaska Native
   4. White
   5. Native Hawaiian and Other Pacific Islander
   6. Asian
   7. Some Other Race: ______________
   8. Two or More Races: ______________

5. What is your classification?
   1. ___Freshman
   2.___Sophomore
   3.____Junior
   4.____Senior

6. How many times have you taken CNED 498c Dialogues on Race before this semester?_________
Appendix G

The Color-Blind Racial Attitudes Scale

(CoBRAS; Neville, Lilly, Lee, Duran, & Brown, 2000)

Directions. Below is a set of questions that deal with social issues in the United States (U.S.). Using the 6-point scale, please give your honest rating about the degree to which you personally agree or disagree with each statement. Please be as open and honest as you can; there are no right or wrong answers. Record your response to the left of each item.

1 Strongly Disagree 2 3 4 5 6 Strongly Agree

1. ____ Everyone who works hard, no matter what race they are, has an equal chance to become rich.

2. ____ Race plays a major role in the type of social services (such as type of health care or day care) that people receive in the U.S.

3. ____ It is important that people begin to think of themselves as American and not African American, Mexican American or Italian American.

4. ____ Due to racial discrimination, programs such as affirmative action are necessary to help create equality.

5. ____ Racism is a major problem in the U.S.

6. ____ Race is very important in determining who is successful and who is not.

7. ____ Racism may have been a problem in the past, but it is not an important problem today.

8. ____ Racial and ethnic minorities do not have the same opportunities as White people in the U.S.

9. ____ White people in the U.S. are discriminated against because of the color their skin.

10. ____ Talking about racial issues causes unnecessary tension.

11. ____ It is important for political leaders to talk about racism to help work through or solve society’s problems.

12. ____ White people in the U.S. have certain advantages because of the color of their skin.

13. ____ Immigrants should try to fit into the culture and adopt the values of the U.S.

14. ____ English should be the only official language in the U.S.

15. ____ White people are more to blame for racial discrimination in the U.S. than racial and ethnic minorities.

16. ____ Social policies, such as affirmative action, discriminate unfairly against White people.

17. ____ It is important for public schools to teach about the history and contributions of racial and ethnic minorities.

18. ____ Racial and ethnic minorities in the U.S. have certain advantages because of the color of their skin.
19. ____ Racial problems in the U.S. are rare, isolated situations.

20. ____ Race plays an important role in who gets sent to prison.
Appendix H

Interpersonal Reactivity Index

(IRI; Davis, 1983)

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate number on the scale at the top of the page: 1, 2, 3, 4, or 5. When you have decided on your answer, fill in the letter on the answer sheet next to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ANSWER SCALE:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>DOES NOT DESCRIBE ME WELL</td>
<td>DESCRIBES ME VERY WELL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I daydream and fantasize, with some regularity, about things that might happen to me.

2. I often have tender, concerned feelings for people less fortunate than me.

3. I sometimes find it difficult to see things from the "other guy's" point of view.

4. Sometimes I don't feel very sorry for other people when they are having problems.

5. I really get involved with the feelings of the characters in a novel.

6. In emergency situations, I feel apprehensive and ill-at-ease.

7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.

8. I try to look at everybody's side of a disagreement before I make a decision.

9. When I see someone being taken advantage of, I feel kind of protective towards them.

10. I sometimes feel helpless when I am in the middle of a very emotional situation.

11. I sometimes try to understand my friends better by imagining how things look from their perspective.

12. Becoming extremely involved in a good book or movie is somewhat rare for me.

13. When I see someone get hurt, I tend to remain calm.

14. Other people's misfortunes do not usually disturb me a great deal.

15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

16. After seeing a play or movie, I have felt as though I were one of the characters.

17. Being in a tense emotional situation scares me.
18. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them.

19. I am usually pretty effective in dealing with emergencies.

20. I am often quite touched by things that I see happen.

21. I believe that there are two sides to every question and try to look at them both.

22. I would describe myself as a pretty soft-hearted person.

23. When I watch a good movie, I can very easily put myself in the place of a leading character.

24. I tend to lose control during emergencies.

25. When I’m upset at someone, I usually try to “put myself in his shoes” for a while.

26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

27. When I see someone who badly needs help in an emergency, I go to pieces.

28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.
Appendix I

Balanced Emotional Empathy Scale

(BEES; Mehrabian, 1996)

Please use the following scale to indicate the degree of your agreement or disagreement with each of the statements below. Record your numerical answer to each statement in the space provided preceding the statement. Try to describe yourself accurately and in terms of how you are generally (that is, the average of the way you are in most situations -- not the way you are in specific situations or the way you would hope to be).

+4 = very strong agreement
+3 = strong agreement
+2 = moderate agreement
+1 = slight agreement
0 = neither agreement nor disagreement
-1 = slight disagreement
-2 = moderate disagreement
-3 = strong disagreement
-4 = very strong disagreement

_____ 1. I very much enjoy and feel uplifted by happy endings.
_____ 2. I cannot feel much sorrow for those who are responsible for their own misery.
_____ 3. I am moved deeply when I observe strangers who are struggling to survive.
_____ 4. I hardly ever cry when watching a very sad movie.
_____ 5. I can almost feel the pain of elderly people who are weak and must struggle to move about.
_____ 6. I cannot relate to the crying and sniffling at weddings.
_____ 7. It would be extremely painful for me to have to convey very bad news to another.
_____ 8. I cannot easily empathize with the hopes and aspirations of strangers.
_____ 9. I don't get caught up easily in the emotions generated by a crowd.
_____ 10. Unhappy movie endings haunt me for hours afterward.
_____ 11. It pains me to see young people in wheelchairs.
_____ 12. It is very exciting for me to watch children open presents.
_____ 13. Helpless old people don't have much of an emotional effect on me.
_____ 14. The sadness of a close one easily rubs off on me.
_____ 15. I don't get overly involved with friends' problems.
_____ 16. It is difficult for me to experience strongly the feelings of characters in a book or movie.
_____ 17. It upsets me to see someone being mistreated.
18. I easily get carried away by the lyrics of love songs.
19. I am not affected easily by the strong emotions of people around me.
20. I have difficulty knowing what babies and children feel.
21. It really hurts me to watch someone who is suffering from a terminal illness.
22. A crying child does not necessarily get my attention.
23. Another's happiness can be very uplifting for me.
24. I have difficulty feeling and reacting to the emotional expressions of foreigners.
25. I get a strong urge to help when I see someone in distress.
26. I am rarely moved to tears while reading a book or watching a movie.
27. I have little sympathy for people who cause their own serious illnesses (e.g., heart disease, diabetes, lung cancer).
28. I would not watch an execution.
29. I easily get excited when those around me are lively and happy.
30. The unhappiness or distress of a stranger are not especially moving for me.
Appendix J
Identity Style Inventory-3rd Revision
(ISI3; Berzonsky, 1997)

INSTRUCTIONS
You will find a number of statements about beliefs, attitudes, and/or ways of dealing with issues. Read each carefully, then use it to describe yourself. On the answer sheet, bubble in the number which indicates the extent to which you think the statement represents you. There are no right or wrong answers. For instance, if the statement is very much like you, mark a 5, if it is not like you at all, mark a Use the 1 to 5 point scale to indicate the degree to which you think each statement is uncharacteristic (1) or characteristic (5) of yourself.

1. Regarding religious beliefs, I know basically what I believe and don't believe.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

2. I've spent a great deal of time thinking seriously about what I should do with my life.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

3. I'm not really sure what I'm doing in school; I guess things will work themselves out.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

4. I've more-or-less always operated according to the values with which I was brought up.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

5. I've spent a good deal of time reading and talking to others about religious ideas.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

6. When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

7. I know what I want to do with my future.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

8. It doesn't pay to worry about values in advance; I decide things as they happen.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

9. I'm not really sure what I believe about religion.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

10. I've always had purpose in my life; I was brought up to know what to strive for.
    (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)
11. I'm not sure which values I really hold.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

12. I have some consistent political views; I have a definite stand on where the government and country should be headed.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

13. Many times by not concerning myself with personal problems, they work themselves out.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)


(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

15. I'm really into my major; it's the academic area that is right for me.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

16. I've spent a lot of time reading and trying to make some sense out of political issues.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

17. I'm not really thinking about my future now; it's still a long way off.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

18. I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

19. Regarding religion, I've always known what I believe and don't believe; I never really had any serious doubts.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

20. I'm not sure what I should major in (or change to).

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

21. I've known since high school that I was going to college and what I was going to major in.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

22. I have a definite set of values that I use in order to make personal decisions.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

23. I think it's better to have a firm set of beliefs than to be open-minded.

(NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

24. When I have to make a decision, I try to wait as long as possible in order to see what will happen.
<p>| | | | | | |</p>
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<tr>
<td>25.</td>
<td>When I have a personal problem, I try to analyze the situation in order to understand it.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>26.</td>
<td>I find it's best to seek out advice from professionals (e.g., clergy, doctors, lawyers) when I have problems.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27.</td>
<td>It's best for me not to take life too seriously; I just try to enjoy it.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>28.</td>
<td>I think it's better to have fixed values, than to consider alternative value systems.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>29.</td>
<td>I try not to think about or deal with problems as long as I can.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>30.</td>
<td>I find that personal problems often turn out to be interesting challenges.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>31.</td>
<td>I try to avoid personal situations that will require me to think a lot and deal with them on my own.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>32.</td>
<td>Once I know the correct way to handle a problem, I prefer to stick with it.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>33.</td>
<td>When I have to make a decision, I like to spend a lot of time thinking about my options.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>34.</td>
<td>I prefer to deal with situations where I can rely on social norms and standards.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>35.</td>
<td>I like to have the responsibility for handling problems in my life that require me to think on my own.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>36.</td>
<td>Sometimes I refuse to believe a problem will happen, and things manage to work themselves out.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>37.</td>
<td>When making important decisions I like to have as much information as possible.</td>
<td>(NOT AT ALL LIKE ME)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
38. When I know a situation is going to cause me stress, I try to avoid it.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

39. To live a complete life, I think people need to get emotionally involved and commit themselves to specific values and ideals.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)

40. I find it's best for me to rely on the advice of close friends or relatives when I have a problem.
   (NOT AT ALL LIKE ME) 1 2 3 4 5 (VERY MUCH LIKE ME)
Appendix K

Group Cohesion Subscale of the Group Environment Questionnaire

(GES; Moos, 1994)

Directions: There are nine statements about groups. You are to decide which of these statements are true of your group and which are not. If you think the statement is True or mostly true, place a T in the blank space next to the question. If you think the statement is False, place an F in the blank space next to the question.

1. _______ There is a feeling of unity and cohesion in this group.
2. _______ There is very little group spirit among members.
3. _______ There is a strong feeling of belongingness in this group.
4. _______ Members of this group feel close to each other.
5. _______ Members put a lot of energy into this group.
6. _______ A lot of members just seem to be passing time in this group.
7. _______ The members are very proud of this group.
8. _______ This is a rather apathetic group.
9. _______ This group is a good place to make friends.
Appendix L

Counselor Rating Form-Short

(CRF-S; Corrigan & Schmidt, 1983)

We would like you to rate several characteristics of your therapist: _______. For each characteristic on the following page, there is a seven-point scale that ranges from "not very" to "very." Please mark an "X" at the point on the scale that best represents how you view your therapist. For example:

FUNNY

not very    ______:_____:_____:_____:_____:_____:_____: very

WELL DRESSED

not very    ____:_____:_____:_____:_____:_____:_____: very

These ratings might show that the therapist does not joke around much, but dresses wisely.

Though all of the following characteristics are desirable, therapists differ in their strengths. We are interested in knowing how you view these differences.

FRIENDLY

not very    ____:_____:_____:_____:_____:_____:_____: very

EXPERIENCED

not very    ____:_____:_____:_____:_____:_____:_____: very

HONEST

not very    ____:_____:_____:_____:_____:_____:_____: very

LIKABLE

not very    ____:_____:_____:_____:_____:_____:_____: very

EXPERT

not very    ____:_____:_____:_____:_____:_____:_____: very

RELIABLE

not very    ____:_____:_____:_____:_____:_____:_____: very

SOCIABLE
not very  

PREPARED
not very  

SINCERE
not very  

WARM
not very  

SKILLFUL
not very  

TRUSTWORTHY
not very  

very
Appendix M

Check for Outliers

First, Cook's distance (D) examines the residuals (errors) of all cases and whether they would change if a particular case were deleted from the regression equation. A large Cook's D indicates that removing a specific case from the regression analysis would change the unstandardized regression coefficients substantially. Cook and Weisberg in 1982 indicated a Cook's D value exceeding 1.0 for a specific case should be considered unacceptable and consideration should be given to treating the case with such a value or larger as an outlier. In the current study the Cook's D ranged from a low of 0.000 to a high of 0.223 with a mean Cook's D of .035 (sd = .049).

Second, related to the Cook's D is the DFBETAS that reflect the differences in the regression coefficients that result when a specific case is removed from the regression analysis. Myers and Well (2003) indicate a cutoff should be established using the equation 2/ Square Root of N. Thus in this case the cutoff is .3 or higher. The DFBETA value means for the regression coefficients for all the predictor variables ranged from a low of < .00001 (sd = .007) to a high of .005 (sd = .21). The DFBETAS were used rather than DFFITS values because DFBETAS analysis includes all regression coefficients simultaneously whereas DFFITS examines only the coefficient for Y'.

Third, SPSS computes a Centered Leverage Value using the equation of (Number of cases -1)/Number of cases. Using this equation the centered leverage cutoff value was .97. In essence centered leverage values greater than .97 suggest a problematic case in the regression analysis. In this study the Centered leverage values ranged from a low of .003 to a high of .196 with a mean of .083 (sd = .052). This is a second analysis which indicated relatively minor issues related to outliers. It is important to indicate that different authors suggest other values as the cutoff. For example Neter, Kutner, Nachtsheim and Wasserman (1996) indicate that leverage values above .5 should be considered as high leverage and values of .2 to .5 reflect moderate leverage. In this study one case came very close to reflecting moderate leverage using their criteria for moderate and high leverage.

Fourth, SPSS computes the Mahalanobis Distance Value which is closely related to the Centered leverage Value. Mahalanobis distance values indicate how much a specific cases values on the independent variables differ from the average of all cases on the independent variables. Large Mahalanobis distance values indicate greater variation from the other cases. In the current study the low Mahalanobis distance was .105 and the high Mahalanobis distance was 6.86 with a mean of 2.9 (sd = 1.8). SPSS statisticians routinely suggest a case with a Mahalanobis value greater than approximately 4 may be problematic. To interpret the Mahalanobis value it is best to use a Chi square table rather than to follow a general guideline, especially in the case with a relatively low number of subjects. The approach recommended by Tabachnick & Fidell (2007) was used and resulted in the critical cutoff value of 16.27 (df = 3, p <.001). The highest Mahalanobis value was 6.86; therefore, all cases were judged to be within the acceptable criterion.
EDUCATION

Doctor of Philosophy in Counseling Psychology, August 2009
The Pennsylvania State University, University Park, PA

Master of Education in Counseling, August 2004
University of Houston, Houston, TX

Bachelor of Arts in Psychology, August 2000
Texas A & M University, College Station, TX

PRESENTATIONS/PUBLICATIONS


COUNSELING EXPERIENCE

Staff Psychologist - High Desert State Prison in Susanville, CA—starting 9/09

Pre-Doctoral Psychology Intern - Counseling & Psychological Services, University of California State University- 08/08-07/09

Advanced Practicum Counselor - Centre Volunteers in Medicine, State College, PA-08/07-12/07

Sex Offender Program Counselor - State Correctional Institution (SCI) at Rockview, Bellefonte, PA 05/07-08/07

Practicum Counselor - Counseling and Psychotherapy Services (CAPS), the Pennsylvania State University- 06/06-05/07