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Effect of a diversity training workshop on college students' prejudice and awareness of privilege

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EFFECT OF A DIVERSITY TRAINING WORKSHOP ON COLLEGE
STUDENTS’
PREJUDICE AND AWARENESS OF PRIVILEGE

by

David M. Kasson, MS

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Abstract

Universities and college are attempting to build more multicultural environments with various programming. One type of program is the prejudice-reduction workshop. Such programs are believed to encourage reductions in participants’ prejudicial attitudes and biases. Another consideration is whether such interventions may promote elevations in students’ multicultural awareness and sensitivity. Verification of the effectiveness of such programs is often lacking. A common prejudice-reduction workshop employed on college campuses is the National Coalition Building Institute’s (NCBI) Welcoming Diversity/Prejudice Reduction Workshop (NCBI, 2001). The model is purported to encourage reductions in participants’ prejudice and encourage an appreciation for diverse people. However, there is a paucity of research that demonstrates the workshop’s effectiveness at the individual level.

Established theories such as Intergroup Contact Theory (ICT; Allport, 1954) guide prejudice-reduction interventions. Using the perspective of ICT, the current study employs a quasi-experimental method to investigate the effectiveness of NCBI’s one-day workshop on participants’ racist and sexist attitudes and their awareness of privilege and oppression. A convenience sample of resident advisors was employed, and a sample of student leaders was used as a comparison group. A series of t-tests were used to examine the effectiveness of the workshop at post-treatment and follow-up, and ANOVA comparisons were made across groups. The study’s major hypotheses were not confirmed. However, follow-up analysis showed that the intervention may have subtly increased the experimental group’s awareness of Christian privilege (relative to the
comparison group). The implications of the results are discussed in terms of practice, theory, and research.
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CHAPTER I

Introduction

According to Banks and Banks (2001), the educational and social demands of the 21st century require universities to develop citizens who construct and support a democratic and just society. The creation and maintenance of this just system is one that allows all persons access to education and thus gain full participation in the society. The matter of “all persons” points to issues of human diversity, that is, people with a multiplicity of majority and minority identities.

Diversity issues matter from both moral and practical perspectives. From a moral perspective, diversity issues are critical to correct the historical injustices committed against individuals from minority identities. Minority groups from within various domains (e.g., class, ability, gender, naturalization status, religion, sexual orientation, and race/ethnicity) continue to encounter prejudicial attitudes and behaviors. The educational system in the U.S., although faulted by institutional forms of oppression, inspired by the hope to provide knowledge and skills for all citizens, and in an attempt to right the wrongs of institutional oppression, must answer a growing need to better serve students from historically marginalized groups. As the university is one of the few settings where people often come into contact with others different from themselves, the campus setting stands to be a pivotal environment where prejudice towards oppressed groups can be addressed (Worthington, Hart, & Khairallah, 2010). The creation and maintenance of a “pro-diversity” environment promises to not only change attitudes but also fulfills the promise of equal access to educational attainment. From a social justice perspective, the
multicultural environment is a critical part of providing equal access to education for all citizens (Worthington et al., 2010).

From a practical perspective, diversity is important not only to marginalized populations. Research suggests that experiences with diversity are important in the educational, social, and vocational development of majority students (Chang, 1999; Gurin, Dey, Hurtado, & Gurin, 2002; Jayakumar, 2008) and the role it plays in the development of cognitive complexity of all students (Antonio, et al., 2004; Jayakumar, 2008; Zúñiga, Williams, & Berger, 2005). It stands to reason that diversity issues are important for all members of the university community. If creating and maintaining an environment where diversity issues are supported is important, a vital question remains: How is this accomplished?

**The University Environment and Multicultural Diversity**

Despite a widely-held belief that university environments consistently promote politically liberal, tolerant, and pro-diversity attitudes (see Horowitz, 2006, for example), universities have become more concerned about intolerant attitudes and behaviors. In the 1980s and 1990s, spikes in intergroup violence on campus became a concern for university administrators. Reports of various types of discriminatory behaviors on campus persist today. Hate crime incidents compiled since 1997 show that, over a 10-year period, 11% of an average 8900 hate crimes occur in schools or universities (FBI, 2010). Recent anecdotal evidence exists as well. In March, 2010, a K.K.K. type hood was hung in plain sight on the University of San Diego campus. In April, 2012, a Boston College student was physically attacked: the assailant slashed at her legs while using racist slurs. In May, 2013, several incidents occurred on the campus of Miami University
(Oxford, Ohio), in which fliers with racist, anti-Semitic and homophobic language and swastika were circulated. We see from these incidents that explicit discriminatory behaviors against marginalized groups have persisted into the current period. Thus, intervening at the campus level is important to address lingering and recurring effects of various types of prejudice (Alexander et al., 2010).

**How to Develop the Pro-Diversity Environment**

Universities respond to immediate crises (i.e., in the service of social justice) or to the overall trend in multicultural studies (i.e., in the pragmatic service of educating students) in several ways. They employ educational tools such as relevant multicultural curricula and coursework, integrate cultural programming throughout the academic year, and conduct diversity training workshops for the campus community.

One approach to fostering a multicultural environment is the implementation of coursework. The American Association of Colleges and Universities recognized the importance of diversity by recommending that universities teach students about diverse cultures and communities and encourage the use of such information to endorse democratic ideals (AACU, 1995). Universities and colleges appeared to have heeded this call by designing “diversity courses.” Humphreys (2000) found that approximately 62% of today's colleges and universities have or are in the process of developing a diversity course requirement for their undergraduate students. This action reinforces the present diversity zeitgeist to develop affirming environments that welcome diversity in many forms.

A second way that universities promote diversity is through the use of “multicultural programming.” University administrators encourage special interest
groups to hold events and activities that educate about, or promote the needs and/or champion the rights of, their specific group. Examples include Pride Awareness events sponsored by the LGBT alliance, “Unity Day,” sponsored by an African-American organization, a sale of craftwork designed by students with disabilities and supported by a Disability Student Services, and a Palestinian rights rally sponsored by a Muslim student organization. The expectation is that these different groups are provided a venue to express their unique voices and engage the campus community in instruction and discussion of group differences. In response to the need for management of such activities, and in parallel to the business community, administrators have developed chief diversity officers which are now common in many university structures (Gose, 2006).

A third method of multicultural development is diversity training. In the 1990’s and early 2000’s, often developed by or supported by the efforts of diversity officers, a stronger focus on multicultural issues has evolved in the university setting (AACU, 1995). Various organizations or individuals within organizations developed diversity training workshops (e.g., National Multicultural Institute’s course, “Building Cultural Competence;” the Anti-Defamation League’s workshop, “A Campus of Difference”) and devoted courses that target diversity through activities such as didactic and experiential activities or intergroup dialogues (e.g., University of Missouri-Columbia, 2009). These approaches are often informed by the prejudice reduction and peer-intervention literature (Engberg, 2004; Paluck & Green, 2009), which typically focuses outcomes on the reduction of bias (Paluck & Green, 2009). Diversity training interventions have been broadly criticized on two grounds: 1) Interventions tend to lack a clear theoretical basis; and 2) their effectiveness is rarely evaluated with sound empirical research (Kalev, Kelly,
& Dobbin, 2006; Paluck, 2006). This means that the implementation of campus diversity trainings may lack evidence; if diversity trainings are not effective, administrators would be duly informed that their resources should be focused on other interventions, such as multicultural programming or coursework.

One such diversity training intervention that has been used in many educational institutions as well as private corporations is the National Coalition Building Institute’s (NCBI) Welcoming Diversity/Prejudice Reduction Workshop (NCBI, 2001). Founded in 1987 NCBI began among Jewish and African-American community leaders in response to various inter-ethnic riots that occurred in the U.S. in the 1960s. Personally affected by the conflicts in their communities, NCBI founders worked with other concerned citizens to find new solutions to entrenched conflicts between different groups. The work later included addressing the ongoing conflict between Israelis and Palestinians. NCBI grew from a small group of neophyte activists to a multi-national, non-profit organization with a presence in communities and college campuses across the U.S. and in several countries (Brown & Mazza, 2005). Although NCBI has gained some prominence as a force of individual and group change, independent scientific evaluation of its effectiveness in promoting changes in participants’ attitudes, beliefs, or behaviors is lacking.

Although the focus of most diversity training is on moderating prejudiced beliefs and reducing or avoiding discriminatory actions (Paluck & Green, 2009; Miville et al., 1999), it is also conceivable that diversity training focus on encouraging more positive, pro-diversity attitudes and beliefs. This “pro-diversity orientation” or “multi-cultural personality” (e.g., Brummett et al., 2007; Ponterotto et al., 2006) refers to enhancing favorable attitudes regarding diversity, i.e., developing individuals who are more than
“prejudice avoiders” or “bias challengers,” but “diversity proponents,” tolerant and open individuals who understand the social forces of privilege and oppression (and who, ostensibly, contribute to a more multicultural environment). A specific area of interest is an individual’s awareness of social injustice, or their understanding of the social realities of various forms of social privilege and oppression.

To address the pattern of intervention studies demonstrating little methodological rigor, a helpful study would be one that demonstrates the effectiveness of a diversity training intervention in comparison to a control group. This study utilized a convenience sample of university resident assistants to examine the effects of a diversity training workshop on college students’ attitudes across a two-week time period and at a three-month follow-up.

The study aligns with prior research in this area by incorporating a prejudicial attitudes measure as one outcome variable; it also involves a more novel approach of including a person’s awareness of privilege and oppression as a second outcome measure. The collection of data occurred in a pre-post-follow-up series, for both an experimental and a control group. The first collection of data collection for both groups occurred one week prior to the training, the collection at post-intervention occurred within two weeks of completion of the intervention, and finally, a follow-up data phase occurred three months after the intervention. In so doing, this study examined the effectiveness, and maintenance effect, of a diversity training workshop in 1) decreasing college students’ prejudicial attitudes and 2) increasing their awareness of privilege and oppression.
Implications of the Study

This study was executed with the intention of supplying several benefits to the literature. First, the study provides a rationale for using awareness of privilege and oppression in the context of the positive side of prejudice reduction interventions; that is, besides reducing prejudicial attitudes or behaviors, diversity training workshops might also elevate awareness of privilege and oppression. Findings of the study are of particular interest to diversity officers who want to maximize the return on investment in either semester-long required courses or brief diversity training workshops.

Finally, a critical impetus for this study is the fact that there are few rigorously controlled experiments that incorporate psychometrically sound outcome measures around prejudice reduction interventions (Paluck & Green, 2009), as will be elucidated in the following literature review. The proposed study fills some of this gap in the prejudice reduction literature. The studies included in the following review focus on prejudice reduction interventions designed for college students.
CHAPTER II

Review of the Literature

The purpose of this study was to test the effectiveness of a diversity training workshop with respect to college students’ racist and sexist prejudicial attitudes and their awareness of privilege and oppression. One impetus of this study is the fact that there are relatively few well-controlled studies demonstrating the effectiveness of diversity training and prejudice reduction interventions (Paluck, 2006; Paluck & Green, 2009). A review of the literature on prejudice reduction interventions and clarification of relevant constructs to this study reveals what has been studied about prejudice reduction interventions and what areas require additional study. This review covers interventions that focus on the reduction of prejudice, as well as those designed to improve intergroup relations, respectively.

Prejudice-Reduction Trainings for College Students

There is little accounting of the various diversity training interventions found in university settings. One survey found 70% of institutions provided diversity training workshops of some kind (McCauley, Wright & Harris, 2000). These workshops tended to include the following activities: sharing stories of bias or discrimination, exploration of ethnic differences, examination and discussion of handouts on diversity topics, inviting personal contact with minority participants, diversity-themed lectures, discussion of campus incidents, role playing/behavioral training, discussion of diversity-related videos, participating in and analyzing multicultural-themed skits, self-discovery exercises (e.g., personality inventories), and discussion of case studies. The power of a diversity training workshop may lie in the differences found in norms from those in the classroom,
including the disruption of atypical social norms for strangers. Diversity trainings on campus tend to forego the tentative sharing of personal information and polite emotional control, and instead urge open expression of emotional experiences (McCauley et al., 2000). There is no aggregate account of how different diversity trainings accomplish individual or group-level change. It appears that colleges implement such trainings with as-yet unverified interventions, assuming they reduce prejudice or facilitate an openness towards diversity. Despite a dearth of research on diversity training per se, some evidence demonstrates that college students’ prejudicial attitudes can be modified, the research of which is summarized in this section.

An oft-discussed prejudice reduction training is Elliot’s “Blue-eyes/Brown-eyes” training (Elliot, 2003) during which students with brown eyes are treated preferentially for one day while blue eyed participants are neglected or marginally treated; the experience is designed for students to experientially understand and discuss the effects of discrimination. Stewart, LaDuke, Bracht, Sweet, and Gamarel (2003) examined the effects of this experiential training on a diverse sample of college students. A control group heard several lectures on intergroup relations and the experimental group participated in the “Blue-eyes/Brown-eyes” training. Experimental participants with the “preferred” brown-eyes enjoyed preferred status, while those with blue-eyes were sometimes harassed or neglected over an eight hour period. Following this manipulation, participants then processed their experiences of being a privileged or oppressed group member. Experimental and control groups were compared on three different measures of racial prejudice: social distancing, modern racism, and motivation to control prejudice.
The experimental group had significantly greater scores than the control group on social distancing.

Springer, Palmer, Terenzini, Pascarella, and Nora (1996) used survey data from several universities that offered a campus diversity workshop to students. Results showed that participants had significantly more positive attitudes toward diversity than did those who abstained from participation. The finding was demonstrated across gender and academic major. However, the data were correlational and there were other significant flaws that limited the authors’ ability to make strong inferences. Other limitations of this study were that the attitude toward diversity measure consisted of only two items, the nature of the diversity workshops greatly varied or was not reported, and the results were limited to the experiences of first-year White students.

Hyun (1994) also reported survey data over a four-year period that explored the relationships of multiple proximal variables (e.g., personal view that racism is not a serious societal problem) and distal variables (e.g., the institution’s level of social activism) on the degree to which students believed that helping to promote racial understanding (HPRU) was important. Participation in a racial workshop predicted 9% of the variance in student agreement that HPRU is important, after several demographic (e.g., socioeconomic and socio-political) and environmental (e.g., institutional activism and institutional SES) factors were taken into account. Various limitations to validity and generalizability exist in this study. The authors provided no details about any type of racial workshop and they employed a one-item indicator of pro-diversity attitudes. Most importantly, the study’s non-experimental design does not warrant strong inferences about a particular workshop’s effects.
Neville and Furlong (1994) employed more sound experimental methods to test the attitudinal and behavioral effects of college students who attended a six-week cultural awareness program. The study compared five different ethnic groups’ racial attitudes following participation in the cultural awareness program, a parallel personal development program, or a wait-list control condition. The study’s hypotheses were largely non-supported. Drawbacks to the study include the use of non-standardized measures. Specifically, the attitudinal outcome was measured by modified racial attitudes scales, and the behavioral outcome was measured by an author-developed scale that recorded inter-racial social activities.

Furuto and Furuto (1983) compared cognitive and affective trainings on White Hawaiian university students. The cognitive training group consisted of didactic learning methods, such as lectures and small group discussion. The affective training group used more experiential procedures, such as listening to the stories of ethnic minority members and taking field trips to ethnic enclaves. Results showed that the affective treatment was more effective in shifting White students’ attitudes towards minority groups. However, the conclusions are questionable, since the validity and reliability of the measures were only explained superficially.

Pagtolun-an and Clair (1986) examined college students’ homophobia. Students in a “deviant behavior” course were randomly placed with a gay-identified presenter who discussed homosexual stereotypes; the authors are somewhat unclear but presumably, participants in the control condition were placed in class periods that discussed homosexual stereotypes but did not have a gay-identified instructor. Employing a Solomon four-group design, the researchers found that the intervention appeared to
successfully decrease homophobia. The results are tempered by the use of an amended scale and the limited description of the sample’s demographic characteristics.

Sedlacek, Troy and Chapman (1976) tested three different racism and sexism reduction workshops for White college freshmen. One workshop consisted of primarily didactic instruction about differences in lived experiences between different racial groups and between men and women. The second workshop included an experiential activity in which group members were assigned different social statuses; those with the highest status were given preferential treatment by the group leaders and were later allowed to change the rules for all members. This stage was followed by structured discussion about institutional sexism and racism. The third workshop consisted of viewing a movie that dealt with racist and sexist themes, followed by an unstructured discussion. On most items, the first workshop either outperformed the other two, or both the first and second workshop outperformed the movie/discussion training. However, there were no standardized, psychometrically sound outcome measures for this study.

As evidenced by this review, the literature on prejudice reduction interventions with college students shows great variability with respect to type and quality of methodology. First, there is great variability in outcome measures and some are less psychometrically sound. Second, the outcomes often focus on racial attitude change of White majority students. Furthermore, the descriptions of the interventions used in the studies are often insufficient, making it difficult to identify the elements of the intervention that are related to attitude change. The current study addressed some of these limitations by a) investigating a commonly-used diversity training method across college settings, b) employing a quasi-experimental design with a comparable control
group, and c) using validated outcome measures that explore multiple attitudes. Specifically, this study focused on the change in college students’ race- and gender-based prejudicial attitudes. The study also focused on the change in their awareness of privilege and oppression, which is the basis for “the other side of prejudice reduction,” that is, improving intergroup relations.

**Intergroup Dialogues**

Some universities are using intergroup dialogues (IGD) programs to improve relations among diverse student groups. IGD is defined as a sustained, interpersonal (usually peer-) facilitated discussion which is designed to examine difficult issues affecting members of different social identity groups (Zúñiga & Nagda; 1993; Wayne, 2008). These discussions differ from classroom learning or other highly structured settings in that they utilize much more collaborative processes with facilitators in order to discuss and critique social inequalities; the IGD engages discussion among peers with a “dialogic process,” instead of employing debate or critical analysis. The research on this program has frequently been done with convenience samples of undergraduate students enrolled in diversity courses, with social work graduate students, or with self-selected high school students whose home school has an investment in improving intergroup relations. The studies are often limited with respect to rigor, but most demonstrate positive results.

One early study (Nagda et al., 1999) researched the effects of IGD on undergraduate social work students enrolled in a semester-long diversity course. The course components consisted of both lecture sessions on various cultural topics (e.g., “racism, sexism and classism,”) and IGD sessions with a focus on easily-relatable
intergroup topics among a diverse group (e.g., “expressing one’s social group membership and identities,” and “navigating interracial/ethnic relationships”). The method of analysis included focus groups, surveys, interviews, and observation of the group interactions. Students appeared to gain substantial benefits from the course; they came to value differing viewpoints, elevated their awareness of social inequalities among different groups, and understood the impact of social group membership on their identity. However, it is noteworthy that the study did not narrow the focus to the impact of IGD or the dialogic process, solely.

Another study (Nagda & Zúñiga, 2003) executed a 7-week IGD program for 42 undergraduates to investigate if the IGD program overall (or, if some of its specific processes, such as dialogic process) engendered change. The overall program seemed to increase most participants’ awareness of their racial identity. The dialogic process was found to have several benefits: increasing the frequency of thinking about one’s group membership; increasing perspective-taking ability (e.g., ethnocultural empathy); elevating personal comfort in discussing racial differences; improving attitudes about conflict (i.e., emotionally-charged discussions about issues such as race); and raising interest in bridging differences. All of these effects were found for the White students and several were found for students of color. No control or other comparison group was employed.

Nagda, Kim and Truelove (2004) examined an IGD program to explore whether the learning outcomes from the IGD process mediate the effects of both structured, didactic parts of an IGD program (or, “enlightenment” -based) and experiential, dialogic process IGD (or, “encounter” -based) on two behavioral outcomes, such as interrupting
culturally prejudiced remarks, or refusing to participate in jokes considered derogatory to a group. The authors studied 175 undergraduate social work students who engaged in the IGD program (in this case, a college course) that involved clearly differentiated enlightenment-based and encounter-based activities. Upon completion of the course, students displayed significant increases in their motivation for decreasing their own (and others’’) prejudicial attitudes and behaviors. Again of note, there was no control group with which to compare results.

A mixed-methods study (Wayne, 2008) was used to examine how an IGD-related program (“Operation Understanding D.C.; OUDC, 2006) could decrease prejudicial attitudes between African-American and Jewish high school students. Forty-three students participated in a three-phase model over approximately 9 months and that included: (1) educational and recreational experiences (e.g., community lectures on African-American or Jewish histories) and structuring discussion around those experiences; (2) summer field trips to important civil rights monuments or civil rights activists; and (3) visiting churches, synagogues and schools to educate others about their experiences. Quantitative measures consisted of six six-item measures with questions that tapped a person’s perception of intergroup similarity of beliefs, their subjective anxiety while in the company of members from the other group, and their perception of intergroup understanding. In general, both quantitative and qualitative results indicated that participation in the program decreased race-related and anti-Semitic discriminatory attitudes and increased cognitive and affective understanding between the groups. However, one negative finding was that participants’ optimism about the future of intergroup relations did not improve.
Dessel (2010) employed intergroup dialogue in addressing sexual orientation prejudice with public school teachers. The intervention employed a standardized form of IGD, randomly assigned nineteen teachers to experimental and control groups, and used a behavioral outcome measure (i.e., intention to lend professional support for an LGB individual) as well as various standardized attitudinal and cognitive measures. The IGD intervention consisted of three 3-hour discussion groups over two weeks, and included unstructured discussions about LGB-related issues that participants generated, facilitated by the researcher and by LGB community outreach workers. Results from a mixed-methods design suggested the intervention encouraged an increase in participants’ pro-social attitudes, beliefs, and behaviors for the experimental group, relative to the controls.

IGD has also been used to examine some long-term improvement of intergroup relations. Spencer, Brown, Griffin, and Abdullah (2008) employed IGD processes with 86 high school students across three years. The intervention employed four stages, (i.e., a forming stage, two working stages, and a termination stage), with one stage devoted to IGD, and another working stage devoted to conflict resolution activities. Using pre- and post-test brief measures, the authors found that students increased their critical social awareness and promoted intergroup relations. There was no control or other comparison group for the study.

Upon reviewing this piece of the literature, we see that researchers are using IGD in various formats to demonstrate college students’ ability to improve their relationships with others different from themselves. Although the studies are rich with information, and offer some evidence about the benefits of the IGD programs, the studies typically employ an unstandardized form of IGD with convenience samples, often fail to employ
comparison groups, and typically study outcome variables measured by unstandardized methods.

**National Coalition Building Institute (NCBI) Welcoming Diversity Workshop**

The current study explored the effect of a particular diversity training intervention on college students’ prejudicial and pro-diversity attitudes, i.e., an intervention based on the National Coalition Building Institute (NCBI) model. According to the NCBI literature (Brown & Mazza, 1984; NCBI, 2001), the Welcoming Diversity/Prejudice Reduction Workshop Model (hereafter, referred to as “The NCBI Model”) was designed to engender individual-level change for participant members, and by extension, develop community-level change.

**Theoretical Underpinnings.** The NCBI model is rooted in basic social psychological theories of intergroup contact and attitude change, or ICT (Allport, 1954; Pettigrew, 1998; Pettigrew & Tropp, 2006; Williams, 1947). The emphasis of individual-level change bringing about community-level change when newly-aware, skilled trainees interrupt prejudicial comments is emphasized in the program’s guiding principles:

1. Every person and every group matters.
2. Recognizing the misinformation learned about other people and other groups helps individuals move forward (i.e., towards relinquishing prejudiced attitudes).
3. Listening and responding to the painful discriminatory stories of others changes attitudes and behaviors.
4. Guilt is the glue that holds prejudice in place. By acknowledging individual responsibility to engender community change, guilt’s effect can be loosened.
5. Everyone has the capacity to lead the workplace in welcoming and valuing diversity. (NCBI, 2001)

Allport’s (1954) classic theory of group relations and prejudice reduction, known as the contact hypothesis, provides the general theoretical framework for the NCBI model. Seeking to describe the ways that prejudice can be reduced, Allport and other social
psychologists argued that social interactions with members from a different group reduce prejudicial attitudes towards that out-group. One concise expression of the hypothesis is that greater intergroup contact incurs less prejudice. There is a wealth of data to support intergroup contact theory and a recent meta-analysis found a small effect size ($d = -.21$) for the relationship between intergroup contact and prejudice (Pettigrew and Tropp, 2006).

Allport built on the work of Williams (1947) and suggested that contact with a different group by itself is not sufficient to change attitudes. Allport purported that four core conditions must be satisfied during the social contact: 1) unification of both groups toward some common goal, 2) members among different groups have equal status, 3) cooperation among members across groups must be in place to achieve the common goal, and 4) the support of cross-group interactions are sanctioned by some social custom or authority. As articulated by Pettigrew’s (1998) review of the intergroup contact hypothesis, Allport derived this understanding upon consideration of various field studies. For example, one early study demonstrated that White college students from the North who spent time in the South --presumably without core conditions in place-- developed racial prejudices towards Black individuals (Sims & Patrick, 1936, cited in Pettigrew, 1998). A more recent study used longitudinal data and found contact conditions to account for reductions in prejudice among Black and White neighbors (Smith, 1994). Many other studies can be found in the literature to support the ICT theory (c.f., Pettigrew, 1998; Pettigrew & Tropp, 2006; Paluck & Green, 2009). Based on this ample literature, ICT holds substantial theoretical grounds for explaining decrease in prejudice. Keeping in mind that the NCBI model works within the framework of intergroup contact
and its core conditions, the next section describes the NCBI intervention in general terms, and makes theoretical ties to ICT.

**Intervention Goals and Activities.** The goals of the NCBI model are accomplished over a period of six hours. In broadest form, the intervention consists of: 1) a 20-minute trainer introductions segment, 2) six 10-15 minute activities that combine didactic and experiential learning components, 3) three 1-hour long small group discussions, and 4) a 15 – 20 minute closing ritual. During the workshop, attendees are involved in affective, cognitive, and behavioral level aspects of change with regard to discrimination. It is noteworthy that the entirety of the workshop, as well as each activity within it, incorporates the fourth condition of ICT: that is, to socially sanction intergroup contact. The typical NCBI training team gathers individuals with diverse visible and invisible forms of identity and encourages individuals from different groups to interact with and learn from one another. The following list of activities is summarized briefly and workshop components are noted by associated core conditions.

- An outward disclosure that the workshop’s intention is to develop a welcoming college environment for all students. This supports Allport’s first condition such that trainees are unified in a common goal.
- Experiential exercises occur wherein all members have an opportunity to share experiences of being both victim and an oppressing agent allows for condition two to manifest, that is, that all group members, regardless of their social membership, have equal status.
- Didactic instruction about the universal and ubiquitous nature of stereotypical messages, prejudices and discrimination and how socialization transmits them. This supports the second condition that all members have equal status.

- Instruction in the skill of interrupting prejudicial remarks. All group members alternate in dyads to role-play the hurtful comment role and the interventionist, engaging in cooperation towards the larger goal.

- Elicitation of group members pledge to engage in different thinking and behaving beyond the current workshop period, which elicits conditions one and three.

To summarize, the NCBI intervention is designed to bring about individual and community-level change. That is, the attitudes and behaviors of participants are expected to shift. The next two sections describe the selected outcome variables that assisted in the present research to evaluate the NCBI intervention.

**Racist and Sexist Attitudes**

In order to provide information about the effectiveness of a diversity training intervention, as well as to be consistent with previous research studies, racist and sexist attitudes were used to detect discriminatory attitudes. “Non-white” and “women” are two of the identities that social scientists have most described and studied in terms of Western analyses of culture. Therefore, racist and sexist attitudes reflect a “baseline” for prejudicial attitudes, generally. A person who demonstrates inordinate racist and sexist attitudes would be considered an “ideal” candidate for an intervention such as NCBI.

The NCBI intervention is purported to reduce prejudice and build a more multicultural environment. Using didactic and experiential methods that address topics of socialization and that employ different aspects of intergroup contact theory, as
discussed above, it seems reasonable that the NCBI training should reduce individuals’ prejudicial attitudes. The current study therefore tested a hypothesis that, compared to a control group, an experimental group who participates in the NCBI training will demonstrate less prejudicial attitudes following the intervention than before the intervention.

As discussed earlier, among researchers who evaluate prejudice reduction or diversity interventions, reduced prejudice is a common outcome variable. The additional purpose of this study was to examine “the other side” of prejudicial attitudes, that is, an awareness of social privilege and oppression. An appropriate construct for this examination is awareness of privilege and oppression.

**Awareness of Privilege and Oppression**

One might argue that, while it is important to encourage decreases in prejudicial attitudes, it is equally vital to raise awareness about social justice issues, such as concepts of power, privilege, and oppression. More specifically, the society has potential to grow closer to social justice ideals if there is cognitive and emotional understanding that society’s members may succeed or fail depending on their membership within certain privileged or disadvantaged groups. An understanding of the lived experiences of both privileged and oppressed members of different social groups is necessary to hold a complete perspective about that society. Multicultural educators (Freire, 1970; hooks, 1994; Giroux, 1988) argue that such understanding thereby encourages one (or many) to engage in social justice action, including developing a more multicultural environment, hence its importance.
In order to study an alternative and more hopeful element of diversity workshop/interventions, awareness of privilege and oppression was used in the present study. Such an awareness may be thought of as an appreciation of diversity such that multiple marginalized identities are understood within the context of social justice. Such marginalized identities might include “trans-identified,” “Asian-American,” or non-naturalized citizenship status. Presumably, with more understanding and awareness of the role of power and privilege in the U.S. context, persons develop more “pro-social” attitudes. The executed study therefore tested a hypothesis that, compared to a control group, an experimental group who participates in the NCBI training will demonstrate greater awareness of privilege and oppression following the intervention than before the intervention.

**Current Study**

Although some research has examined the effectiveness of prejudice reduction interventions on college campuses, few studies have used rigorous methods or psychometrically sound outcome measures. In the current investigation, a convenience sample of college students was solicited for participation in a study on “typical university student attitudes.” The sample consisted of undergraduate resident assistants (RAs) who are required to attend a six-hour diversity training workshop, and another group of college students who hold leadership positions in various student organizations. All RAs were required by their administrative leaders to participate in the training. Participants in both groups were requested to answer surveys at three time points so that each group’s change regarding privilege and oppression, and prejudicial attitudes, could be examined.
To gain information about the maintenance of effects, participants in the experimental group were solicited to answer surveys at a third time point.

One week before the diversity training workshop occurs, both experimental and control groups completed one set of on-line surveys of the measures. Within two weeks from the day following the training, participants in both experimental and control groups who elected to continue participation in the research took the second set of surveys. The experimental group’s scores were compared to the control group’s scores, and a significant difference between the groups in the expected direction would support the hypothesis that the diversity training workshop, and not some other variable, contributes significantly to the difference between the experimental and control groups (Parenthetically, the reader will recall that higher scores on the QDI indicate less prejudicial attitudes). Lastly, to test whether the effectiveness of the intervention is maintained for the experimental group, experimental group participants were solicited to participate in a follow-up analysis: higher scores on both measures at 3-month follow up compared to pre-intervention would indicate maintenance of effects.

Hypotheses

The hypotheses are as follows:

Hypothesis 1: Post-intervention scores on awareness of privilege and oppression for participants in the experimental group will be significantly greater than pre-intervention scores.

Hypothesis 2: Post-intervention scores on racist and sexist prejudicial attitudes for participants in the experimental group will be significantly greater (i.e., thereby expressing lower prejudicial attitudes) than pre-intervention scores.
Hypothesis 3: Scores on awareness of privilege and oppression for participants in the experimental group, compared to similar scores for participants in the control group, will increase significantly from pre- to post-intervention, and be maintained at three-month follow up.

Hypothesis 4: Scores on racist and sexist prejudicial attitudes for participants in the experimental group, compared to similar scores for participants in the control group, will increase (i.e., again, thereby expressing lower prejudicial attitudes) significantly from pre- to post-intervention, and be maintained at three-month follow up.

Hypothesis 5: Three-month follow up scores for participants in the experimental group on awareness of privilege and oppression will be greater than pre-intervention scores.

Hypothesis 6: Three-month follow up scores for participants in the experimental group on racist and sexist prejudicial attitudes will be greater (i.e., again, thereby expressing lower prejudicial attitudes) than pre-intervention scores.
CHAPTER III

Method

This chapter elaborates on the methods that were employed to conduct the study. The design, participants, instruments, procedure, and hypotheses are specified. The broad purpose of the proposed study is to examine the effectiveness of a brief diversity training workshop on college students’ awareness of privilege and oppression and on their racist and sexist attitudes.

Design

This study used a pre/post/follow-up, quasi-experimental design in which two dependent measurements are taken of a control group and an experimental group (Shadish, Cook, & Campbell, 2002). The criterion variables were awareness of privilege and oppression as measured by the Privilege and Oppression Inventory (POI; Hays, Chang, & Decker, 2007), and racist and sexist prejudicial attitudes, measured by the Quick Discrimination Index (QDI; Ponterotto, et al., 1995). The predictor variable was participation in either the experimental group (i.e., RAs) or the control group. For hypotheses 3 and 4, a pair of repeated measures ANOVAs (i.e., one per each of the above measures) were used to analyze the between-groups factor (i.e., assignment) and the within-groups factor (i.e., time) simultaneously. Results of the analyses were employed to detect a significant increase in QDI scores (i.e., thereby portraying a significant decrease in prejudicial attitudes) and significant increase in POI scores in the experimental group’s scores, relative to the control group’s scores. Hypotheses 1, 2, 5, and 6 involved paired samples t-tests on the criterion variables for the experimental group only, in order to detect significant elevations from Time 1.
Power Analysis

A power analysis was conducted to determine the number of participants necessary to optimize the possibility of detecting a difference between the experimental and control groups. This analysis was conducted with recommendations from Cohen (1988). According to convention, the desired power for this study is .80, and the alpha level is set to .05.

The cumulative research that has explored the effects of prejudice reduction programs and their impact on prejudicial attitudes has shown mixed results (Paluck, 2009). However, one recent and particularly rigorous study (Stewart et al., 2003) found a multivariate effect of .23, revealing a low-modest effect size. Stephan and Stephan (2004) performed a meta-analysis of several types of prejudice reduction programs, and found a weighted effect size of .25. Pettigrew and Tropp (2006) found in their meta-analysis of 515 interventions employing components of the contact hypothesis that intergroup contact and prejudice have a mean correlation of -.22. These authors used sophisticated techniques and conservative search choices to compensate for “the file drawer problem” (Begg, 1994; Rosenthal, 1991). Given that information, for the purposes of this study, an effect size of .20 was chosen, and therefore, the goal number of participants needed to support this effect size with a .05 alpha level is 96 participants per group (Cohen, 1988). A post-hoc power analysis was conducted to examine the actual power demonstrated by the effect size found in the ANOVA analysis for Hypothesis 3 (see Main Analyses section, below). Based on a calculated effect size of .06, an alpha level of .05, and a sample size of 42, the observed power for the study is calculated to be .075.
Table 1 contains the sample sizes of the experimental and control groups at Times 1, 2, and 3, across two data collection waves. Although the initial sample sizes of 58 and 91 did not meet the criteria of 96 participants per groups as suggested by the original power analysis, data collection was stopped for two important reasons. First, although a second round of data collection was employed, including the addition of new incentives, successful solicitation of participants was difficult. Secondly, attrition problems-- as is common with this type of study--proved significantly limiting. The final cell sizes at Time 3 are 19 for the Experimental group and 23 for the Control group. These cell sizes were smaller than desirable but the experimental design of the study allows the question of whether there is a difference between the groups to be answered.

Participants

The experimental group consisted of 58, 40, and 19 participants at Time 1, Time 2, and Time 3, respectively. The control group consisted of 91, 47, and 23 participants at Time 1, Time 2, and Time 3, respectively. These numbers of participants are displayed in Table 1. Participants in the experimental group were college student resident assistants (RAs) at the University at Albany, and participants in the control group were students at the same university who held leadership positions in different student organizations at the University. The University at Albany is a large, public university in the northeastern region of the U.S.

Participants in the experimental group were Resident Assistants (RAs) at the University at Albany who participated in the NCBI workshop during their summer RA orientation. RAs are undergraduate or graduate students who have applied for and been chosen for the position. They reside in the residence halls and provide various supportive
functions to the students for whom they are responsible such as providing referrals for life and academic problems, acting as the “first contact” person in crisis situations, and facilitating a sense of community to students. During their tenure in the RA position, they must attend monthly on-going training meetings, take undergraduate courses in conflict resolution, establish and maintain at least a 2.5 GPA, and not violate delineated behavioral standards (e.g., consuming alcohol on the residence hall premises).

Participants in the control group were undergraduate student leaders at the University at Albany who were not RAs, but, like RAs, held leadership positions on campus. Student leaders were identified with assistance from University officials involved in managing student organizations. A list of names of officers from various student-initiated or student-managed organizations on campus was provided and e-mail distribution lists were generated.

Table 2 contains the demographic data for participants in the experimental and control groups. All participants were at least 18 years old, and the mean age of the Experimental Group was 20.03 (SD = 1.14) and the mean age of the Control Group was also 20.12 (SD = 1.14). Progress in undergraduate study was similarly distributed, such that there were generally more advanced students in both groups. That is, most participants were in their second or higher year of undergraduate study. About 71% (n = 41) of the Experimental Group and 88% (n = 78) of the Control Group were in their second year or higher of study. More women than men participated in the study, with 67.2% (n = 39) of the Experimental group and 70.3% (n = 64) of the Control group being female. A majority of the participants in both groups reported being involved in leadership roles on campus. Namely, 71.9% of the Experimental and 72.2% of the
Control group previously held student leadership roles. Somewhat parenthetically, 37.9% (n = 22) of the RAs had served as an RA in previous years, implying that this group had some experience in the RA position.

The Experimental Group was slightly more represented by students of minority race/ethnic identification (59.6%; n = 34), compared to the Control Group’s representation of students of color (47.3%; n = 43). Interestingly, a majority of participants had not had some sort of diversity training or multicultural coursework in the past: 75.9% (n = 44) of the Experimental Group and 86.7% (n = 78) of the Control Group reported having no prior diversity training or multicultural coursework. Somewhat contrary to the previous data, a majority of the sample (i.e., 66.7% of the Experimental and 89.9% of the Control group) reported having participated in NCBI workshops prior to participating in the research. Given this last statistic, despite the goals of the study to develop an appropriate control group, this particular set of participants is best thought of as a “comparison group,” and therefore will be referred to as such throughout the remainder of this manuscript.

**Instruments**

**Demographic Questionnaire.** Participants’ demographic information was gathered in a questionnaire at Time 1 to assess the nature of the sample. Demographic material included participant age, gender, race and/or ethnic self-identification, year in school, previous student leadership experience, previous diversity training/multicultural coursework, and previous NCBI experience. RAs were also asked about their previous RA experience; RAs’ dorm assignment was pre-chosen by the University staff and thus
recorded by the investigator. The demographic questionnaires distributed to the Experimental and Comparison groups are contained in Appendices A and B, respectively.

**Privilege and Oppression Inventory.** The Privilege and Oppression Inventory (Hays, Chang, & Decker, 2007) is a 39-item self-report scale that measures awareness of privilege and oppression along various dimensions of cultural identity. Developed for counselor trainees, its items are also appropriate for college students. The items relate to how a respondent understands the political and social climate for persons of varying identities, that is, race, sexual orientation, religion, and gender. High scores on the POI indicate one’s understanding of personal positions of power and privilege and illustrates an awareness of the forces of oppression in U.S. society. The measure yields a total score as well as four subscales that correspond to the four identities noted above. The following are the subscales: (a) White Privilege Awareness which assesses awareness of racial advantage (e.g., “Being White and having an advantage go hand in hand”); (b) Sexism Awareness which assesses acknowledgment that males confer greater power and access (e.g., “I am aware that men typically make more money than women do.”); (c) Christian Privilege Awareness which assesses an understanding of the Christian religious system’s advantage (e.g., “Christianity is the norm in this society.”); and (d) Heterosexism Awareness which assesses acknowledgment that heterosexuals hold greater power and access (e.g., “Gay, lesbian, and bi-sexual individuals experience discrimination.”). Each item is endorsed on a 6-point Likert-type scale and a total score is computed by summing responses (including some reverse-scored items) and so the range of possible scores is 39 – 234. The POI was selected for this study because of its focus on pro-diversity attitudes.
Hays and colleagues (2007) developed this scale in two phases that followed recommendations and assistance of measurement experts with multicultural counseling specialties. The items were developed from qualitative explorations of social advocacy issues and concepts regarding power differentials. The items were later subjected to exploratory and confirmatory factor analysis. A four-factor oblique rotation model appeared to have the best fit compared with competing single and alternate factor models, with comparative fit index, Tucker-Lewis index, root mean square average approximation, and Akaike’s (1974) information criterion all demonstrating best fit (CFI = .977; TFI = .974, of .85; RMSEA = .046, AIC = 1584.1, respectively). These four factor factors explained 51.8% of the variance in the items.

Internal consistency of the scores on the measure was demonstrated by strong Cronbach alpha values for White Privilege Awareness (α = .92), Heterosexism Awareness (α = .81), Christian Privilege Awareness (α = .86), and for the Sexism Awareness (α = .79) subscales, in the validation study and for the global POI score in two different studies (i.e., α = .95, .96). Construct validity has been found in strong correlations with two multicultural measures that relate to discrimination and privilege, the M-GUDS (Miville et al., 1999; r = .41), a personality measure of pro-diversity attitudes and feelings, and the Quick Discrimination Index (QDI; Ponterotto et al, 1997; QDI-Cognitive Racial Attitudes r = .69; QDI-Affective Racial Attitudes r = .33; and QDI-Cognitive Gender Attitudes r = .61). These positive correlations provide some evidence for the convergent validity of this measure as one would expect greater awareness of one’s privilege to correspond with greater diversity awareness and lesser discriminatory attitudes. Discriminant validity is indicated by the significant, negative
relationship between POI total score (as well as the POI components) and the Social Desirability Scale \(r = -.13; p < .01\); this finding is especially interesting because it implies that as one’s understanding and appreciation for marginalized populations rises, the tendency is for one’s need for approval to fall. Test-retest reliability over a 2-week span demonstrated an adequate range for each of the four subscales (range \(r = .57 - .89\)) and for the total score \(r = .91\). Taking the above psychometric evidence together, the POI is a unique measure of awareness of various social privileges with established construct, criterion, and discriminant validity. The overall internal consistency reliability coefficient for POI for the current sample was .95. Cronbach’s alpha coefficients for each of the Experimental and Comparison Groups at each of the three data collection time periods are summarized in Table 3.

**Quick Discrimination Index.** The Quick Discrimination Index (Ponterotto et al., 1995) is a 30-item, Likert-type self-report measure that appraises intolerant attitudes with respect to racial diversity and gender equity. Respondents rate their agreement (1 = *strongly disagree* to 5 = *strongly agree*) with a number of items that are summed towards a total score; the lower a person’s score, the more biased attitudes they are purported to have. Three subscales have also been derived: (a) general cognitive attitudes towards racial diversity, (b) general emotional attitudes towards inter-racial interaction and diversity, and (c) general cognitive attitudes towards women and gender equity issues.

Evidence for content, construct, and criterion-related validity were found in Ponterotto et al.’s (1995) original study. Internal consistency of scores on the measure was demonstrated by a strong Cronbach’s alpha value of .88. The scale was developed with principal components analyses and later with confirmatory factor analysis. A three-
factor oblique model appeared to have the best fit of competing global and orthogonal three-factor models, with global fit index, rho parameter, and average residual variance all demonstrating best fit (GFI = .87; $\rho = .85$; RMR = .067, respectively). This model therefore explained 85% of the variance in the items. The three-factor structure was confirmed by Utsey and Ponterotto (1999) using principal components factor analysis and follow up confirmatory factor analyses across different geographical locations. Mean stability coefficients of .90, .82, and .81 for Factors 1, 2, and 3, respectively, provide some evidence for internal consistency. Data from a recent analysis argued for a hierarchical model for the scale, in which four factors were subsumed in one global factor. The model accounted for 44% of the variance in the items (Burkard, Jones, & Johll, 2002).

Convergent validity was provided by the scale developers (Ponterotto et al., 1995). Scores on the QDI were found to positively correlate with nuanced measures of racism as measured by the New Modern Racism scale (Jacobson, 1985; $r = .72$) and positively correlate with counselor multicultural competencies of knowledge and skills ($r = .91$) and awareness ($r = .76$) as measured by the Multicultural Counseling Knowledge and Awareness Scale (MCAS/MCKAS; Ponterotto, Rieger, et al, 1993, 1996). Discriminant validity is indicated by a negative, non-significant relationship between QDI and a measure of social desirability, the SDS (i.e., Social Desirability Scale; Crowne & Marlowe, 1960; average $r = -.13$, all non-significant). Taking the above psychometric evidence in total, the QDI is a unique measure of racist and sexist attitudes with demonstrated construct, criterion, and discriminant validity. The overall alpha coefficient for QDI for the current sample was .85. Cronbach’s alpha coefficients for each of the
Experimental and Comparison Groups at each of the three data collection time periods are summarized in Table 3.

**Manipulation check**

The trainers who provided the NCBI training to the Experimental Group were asked to complete a questionnaire as a manipulation check to ensure that the intervention was successfully delivered. Several open- and closed-ended questions were devised (see Appendix C for the manipulation check items) to clarify how adequately the trainers believed they followed the components of the NCBI model. The NCBI training team failed to return manipulation checks from Year 1. Therefore, the manipulation check was successfully collected only from the NCBI trainers from the second year of data collection.

Question one asked trainers to state, “true,” or “false,” whether all components of the training were executed by the training team; 16.7% stated “true,” indicating they followed all the components, and 83.3% responded “false.” The latter clarified that they did not complete the Pairs, Caucuses, Speak-outs, and/or Role Play activities.

Question two asked the trainers to rank the degree of similarity that the executed training was to a “model training” using a 4-point Likert-type scale. Of the six training groups, all indicated that the training was very similar or somewhat similar to a model NCBI training.

Question three asked the training team to assess the degree to which the work load and content coverage of the training was conducted equally among the trainers. Out of six training groups, four indicated that the trainers participated equally, while two reported that the more senior leaders took on most of the workload and time.
Question four requests the training team to assess the approximate amount of time that the team employed on each of the NCBI components. For the Up/Down activity, all training groups spent 20-30 minutes of time. For the Pairs activity, five training groups spent 20-25 minutes of time. All of the training groups used 5-15 minutes on the Theory of NCBI training, and they spent 20-45 minutes on First Thoughts. Five of the groups spent 20-40 minutes on Internalized Oppression, spent 15-25 minutes on Pride, and spent 20-60 minutes on Caucuses. Speak-outs were only executed by one group and they expended 25 minutes on that activity. Only one group carried out Role Plays, and they utilized approximately 25 minutes. Taken all the available information together it is reasonable to conclude that the intervention was faithfully administered to the Experimental Group during Year 2, and it is reasonable to assume a similar pattern of treatment fidelity was demonstrated among Year 1 data.

**Procedure**

IRB approval from the University at Albany was obtained prior to participant solicitation. Prospective participants for both groups were contacted by e-mail and asked to participate in the study; all were offered an opportunity to enter into a raffle to win an e-reader plus a $40 gift card (with which they could purchase e-reader products). Given difficulties with participant attrition, the remuneration was changed (with approval of the IRB) to increase participation in the second and third data collection times and included a second raffle that included the chance to win one of three $50 cash prizes. Informed consent was provided to all participants and included the information that participation was completely voluntary.
Both sets of participants were solicited online to participate in a study on “typical university student attitudes.” Solicitation occurred with the cooperation of the University at Albany’s Assessment Division, who provided e-mail addresses of current RAs and of current students in leadership positions. Participants were given access to online surveys through a data collection system (i.e., “Student Voice”) account managed by the Assessment Division.

The system provided a web link and managed the participants’ progress through completion of consent forms, explanation of the possible risks and benefits of participation, and presentation of the demographic questionnaire and the QDI and POI measures. Initial solicitation (i.e., at Time 1) and secondary solicitation (i.e., at Time 2, and at Time 3, and all reminder/incentive e-mails at all three time points) were performed with Student Voice, and a unique password was issued to the principal investigator, wherein encrypted and securely stored databases were maintained by the investigator.

For both Experimental and Comparison groups, Time 1 data was collected within one week to one day prior to the NCBI intervention. Time 2 data was collected within a one-day to one-week period, following the intervention; the time period for Time 2 data collection was later extended to three weeks in order to accommodate the additional raffle incentive. The Time 3 data collection of the experimental group occurred again through the Student Voice system, three months after the intervention and over a three week period.

As mentioned above, a second year of data collection was conducted in order to gain adequate sample size. Potential participants were recruited in identical fashion as those of the Year 1 round, except the incentive consisted of entry to a raffle to win (per
group) --a choice-- of one iPad 3® or $500 cash. There was no additional raffle offered. For both Year 1 and Year 2 data rounds, the manipulation check instrument was physically handed to training teams at the start of each group of NCBI trainers. The manipulation check instruments were collected by the chief NCBI organizer at the end of the training and mailed to the principal investigator.

All data were disposed of at the conclusion of the data analysis. After data collection from all participants was completed and analyses of data were concluded, all participants were debriefed by e-mail about the nature and aims of the study.

**Diversity Training Intervention.** As mandated by their administrative body, all Resident Assistants (RAs) underwent the NCBI’s Welcoming Diversity/Prejudice Reduction Workshop. The intervention took place within the context of regular RA orientation proceedings. There are six residence halls from which RAs live and work: Dutch, Indian, Colonial, State, Freedom and Empire Commons, and RA orientation groups are organized by the residence hall in which they work. Therefore, there were six NCBI training groups who executed the intervention to RAs.

**Statistics and Data Analyses**

**Preliminary analysis.** Prior to the main data analysis, the data were examined for outliers, missing data points, and tests of the assumptions of t-test and ANOVA normality. The effect and trend of the missing data was assessed and appropriate steps were used to deal with such concerns. The effect and seriousness of missing data depends on several factors: the size of the data set, the number of missing cases within that set, and the randomness of the missing data (Tabachnick & Fidell, 2007). The analyses for outliers and normality were performed by creating frequency tables,
examining box plots, and by examining kurtosis and skewness statistics for all variables collected.

At pre-test data collection (i.e., Time 1), a series of two-tailed t-tests for independent samples were conducted to examine whether there were differences between the Experimental and Comparison groups on the study variables. In addition, chi-square tests were conducted to determine if the two groups are similar with respect to the demographic variables.

There were multiple training groups (i.e., “RA dorm assignments”) in order to conduct the training in an efficient and yet manageable fashion. Therefore, ANOVA tests per each training group on each variable were necessary to ensure that all NCBI training groups were similar to each other with regard to pre-intervention outcome variables.

**Main Analyses.** In order to test Hypotheses 1 and 2, one-tailed dependent samples t-tests were performed between mean scores on POI and QDI of the experimental group between pre- and post-intervention. To test Hypotheses 3 and 4, a pair of repeated measures one-way ANOVA were conducted, per outcome variable, with time (i.e., pre- and post-intervention, and at 3-month follow-up) being the within subjects factor, and group assignment (i.e., experimental or comparison group) being the between subjects factor. A significant F-test of the interaction term (i.e., group assignment by time) would indicate significant differences in the changes in scores across time and between groups; a further examination of the descriptive statistics will reveal the pattern of mean score changes across time for both groups. To test Hypotheses 5 and 6, one-
tailed dependent samples t-tests were performed between mean scores on POI and QDI of the experimental group between pre-intervention and follow-up.
CHAPTER IV

Results

Data Screening

As participants were solicited with, and responded to, slightly different e-mail messages, the description of data screening to achieve the final number of available cases will be presented below by group. Table 4 displays the number of potential participants who initially responded to the solicitation e-mail. The final sample sizes for the experimental and comparison groups were 19 and 23 participants, respectively. The experimental and comparison groups had attrition rates from Time 1 to Time 3 of 67.2% and 74.7%, respectively. The data collection process suffered from two difficulties that are common in longitudinal designs: (a) respondents frequently discontinued their participation upon answering a few survey questions and, (b) despite the use of reminder e-mails and development of additional incentives respondents often discontinued their participation in the study over time.

In sum, across two years, 720 persons responded to the e-mail solicitation that directed them to the Student Voice platform to initiate participation (i.e., to review the informed consent procedures and begin the surveys). Of that, 571 withdrew at the very outset (i.e., either upon full or partial completion of the demographics, or upon answering only a few of the instrument questions), and were thus not included in the sample. Most of this subset of deleted cases (i.e., 98%) occurred due to these participants’ dropping out almost immediately after confirming the informed consent. The remaining deleted cases had surveys with half or more items omitted.

At Time 1, there were 149 participants, consisting of 58 in the Experimental Group and 91 in the Comparison Group. Many participants did not fully complete the
surveys. Tabachnick and Fidell (2007) provide guidance for cases where less than 10% of the items on a given score are missing; the individual mean of all existing scores on that measure can be substituted for missing data. This was conducted for 47 cases such that those cases could be retained. Of those 47 cases, 42 individual mean substitutions were performed on one missing data point, and five others were performed on two missing data points. There was no discernible pattern in the items that were omitted.

**Preliminary Analyses**

The data were analyzed for outliers using box plots (see Figures 1 and 2). Upon visual inspection of the graphs, no outliers were found. The two study variables, POI and QDI total scores, were examined for skewness and kurtosis. Skewness is a measure of how a randomly distributed variable gathers about its mean. Kurtosis is the degree to which a variable has a clearly identified mean value. Tabachnick and Fidell (2007) describe a process by which unacceptable levels of skewness or kurtosis are identified. A z-score value of +/- 3.29 is established as a cutoff score for data. As noted in Table 5, all of the kurtosis and skewness values were within the cut-off. Therefore, the data are in acceptable bounds of normality.

It was considered whether a difference existed between Year 1 and Year 2 data. An independent groups t-test was conducted to determine whether Year 1 and Year 2 POI or QDI scores at Time 1 were significantly different. Table 6 contains the means, standard deviations, and t-tests results. The Year 1 and 2 scores at Time 1 were not significantly different on either the POI and QDI, and thus data was collapsed across data collection years. Table 7 displays the intercorrelations of these variables and the
categorical variable of age; notably, none of the correlations were significant at the .05 level.

A series of preliminary analyses were conducted to examine whether the Experimental and Comparison groups were significantly different on the study and demographic variables at Time 1. The demographic variables that were examined included age, gender, race/ethnicity, year in school, past diversity training/multicultural coursework experience, past NCBI experience, and past leadership experience. RA dorm assignment and previous RA experience were not included because they pertain only to the Experimental group. Table 8 contains the means and standard deviations of the POI and QDI scores at Time 1, 2 and 3 for the Experimental and Comparison groups.

Two two-tailed t-tests for independent samples were conducted on the study variables of QDI and POI to see whether the Experimental and Comparison groups differed at Time 1. The results indicated no significant differences on total POI scores ($t(147) = 1.26, p = .21$) or QDI scores ($t(147) = .02, p = .98$). A t-test examining the difference on age between the Experimental and Comparison groups at Time 1 also revealed no significant differences ($t(147) = -.45, p = .65$).

A pair of chi-square analyses was conducted comparing the Experimental and Comparison groups at Time 1 on the demographic variables of gender and race/ethnic identification. Gender included only those cases in which “male” or “female” was selected (the one individual who checked “other” was not included in this analysis). For Race/ethnicity, the data were collapsed into two broad categories of “White students” and “Students of Color.” No significant difference was found between the two groups with
regard to Gender, \( \chi^2 (2) = .89, p = .64 \). Also with respect to Race/ethnicity, no significant difference was found, \( \chi^2 (2) = 2.16, p = .14 \).

Additional chi-square analyses were conducted comparing the Experimental and Comparison groups at Time 1 on year in school, past diversity training/multicultural coursework experience, past NCBI experience, and past leadership experience. A significant difference was found between years in school, \( \chi^2 (2) = 8.38, p = .04 \).

Examination of the cross tabulations shows that whereas the spread in year in school for the Comparison Group is relatively evenly distributed, 1\textsuperscript{st} year students made up only 13\% of the Experimental group; this contrasts with 2\textsuperscript{nd} year students, and 3\textsuperscript{rd} year and above students making up 40\% and 47\% , respectively, of the Experimental Group. In essence, the Comparison Group was more advanced in their undergraduate studies than the Experimental Group.

The Experimental and Comparison groups were significantly different on prior NCBI training at Time 1, \( \chi^2 (2) = 12.09, p = .00 \). Examination of the cross tabulations shows that 67\% of the Experimental Group and 90\% of the Comparison Group, respectively, had at least one NCBI experience before the training executed for this study’s purpose. There were no significant differences between the Experimental and Comparison groups on previous diversity training experience and/or multicultural coursework, \( \chi^2 (2) = 2.84, p = .09 \); similarly, the groups were not different on previous leadership experience, \( \chi^2 (2) = .001, p = .97 \).

Generally speaking, the two groups appear similar at Time 1. On the one hand, the Experimental Group appears slightly more advanced in their undergraduate studies than the Comparison Group. Also, although both groups have had some exposure to
NCBI training in the past, surprisingly the Comparison Group has slightly more exposure than the Experimental group. The above differences notwithstanding, there are several important similarities between the groups with respect to age, gender, race/ethnic identification, previous diversity training/multicultural coursework, and previous leadership positions. Perhaps most importantly, both groups are similar on the dependent variables of QDI and POI. Therefore, the results of the analyses suggest that the Experimental and Comparison groups were similar on the study and demographic variables at Time 1. Thus, this group is an adequate comparison group for the RAs.

In order to conduct the training in an efficient and manageable fashion, the NCBI trainers conducted multiple training sessions simultaneously with the RAs. To confirm that all NCBI training groups were similar to each other on the study variables at pre-intervention, a one-way ANOVA was conducted. The training groups were not significantly different on the POI scores at Time 1 ($F(5, 52) = .86, p = .51$) or the QDI scores ($F(5, 52) = 1.65, p = .16$). Therefore, it is assumed that the training groups were similar.

**Main Analyses**

In order to test Hypothesis 1 that post-intervention (Time 2) scores on awareness of privilege and oppression for participants in the Experimental group will be significantly greater than pre-intervention scores, a one-tailed dependent samples t-test was performed on mean POI scores of the Experimental group comparing their pre- and post-intervention scores. The results were not significant, $t(39) = -1.13, p = .87$, suggesting that the Experimental group did not significantly increase their awareness of prejudice scores immediately following the diversity training. Table 8 displays the
means and standard deviations, and the results of the t-tests. Thus, Hypothesis 1 was not supported.

In order to test Hypothesis 2 that post-intervention scores on racist and sexist prejudicial attitudes for participants in the Experimental group would be significantly greater than pre-intervention scores, a one-tailed dependent samples t-test was performed on mean QDI scores of the Experimental group comparing their pre- and post-intervention scores. The results were not significant, \( t(39) = .27, p = .61 \). The nonsignificant findings suggest that the Experimental group did not show a significant increase in racist and sexist attitudes after the diversity training. Table 8 displays the means and standard deviations, and the results of the t-tests. Hypothesis 2 was not supported.

Hypothesis 3 indicated that scores on the POI would significantly increase from pre- to post-intervention, and be maintained at three-month follow up, for participants in the Experimental group, compared to participants in the Comparison group. To test Hypothesis 3, a 2 X 3 repeated measures ANOVA was conducted for POI with time (i.e., pre- and post-intervention and 3-month follow-up) being the within subjects factor and group assignment (i.e., Experimental or Comparison group) being the between subjects factor. A significant F-test of the interaction term (i.e., group assignment by time) would indicate significant differences in the changes in scores across time and between groups. Mauchley’s test of Sphericity indicated that the assumption of sphericity had been violated, \( \chi^2(2) = 12.29, p = .00 \). Degrees of freedom were therefore corrected using the Huynh-Feldt estimate of sphericity (\( \varepsilon = .83 \)). There was no significant main effect for time, \( F(1.67, 66.76) = .08, p = .89 \). There was also no main effect for group, \( F(1, 40) \)
=.01, p = .94. There was a non-significant time X group interaction effect, \( F(1.67, 66.76) = 2.60, p = .09 \). These results suggest that neither the combination of time and group membership, nor each of their unique effects, relate to POI scores. In other words, there was no effect of the workshop on the Experimental group’s POI scores, compared to the Comparison group’s scores, which indicates hypothesis 3 was not supported. Visual inspection of Figure 3 clarifies how time and group membership relate to POI scores. Table 10 displays the results of the ANOVA analysis for hypothesis 3.

Hypothesis 4 indicated that scores on racist and sexist prejudicial attitudes for participants in the experimental group, compared to scores for participants in the comparison group, would increase (i.e., again, thereby expressing lower prejudicial attitudes) significantly from pre- to post-intervention, and be maintained at three-month follow up. To test Hypothesis 4, another 2 X 3 repeated measures ANOVA was conducted for QDI with time (i.e., pre- and post-intervention and at 3-month follow-up) being the within subjects factor and group assignment (i.e., experimental or comparison group) being the between subjects factor. Mauchley’s test of Sphericity indicated that the assumption of sphericity had been violated, \( \chi^2(2) = 35.99, p = .00 \), and therefore degrees of freedom were corrected using the Greenhouse-Geisser estimates of sphericity (\( \varepsilon = .62 \)). The results show that there was a non-significant main effect for time, \( F(1.25, 49.92) = 2.03, p = .16 \). There was also no main effect for group, \( F(1, 40) = .58, p = .45 \). There was a non-significant effect for the interaction of time and group, \( F(1.25, 49.92) = 1.23, p = .29 \). The results indicate there is no individual, nor combination, effect of time and group on QDI scores. In other words, there was no effect of the workshop on the Experimental group’s QDI scores, compared to the Comparison group’s scores, which
indicates that hypothesis 4 was not supported. Visual inspection of Figure 4 clarifies how time and group membership relate to QDI scores. Table 9 displays the results of the ANOVA analysis for hypothesis 4.

Hypothesis 5 postulated that three-month follow up scores for participants in the experimental group on awareness of privilege and oppression would be greater than pre-intervention scores. To test Hypotheses 5, a one-tailed dependent samples t-test was performed on POI mean scores of the Experimental group between pre-intervention and follow-up. The results were non-significant, \( t(18) = -1.53, p = .93 \). The findings suggest that the experimental group did not increase their awareness of prejudice scores three months following the diversity training. Table 9 displays the means and standard deviations, and the results of the t-tests for hypothesis 5.

Hypothesis 6 postulated that three-month follow up scores for participants in the Experimental group on racist and sexist prejudicial attitudes will be greater (i.e., again, thereby expressing lower prejudicial attitudes) than pre-intervention scores. Hypotheses 6 was tested with a one-tailed dependent samples t-test on mean scores on QDI of the Experimental group between pre-intervention and follow-up. The results were non-significant, \( t(18) = -.52, p = .70 \). The findings suggest that the experimental group did not increase their racist and sexist prejudice scores three months following the diversity training. Table 8 displays the means and standard deviations, and the results of the t-tests for hypothesis 6.

**Additional Analyses**

As noted above, there were no differences found in the main analyses using the POI and QDI total scores. However, it is noteworthy that the NCBI training is unique in
the following ways: 1) it operates under a broad conceptualization of “diversity,” and, 2) due to its somewhat participant-directed structure, each unique training experience may engage discussion around certain domains of diversity, whereas other domains are disregarded. Therefore, it was considered whether certain aspects of privilege--such as heterosexism or racism--and whether certain aspects of racist and sexist attitudes--such as cognitive components of racism--could be impacted by the training. And so, subscales for POI and QDI were used to explore if there might be differences observed at that level of analysis for the main hypotheses. Significant differences might suggest—tentatively—a trend in the impact of the training’s effectiveness.

A review of the subscale constructs is helpful. Regarding awareness of privilege and oppression, POI-1 is considered to be a measure of awareness of White privilege; POI-2 is a measure of awareness of sexism; POI-3 is a measure of awareness of Christian privilege; and finally, POI-4 is a measure of heterosexism awareness. Regarding racist and sexist attitudes, QDI-1 is referred to as “cognitive racial attitudes.” QDI-2 is the “affective racial attitudes” component of the QDI measure. QDI-3 is described as “general cognitive attitudes towards women and gender equity issues” and so it will be conceptualized here as the “gender equality” component of the QDI.

**Dependent samples t-tests on POI and QDI subscales.** A series of one-tailed dependent samples t-tests were conducted to examine whether the Experimental group differed on pre- and post-intervention on any of the POI subscales. All results were non-significant, and the results are summarized in Table 10. A series of one-tailed dependent samples t-tests were conducted to examine whether the Experimental group differed on
pre- and post-intervention on any of the QDI subscales. All results were non-significant, and the results are also summarized in Table 10.

**Repeated measures ANOVAs for POI subscales.** A series of 2 X 3 repeated measures ANOVAs were conducted on each subscale with time (i.e., pre- and post-intervention and 3-month follow-up) being the within subjects factor and group assignment (i.e., experimental or comparison group) being the between subjects factor.

For POI-1, Mauchley’s test of Sphericity indicated that the assumption of sphericity was not violated, $\chi^2(2) = 5.06, p = .08$. The results showed a non-significant result for the main effect of time, $F(2, 80) = .71, p = .50$. There was a non-significant effect for the interaction of time and group, $F(2, 80) = .71, p = .50$. There was no main effect for group, $F(1, 40) = .04, p = .85$. The results imply no interaction effect, nor independent effects, of time or group on White Privilege awareness.

For POI-2, Mauchley’s test of Sphericity indicated that the assumption of sphericity was violated, $\chi^2(2) = 18.22, p = .00$, and therefore degrees of freedom were corrected using the Greenhouse-Geisser estimates of sphericity ($\varepsilon = .73$). The results showed a non-significant result for the main effect of time, $F(1.46, 58.26) = 2.19, p = .12$. There was a non-significant effect for the interaction of time and group, $F(1.46, 58.26) = .73, p = .40$. There was no main effect for group, $F(1, 40) = .88, p = .39$. The results imply no interaction effect, nor independent effects, of time or group on awareness of sexism.

For POI-3, Mauchley’s test of Sphericity indicated that the assumption of sphericity was violated, $\chi^2(2) = 8.19, p = .02$, and therefore degrees of freedom were corrected using the Huynh-Feldt estimates of sphericity ($\varepsilon = .73$). The results showed a
non-significant result for the main effect of time, \( F(1.79, 71.63) = 1.99, p = .15 \). There was a significant effect for the interaction of time and group, \( F(1.79, 71.63) = 3.31, p = .047 \). There was no main effect for group, \( F(1, 40) = .94, p = .34 \). The results imply a combined effect of time and group (yet no individual effect of either) on one’s awareness of Christian privilege. A follow-up series of t-tests to explore this interaction effect are found in Table 11, showing that among the Experimental group, POI-3 scores increased from Time 1 to Time 2 and from Time 1 to Time 3, implying the intervention had some effect on awareness of Christian privilege, and that the effect was maintained over time. The combined effect of time and group on awareness of Christian privilege is graphically represented in Figure 5.

For POI-4, Mauchley’s test of Sphericity indicated that the assumption of sphericity was not violated, \( \chi^2(2) = 4.95, p = .08 \). The results showed a non-significant result for the main effect of time, \( F(2, 80) = 1.34, p = .27 \). There was a significant interaction effect of time and group, \( F(2, 80) = 3.67, p = .03 \). There was no main effect for group, \( F(1, 40) = .01, p = .93 \). The results imply an interaction effect of time and group (yet no individual effect of either) on one’s awareness of heterosexual privilege. Follow-up series of t-tests to explore the interaction effect are found in Table 11, showing that among the Comparison group, POI-4 scores decreased from Time 1 to Time 3, and from Time 2 to Time 3. The effect of time and group on heterosexism awareness is graphically represented in Figure 6. The results of the main ANOVA analyses for POI-1, POI-2, POI-3, and POI-4, are also displayed in Table 10.

**Repeatead measures ANOVAs for QDI subscales.** A series of 2 X 3 repeated measures ANOVAs were conducted on each QDI subscale with time (i.e., pre- and post-
intervention and 3-month follow-up) being the within subjects factor and group assignment (i.e., experimental or comparison group) being the between subjects factor.

For QDI-1, Mauchley’s test of Sphericity indicated that the assumption of sphericity was not violated, $\chi^2(2) = 2.04, p = .36$. The results showed a non-significant main effect of time, $F(2, 80) = .43, p = .65$. There was a non-significant effect for the interaction of time and group, $F(2, 80) = 1.36, p = .26$. There was a significant effect for group, $F(1, 40) = 4.79, p = .03$, which indicate that group membership had a unique influence on cognitive racial attitudes. Inspection of Figure 7 shows that generally the Experimental group had higher scores on cognitive racial attitudes.

For QDI-2, Mauchley’s test of Sphericity indicated that the assumption of sphericity was not violated, $\chi^2(2) = 1.72, p = .42$. There was a non-significant result for the main effect of time, $F(2, 80) = 1.74, p = .18$. There was a non-significant effect for the interaction of time and group, $F(2, 80) = .44, p = .64$. There was no main effect for group, $F(1, 40) = 2.53, p = .12$. The results indicate no combined, nor any individual, effect of group or time on affective racial attitudes.

For QDI-3, Mauchley’s test of Sphericity indicated that the assumption of sphericity was not violated, $\chi^2(2) = 2.63, p = .27$. The results showed a non-significant main effect for time, $F(2, 80) = 1.26, p = .29$. There was a non-significant effect for the interaction of time and group, $F(2, 80) = .56, p = .57$. There was no main effect for group, $F(1, 40) = 1.14, p = .29$. The results imply that no combined, nor any individual, effect of group or time occurred for gender equality scores. The statistical results of the main ANOVA analyses for QDI-1, QDI-2, and QDI-3 are found in Table 11.
**Additional dependent samples t-tests for POI and QDI subscales.** A series of one-tailed dependent samples t-tests were performed on POI mean scores of the experimental group between pre-intervention and follow-up. The results were all non-significant, and the statistical tests are summarized in Table 11. A series of one-tailed dependent samples t-tests were performed on QDI mean scores of the experimental group between pre-intervention and follow-up. The results were all non-significant, and the statistical tests are also displayed in Table 12.

**Summary**

Regarding the main analyses, hypotheses 1 through 6 were not supported. Some support for hypothesis 3 was found in that the combined effect of time and group significantly impacted scores on POI-4, such that the Comparison group’s scores decreased over time compared to the Experimental group. Clear support for hypothesis 3 was found in the following: the combined effect of time and group significantly elevated, and maintained the elevation, for the Experimental group’s scores on POI-3.
CHAPTER V

Discussion

The purpose of the current study was to test the effectiveness of a diversity training workshop in promoting change in college students’ racist and sexist prejudicial attitudes and their awareness of privilege and oppression. It was hypothesized that the training would encourage an increase in college students’ awareness of privilege and oppression as well as promote a decrease in their racist and sexist attitudes. Additionally, it was hypothesized that such changes would occur relative to a comparison group of similar students, and be maintained over three months following the intervention. This chapter provides a summary and discussion of the study’s results, discusses the practical and theoretical implications of the study, and explores the study’s limitations and future directions for research and practice.

Hypothesis one stated that post-intervention scores on awareness of privilege and oppression for participants in the experimental group would be significantly greater than pre-intervention scores. This hypothesis was not supported. Hypothesis two stated that post-intervention scores on racist and sexist prejudicial attitudes for participants in the experimental group would be significantly greater than pre-intervention scores. This hypothesis was not supported. Hypothesis three stated that scores on awareness of privilege and oppression for participants in the experimental group, compared to similar scores for participants in the comparison group, would increase significantly from pre- to post-intervention, and be maintained at three-month follow up. This hypothesis was not supported, although a post-hoc analysis using subscales of POI (see below) showed some promise.
Hypothesis four stated that scores on racist and sexist prejudicial attitudes for participants in the experimental group, compared to similar scores for participants in the comparison group, would increase significantly from pre- to post-intervention, and be maintained at three-month follow up. This hypothesis was not supported. Hypothesis five stated that three-month follow up scores for participants in the experimental group on awareness of privilege and oppression would be greater than pre-intervention scores. There was no support for this hypothesis. Hypothesis six stated that three-month follow up scores for participants in the experimental group on racist and sexist prejudicial attitudes would be greater than pre-intervention scores. There was no support for this hypothesis. The following is an analysis of possible explanations for these outcomes.

**Speculations on Non-significant Findings**

It was disappointing that none of the main hypotheses were supported, as there was no clear evidence that the intervention facilitates changes in awareness of privilege and oppression or in racist and sexist attitudes. Given the brief nature of the intervention, the struggle to achieve an adequate sample, and the difficulties in retrieving the manipulation check, there are many possible explanations for why the results were not more encouraging.

The various non-significant results may be an artifact of participant response style to the surveys. It is possible that the RAs gave mechanical and unreflective responses as is common in some survey research (Krosnick, 1991) and that sometimes occurs with online surveys (Malhotra, 2008). Motivation to take part in the study may have been a concern, despite a reasonable incentive provided to participants. It may be that
participants were not sufficiently motivated to participate and engage the questionnaires with reflective and genuine responses.

There is a possibility that social desirability played a role in the RAs’ responses. Although the POI and QDI measures have shown resistance to social desirability in previous research, this sample of RAs may have detected the purpose of the study and so their responses may have been affected by impression management. As ambassadors for the university, resident advisors are often recruited for being particularly agreeable and conscientious, characteristics that correlate highly with social desirability (c.f., Bäckström, 2007; Congard, Antoine, Ivanchak, & Gilles, 2012).

Furthermore, given that many RAs had been exposed to the NCBI program in the past, perhaps the undesirable results reflect the experimental group being “saturated” with this particular training. Although the means for QDI and POI in the current sample are highly similar to that of other research with college students, Neville & Furlong (2004) found a ceiling effect for racial bias measures. It could be that the RAs were “immune” to the attitude change that the intervention hoped to engender.

Statistical power was a concern in the study, as low sample size may have prevented the ability of analyses to detect a significant difference between time periods. Studies on prejudice reduction interventions with college students such as Stewart and colleagues (2003) and Pagtolon-an and Clair (1986) yielded quite low effect sizes. As noted by the power analysis, a large sample per group would be optimal. The present study’s multiple non-significant results suggest that a much larger sample size would be necessary to produce significant results.
Hypothesis three (and four) stated that scores on awareness of privilege and oppression (and-for hypothesis four-racist and sexist attitudes) for participants in the experimental group, compared to similar scores for participants in the comparison group, would increase significantly from pre- to post-intervention, and be maintained at three-month follow up. Regarding the outcomes of hypotheses 3 and 4, the results may have been affected by the fact that the NCBI intervention was not powerful enough to engender change; perhaps the intervention did not go far enough to tap deep structures of prejudice and understanding and awareness of privilege. Furthermore, as noted above, several groups were not able to complete the Caucuses section of the NCBI intervention, implying the more affective and powerful aspect of the training was omitted. Alternatively, it may be that the POI and QDI measures did not measure the attitudes that the intervention affects; alternate instruments may detect expected differences. Non-obtrusive attitude measures would be helpful to uncover participants’ unconscious biases.

Interestingly, both of the groups are made up of student leaders. Both groups are college students at the University at Albany, a university with 29% students of color, and that generally promotes and recruits student diversity and supports multicultural programs. It stands to reason that this particular institution provides a strong environment for multi-cultural learning. Therefore, it may be that the study’s two groups are both particularly “multi-culturally aware,” and so any kind of diversity intervention may not differentially impact students’ awareness of privilege and oppression nor their racist and sexist attitudes.

Lastly, the manipulation check was not obtained from the Year 1 data collection group. This is a concern because there may be aspects of the intervention that may have
contributed to poor overall results. Such aspects might include deviations from the NCBI workshop format or inadequate experience of NCBI trainers.

**Additional Analyses**

Though none of the a priori hypotheses were supported, additional analyses exploring whether the Experimental and Comparison groups differed on the subscales of the POI and QDI revealed some significant, although, barring a priori theoretical support, tentative, findings. The RAs apparently increased their awareness of Christian privilege between Time 1 and Time 2, compared to the student leaders, and this gain was maintained over time. As is notable within the above literature review, and among reviews of prejudice reduction across several environments (Paluck & Green, 2009), most researchers have studied the effects of an intervention on one target group, namely racial/ethnic identities. The NCBI model is somewhat unique in that the intervention takes an inclusive approach to diversity, and so the results may have occurred due to the “novelty” of POI items on Christian privilege, bringing out more reflective responses and/or being less influenced by ceiling effects.

An unexpected finding was that the comparison group’s awareness of heterosexist privilege appeared to decrease during the time period in which the study took place. As this group received no intervention, it is difficult to say what may have contributed to this effect. It may be an effect of random error. Alternatively, the effect may be due to participant responses from certain student groups who were dealing with issues relating to sexual identity between Time 1 and Time 2. Or, perhaps some kind of anti-LGBT campus event occurred during that time period and uniformly negatively impacted the responses of these leaders with respect to sexual orientation.
A third significant finding was that, regardless of time period, the RAs had significantly less-prejudiced cognitive racial attitudes, implying that the RAs were generally more resistant to cognitively-based racist ideas compared to the comparison group. This result may have been a chance finding due to small sample size. It is also possible that this particular group of RAs may have discussed or been exposed to issues of race more frequently in other domains of their summer orientation; in other words, perhaps they had a supplemental exposure to diversity that the student leader group did not experience. Regarding the lack of effect over time, it may be that the intervention was not able to alter cognitive-based race prejudice, and yet, by virtue of being RAs and having the experiences and training that accompany the job, they are more aware of and more vigilant about cognitive race-based thoughts—and this occurs at all times during and after their general RA training.

Theoretical Implications of the Study

Allport’s (1954) Intergroup contact theory (ICT), or the contact hypothesis, states that interpersonal contact coupled with optimal conditions effectively reduces prejudice between in-group and out-group members. Although the specific processes are often not elucidated, a common precept of this theory holds the following “core conditions:” 1) engagement of two groups working toward some common goal; 2) members among the groups share equal social status; 3) cooperation must be occurring toward the common goal; and 4) the support of cross-group interactions are sanctioned by some authority. This study tested the impact of an ICT-informed intervention on prejudice and on awareness of privilege and oppression (and made a comparison with those who did not undergo the intervention during this study’s data collection period). The results of
additional analyses tentatively suggest that intergroup contact may engender subtle changes in specific forms of awareness of privilege; more study is needed.

There is recent evidence (Pettigrew & Tropp, 2006; Pettigrew, Tropp, Wagner, & Crist, 2011) that challenges whether all of the core conditions are necessary to enact change, and the current study underscores that perspective when we inspect how well the current intervention integrated the conditions. The second condition was not strictly followed because, although the RAs are encouraged to think of other staff members that may work side-by-side in the dormitories as their equals, due to convenience and logistical issues in place by the university, the trainee compositions included more than just RAs; that is, some Residence Hall Directors, who are RAs’ superiors, were also in attendance. Regarding the third condition, the NCBI training workshop does encourage members to be somewhat intimate about their honest reactions regarding prejudice; however, RAs may have hesitated to express their prejudices or their experiences of discrimination with their working colleagues. Therefore, the condition of intergroup cooperation is additionally questionable. This study therefore adds to evidence that the “core conditions” of ICT are not essential for contact to incur attitude change. By extension, the study implies that the first and fourth conditions are optimal for change.

The literature on ICT historically comments less about specific processes of ICT in favor of exploring empirical testing of the theory (Pettigrew, 1998; Pettigrew & Tropp, 2008). However, Pettigrew (1998) suggested a reformulation of ICT that adopts principles of other theories. One theory (i.e., Stephan & Stephan, 1984) prioritizes the impact of relative ignorance about out-groups (and its alleviation) incurring prejudice; it thereby implies that prejudice is reduced by increasing knowledge about the out-group.
Theory that stresses group de-categorization (e.g., Brewer & Miller, 1984), and later, re-categorization (Anastasio, Bachman, Gaertner, & Dovidio, 1997; Gaertner, Dovidio, Anastasio, Bachman, & Rust, 1993) propose that at different moments in group interaction, there are opportune conditions for improved relations. Pettigrew (1998) proposes the following integration with the above theories.

First, a member of an identified in-group works to learn (more) about an identified out-group. This may lead to a subtle behavioral or cognitive change towards the out-group, whereby out-group members interact with in-group members and begin to feel more positively toward them (perhaps, through a sub-process of allaying cognitive dissonance about previously-held prejudices held toward that group). In the next step, empathic ties with the out-group may form, and result in such phenomena as developing friendships. New interactions may, in turn, lead to a re-appraisal of one’s in-group, wherein one explicitly or implicitly questions the in-group’s world values and life expectations, and/or have less contact with one’s in-group, in favor of the out-group.

Future replication of the current study that measures administered at different stages along the NCBI intervention may clarify how Pettigrew’s re-formulated ICT may elevate awareness of privilege and oppression, and reduce prejudicial attitudes.

**Implications for Research**

This study employed a quasi-experimental design and used sound measures to explore whether a diversity intervention could promote awareness of privilege and oppression and decrease racist and sexist attitudes. The results for the experimental group indicated that although the training did not encourage participants’ overall awareness of privilege and oppression, there is tentative evidence that it may have
promoted change in participants’ awareness of Christian privilege. This finding must be analyzed quite skeptically as demographic information about participants’ religious or spiritual identification was not collected, and therefore, its potential confounding influence is unknown. It would be prudent to replicate this research with hypotheses directed towards the subscales of the POI, such that replication of the above post-hoc results would support the idea that this intervention should focus on specific domains of privilege awareness. As noted above, with a different, larger sample, there may also be reductions in different types of prejudicial attitudes.

During an NCBI workshop, identification with certain social groups (e.g., White, gay, female, and/or Jewish self-identification) varies depending on the participants who are in that training group. Future research could keep track of which aspects of identity are discussed in each NCBI training group. For example, some variance would be accounted for by the planned discussion of a particular characteristic of diversity (i.e., religious identification). If such a manipulation were used in replication of the current study, it might demonstrate how Christian privilege became a salient target for a particular training group(s). Additionally, to note how and when change occurs during the intervention, measures could be taken at different times during the training period. This may be of particular interest for researchers who wish to identify the degree to which participants are truly cooperating during the intervention, or, as in Pettigrew’s (1998) argument, when and how group de-categorization is achieved.

Another concern of prejudice-reduction research is the issue of using few outcome measures. As noted by Paluck and Green’s (2009) review, “outcome measures should be increased to capture prejudice from different angles, especially with
unobtrusive and behavioral measures” (p. 357). Other prejudice measures such as the Modern Racism Scale (McConahay, Hardee, & Batts, 1981) could be used to additionally tap into racial prejudice. To alternatively address the “positive side” of diversity training, measures such as the M-GUDS (Miville et al., 1999), a scale that has been used with college students, might be integrated. Another option is the White Privilege Attitudes Scale (Pinteritis, Poteat, & Spanierman, 2009) which might demonstrate convergent validity with the POI (or POI-1) of the intervention. Implicit attitude measures of prejudice such as the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998) would be helpful to detect deeper cognitive structure behind prejudice. Behavioral measures—such as participants’ efforts to interrupt prejudicial jokes or insults—might be used to determine how the NCBI training successfully engendered prejudice reduction behaviors, as well as diversity-affirming ones. Unobtrusive behavioral measures would also address the additional concern of social desirability with self-report measures of the POI and QDI.

One further consideration for future research is an examination of group composition. Again, there is disagreement whether homogeneity in groups is superior (due to less impression management), or heterogeneity is preferred (because there is more opportunity for intergroup learning and less possibility of out-group tokenism). If the current study were to be replicated, this issue may be of particular interest because (as noted above) oppression affects different groups differently, and so the nature of NCBI training groups and which components of social identity become salient during the training group—as well as their motivations to make contact—can become influenced by the particular composition of the group. For example, if the group’s ratio of male to
female is 10:1, then it could be difficult to challenge sexist prejudices during the training period.

**Implications for Practice**

The non-significant results suggest that prejudice reduction interventions might focus on one aspect of identity or diversity in order to achieve the desired effects; this would imply that interventionists should define diversity narrowly and/or choose one or two demographic characteristics upon which the intervention focuses. The NCBI model defines diversity broadly and allows for multiple discussions of sameness and difference to occur, as participants are free to discuss their own identities. The practice of broadly defining diversity is generally favored by diversity training professionals. As Bezrukova, Jehn, and Spell (2012) note in a narrative review of studies across different diversity training environments, trainings that target one particular group have the potential pitfall of priming effects, such that members of a majority group become defensive and, perhaps, more prejudiced and/or less aware of privilege and oppression. The findings were tentative, but one possibility is that this study’s intervention served to heighten awareness of Christian privilege, in part, because, although Christian privilege may have been discussed during the training groups, there was no “singling out” Christian group members as culpable of discriminatory acts. Future research and practice may shed light on whether brief interventions such as NCBI succeed as a direct result of this complex picture: adopting an inclusive definition of diversity, and yet allowing a focus of the training to settle on one aspect of diversity so as to minimize potential defensiveness of majority group members.
One consideration of this training is its brief nature. There is equivocal support for long- versus short-term interventions, however most experts (i.e., Pettigrew & Tropp, 2011, Roberson, Kulik, & Tan, 2013) endorse the idea that a one-day training should not be considered a success in isolation of other factors of diversity experiences. It is discussed among diversity training professionals that workshops such as those studied here are best thought of as one component of a systemic “diversity initiative,” and so many practitioners and researchers would question the long-term effectiveness of a one-day intervention. As Gurin and colleagues (2002) articulated, students come into contact with diverse others in a variety of contexts and experiences, many of them informal, throughout the college experience. Further research that employs the NCBI intervention while controlling for the impact of other diversity experiences would be helpful. Such research would be of particular assistance in delineating the long-term effect of the intervention on awareness of various types of privilege, and on cognitive and affective components of racism and sexism.

A further consideration of this training is its mandatory nature. Research is somewhat unclear on the subject of requiring diversity training. Rynes and Rosen (1995) found that mandatory training among mid-level managers was perceived as more successful than voluntary. However, Pettigrew and Tropp (2011) analyzed prejudice reduction interventions and found that mandated training tended to have negative or smaller positive effects than voluntary training. Another recent study found that explicitly requesting participants to reduce prejudice actually increased prejudice (Legault, Gutsell, & Inzlicht, 2011). In a survey of other diversity training studies, Kulik, Pepper, Roberson, and Parker (2007) found that voluntary diversity training was
associated with more positive outcomes. In addition, Kulik and colleagues found that those participants with greater empathy and competence around diversity topics were more likely to attend and benefit from diversity training sessions. Considering these findings, it may be argued that, in order for diversity training to be successful and outcomes to be maximized, the training experience might be made voluntary. In addition, based on the effects of social learning theory or de-categorization, those who are less diversity-competent (and/or more prejudiced), might benefit more so from a long-term intervention.

Lastly, it is important to note that this research project involved the primary investigator’s ongoing contact with the local NCBI chapter, the Student Voice database managers, and the University’s residential life staff. In order to manage the implementation of the NCBI intervention—and to allow for its study—several teams of trainers were required, in part, to satisfy the logistical needs of the University’s residence life staff and training space availability. The trainers were recruited based on their availability and their level of experience. The local chapter of the NCBI organization donated her time to co-ordinate the training teams and also to pass out and collect manipulation check questionnaires. Management of these tasks proved challenging, but were generally accomplished. When implementing prejudice-reduction and diversity-affirming interventions that require empirical testing, diversity training professionals should be aware that the co-ordination of different professionals and systems can become management-intensive activities.
Study Limitations and Strengths

As with all research, especially with field intervention studies, there are several significant limitations to the current study that should be acknowledged. Generalizability is limited to college students who have chosen to be leaders, and to those who have chosen and been accepted to be trained RAs. As noted above, this leadership population may be more pro-social and open to experience, such that they have greater tolerance or affinity for diversity and less tolerance for prejudice than do most college students, and therefore, they differ from the overall college population. However, their pre-intervention scores on the dependent measures were similar to previous research with college students. In addition, there are no available studies demonstrating the effectiveness of an intervention on awareness of privilege and oppression or its components. The study results supplement this area of research, and in so doing provide some guidance in choosing or designing useful and effective multicultural interventions.

A further concern is that of mono-operational bias. The QDI is a well-established measure of racist and sexist attitudes; however, a supplemental measure that also taps such discriminatory attitudes would be helpful to minimize such bias. The POI is currently a recognized, reliable measure that examines the positive side of prejudice reduction work, that is, the elevation of pro-diversity attitudes. Again, an additional measure of awareness of privilege would be essential to minimize that bias. Also, there may be more conceptual ties between the constructs of awareness of privilege and oppression, and racist and sexist attitudes (and others), such as those suggested by Ponterotto and Utsey (2006). Future research may more closely wed the relationship between the constructs within the prejudice reduction literature.
Mono-method bias is also a concern, as both POI and QDI operate only within self-report measures. Future research that employs alternate measurement types for awareness of privilege/oppression and prejudicial attitudes will be required to isolate extraneous variance. A noteworthy addendum to this issue is that any attitude measure holds some intrinsic limitation to validity. As noted above, any attitude measure actually acts as a “proxy” for person’s attitude. As other research methods investigations have noted, studies on attitudes must be considered in the context that interventionists likely do not change persons’ attitudes, but perhaps they instead may encourage change in attitudes.

As noted above, social desirability bias may have been a threat to the internal validity of the study since many of the items may be identified as ones that draw politically correct responses (e.g., “There are benefits to being White in this society” and, “I feel somewhat more secure that a man, rather than a woman, is currently president of the United States.”). This may be of considerable concern during the second (and, for the experimental group, also the third) administrations of the two measures. However, it is encouraging that some earlier evidence has shown that the POI and the QDI are each somewhat undisturbed by social desirability response bias (Hays et al., 2007; Ponterotto et al., 1995). In addition, internal consistency estimates taken from each group at each time period proved strong. Both measures were developed within a period of U.S. history and context in which issues of “political correctness” were particularly controversial, yet they generally succeed in subtly tapping respondents' attitudes and awareness.

Although the decision to combine racial/ethnic group participants was statistically justified (e.g., low sample sizes of each group), this is not optimal. Pettigrew and Tropp
(2011) noted that ICT’s effects are far greater for majorities than for minorities. Also, prejudice and oppression are experienced differently among different minority members, and so it may be particularly critical that White and/or other majority identity participants’ prejudices be reduced and multicultural awareness be heightened. Future researchers should attain greater representation of these groups, analyze their data separately, and examine potential nuances between groups.

As Pettigrew (1998) noted, there are several questions about localizing ICT as the complete factor contributing to reduced prejudice. There is often limited generalizability. The current study offers no contribution on that score as it is limited to undergraduate students at a mid-sized public university, and the intervention did not maintain its effects over time; it is unclear whether the intervention successfully taught the participants how and when to intervene. Several types of measures at different contexts and different time points would improve the current study and address these problems. Qualitative interviews may be additionally helpful to clarify how and why participants raised their awareness of privilege and oppression.

One major stimulus for this study was to employ an acceptable control group such that the strongest possible inference could be drawn regarding effectiveness. However, due to the characteristics of the student leader sample, the inferences require temperance. Still, the ways in which these two groups were similar—their prior contact with NCBI—may avail a slightly different, although very tentative, alternate conclusion. Given the fact that many diversity training or prejudice reduction interventions have their most significant impact in the participant’s first exposure (that is, upon first becoming aware about, for example, racism, or other aspects of social inequality), perhaps what is
understood in the current study is a description of what occurs after repeated exposures to the NCBI training, that is, a negligible, additional change can be achieved.

There are also considerable strengths of this study. As the literature review explicated, many studies of prejudice reduction interventions suffer from poor design and reliance upon untested measures. The current study improved on that trend in one way by employing the use of a suitable comparison group. Extraneous variables such as prior NCBI training or casual cross-cultural interactions between pre- and post- intervention are controlled in that they were distributed equally, and therefore, presumed to affect both groups equally. As the comparison group received the second and third administrations of the POI and QDI within the same periods as the treatment group, the effect of training is generally isolated from any influence of differential timing of the measures’ administrations.

The current study also employed a well-established measure of racist and sexist prejudice and a validated measure of awareness of privilege and oppression. With these gauges of prejudice and appreciation of diversity, there is confidence that the constructs in question are being measured adequately. Without such substantiated measures, extraneous variance associated with measurement error could not be isolated.

The NCBI workshop is a manualized intervention, and employed the use of a manipulation check on trainers, which minimizes random error due to differential application of the intervention to all training groups. A further methodological strength is the use of psychometrically sound outcome variables, thereby allowing more accurate inferences to be made about the results; such rigor has the potential of correcting some of
the problems found in prejudice reduction study (cf. Paluck and Green, 2009, Pettigrew & Tropp, 2011).

To conclude, the results of this study expand the literature on college diversity training for college students. More research is needed in this area in general due to the increased focus by college administrators to create multicultural environments that not only sanction different forms of prejudice but affirm diversity and social justice attitudes. This study covers new ground by examining whether pro-social, pro-diversity attitudes can be elevated by a brief intervention. Finally, there are no available studies demonstrating the effectiveness of attitude change due to NCBI training. The data generated from this study will provide a baseline for future work with NCBI and with pro-diversity constructs.

Conclusions

The current study investigated the effect of a diversity training workshop on awareness of privilege and oppression and on prejudiced and sexist attitudes, compared to a comparison group. A second aim of the study was to demonstrate the training’s maintenance effects. Results indicated that there were no significant results for broad awareness of privilege or for broad prejudicial attitudes. However there was tentative evidence that the intervention promoted increases of the experimental group’s awareness of Christian privilege, and those changes were maintained at three-month follow-up. More research would be needed to re-inforce a tentative conclusion that the intervention could be effective for certain domains of awareness of privilege and oppression.
References


Table 1.

*Summary of Numbers of Participants Over Time and Across Years*

<table>
<thead>
<tr>
<th>Time</th>
<th>Experimental</th>
<th></th>
<th>Control</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yr1</td>
<td>Yr2</td>
<td>Sub</td>
<td>Yr1</td>
<td>Yr2</td>
<td>Sub</td>
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<tr>
<td>1</td>
<td>24</td>
<td>34</td>
<td>58</td>
<td>49</td>
<td>42</td>
<td>91</td>
</tr>
<tr>
<td>2</td>
<td>21</td>
<td>19</td>
<td>40</td>
<td>29</td>
<td>18</td>
<td>47</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>10</td>
<td>19</td>
<td>14</td>
<td>9</td>
<td>23</td>
</tr>
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</table>
Table 2.

Demographics of Participant Groups at Time 1

<table>
<thead>
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<th>Category</th>
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<th>Control</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>39</td>
<td>67.2</td>
</tr>
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<td>Men</td>
<td>19</td>
<td>32.8</td>
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<tr>
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<td>0.0</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Black or African-American</td>
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<td>22.8</td>
</tr>
<tr>
<td>Asian or Asian-American</td>
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<td>7.0</td>
</tr>
<tr>
<td>Latino/a</td>
<td>7</td>
<td>12.3</td>
</tr>
<tr>
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<td>40.4</td>
</tr>
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<td>7.0</td>
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<tr>
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<tr>
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<td>0.0</td>
</tr>
<tr>
<td>Past Diversity Training or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-cultural Coursework</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some</td>
<td>14</td>
<td>24.1</td>
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<tr>
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<td>75.9</td>
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Table 2.

Demographics of Participant Groups at Time 1 (continued)

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<tr>
<td></td>
<td>$n$</td>
<td></td>
</tr>
<tr>
<td>Past NCBI workshop attendance</td>
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<tr>
<td>None</td>
<td>19</td>
<td>33.3</td>
</tr>
<tr>
<td>At least one</td>
<td>38</td>
<td>66.7</td>
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<tr>
<td>Previous leadership experience</td>
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</tr>
<tr>
<td>Yes</td>
<td>41</td>
<td>71.9</td>
</tr>
<tr>
<td>No</td>
<td>16</td>
<td>28.1</td>
</tr>
<tr>
<td>Did not answer</td>
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<td>0.0</td>
</tr>
<tr>
<td>Year in School</td>
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<td></td>
</tr>
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<td>2$^{nd}$ year</td>
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</tr>
<tr>
<td>3$^{rd}$ year</td>
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<td>32.8</td>
</tr>
<tr>
<td>4$^{th}$ year</td>
<td>22</td>
<td>37.9</td>
</tr>
<tr>
<td>Did not answer</td>
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<td>0.0</td>
</tr>
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Table 3.

*Internal Consistency Coefficients for Dependent Variables per Group and across Data Collections.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>POI</td>
<td>Experimental</td>
<td>.92</td>
<td>.95</td>
<td>.94</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>.95</td>
<td>.96</td>
<td>.96</td>
</tr>
<tr>
<td>QDI</td>
<td>Experimental</td>
<td>.85</td>
<td>.83</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>.83</td>
<td>.85</td>
<td>.83</td>
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### Table 4.

*Number of Potential Participants Responding to Solicitation for Each Group and for Each Time*

<table>
<thead>
<tr>
<th>Time</th>
<th>Experimental</th>
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<th></th>
<th>Comparison</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yr1</td>
<td>Yr2</td>
<td>Sub</td>
<td>Yr1</td>
<td>Yr2</td>
<td>Sub</td>
</tr>
<tr>
<td>1</td>
<td>33 (9)</td>
<td>47 (13)</td>
<td>80</td>
<td>80 (30)</td>
<td>344 (303)</td>
<td>424</td>
</tr>
<tr>
<td>2</td>
<td>24 (3)</td>
<td>28 (8)</td>
<td>52</td>
<td>40 (11)</td>
<td>22 (4)</td>
<td>62</td>
</tr>
<tr>
<td>3</td>
<td>16 (7)</td>
<td>10 (0)</td>
<td>26</td>
<td>25 (10)</td>
<td>16 (7)</td>
<td>41</td>
</tr>
</tbody>
</table>

*Note:* Numbers inside parentheses indicate numbers of cases that were eliminated for excessive missing items from the QDI and POI measures. Yr1 = Year 1 data; Yr2 = Year 2 data.
Table 5.

*Normality Statistics for Study Variables*

<table>
<thead>
<tr>
<th></th>
<th>Skewness</th>
<th>Kurtosis</th>
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<tr>
<td></td>
<td>Experimental</td>
<td>Comparison</td>
</tr>
<tr>
<td>POI</td>
<td>.06</td>
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<tr>
<td>QDI</td>
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<td>.77</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>Comparison</td>
</tr>
<tr>
<td>POI</td>
<td>.17</td>
<td>-1.05</td>
</tr>
<tr>
<td>QDI</td>
<td>.41</td>
<td>-.82</td>
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</table>

*Note.* POI = Privilege and Oppression Inventory; QDI = Quick Discrimination Index.
Table 6.

*T-tests for Dependent Variables at Time 1 across Year 1 and Year 2*

<table>
<thead>
<tr>
<th></th>
<th>Yr 1</th>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>POI</strong></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>t</td>
<td>df</td>
</tr>
<tr>
<td>Yr 1</td>
<td>170.84</td>
<td>23.27</td>
<td>.88</td>
<td>147</td>
<td>.38</td>
</tr>
<tr>
<td>Yr 2</td>
<td>167.36</td>
<td>25.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QDI</strong></td>
<td></td>
<td>98.60</td>
<td>6.39</td>
<td>.32</td>
<td>147</td>
</tr>
<tr>
<td>Yr 1</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Yr 2</td>
<td>98.25</td>
<td>6.62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. POI = Privilege and Oppression Inventory; QDI = Quick Discrimination Index; Yr 1 = Year 1 Data; Yr 2 = Year 2 Data.*
Table 7.

*Intercorrelations for Scores of Age and Study Variables Across Groups (n = 149)*

<table>
<thead>
<tr>
<th>Measure</th>
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<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>1. POI</td>
<td>--</td>
<td>.04</td>
<td>-.06</td>
</tr>
<tr>
<td>2. QDI</td>
<td>--</td>
<td></td>
<td>-.03</td>
</tr>
<tr>
<td>3. Age</td>
<td>--</td>
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<td></td>
</tr>
</tbody>
</table>

Note: POI = Privilege and Oppression Inventory; QDI = Quick Discrimination Index. No correlations were found to have significance at the .05 level.
### Table 8.

**Means and Standard Deviations for Study Variables Per Group, at Each Time**

<table>
<thead>
<tr>
<th></th>
<th>Experimental M (SD)</th>
<th>Comparison M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POI</td>
<td>172.19 (21.94)</td>
<td>167.07 (25.40)</td>
</tr>
<tr>
<td>QDI</td>
<td>98.43 (6.06)</td>
<td>98.41 (6.78)</td>
</tr>
<tr>
<td><strong>Time 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POI</td>
<td>170.10 (23.58)</td>
<td>171.91 (27.64)</td>
</tr>
<tr>
<td>QDI</td>
<td>111.65 (11.58)</td>
<td>97.23 (9.54)</td>
</tr>
<tr>
<td><strong>Time 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POI</td>
<td>178.63 (23.78)</td>
<td>170.65 (32.54)</td>
</tr>
<tr>
<td>QDI</td>
<td>112.37 (13.23)</td>
<td>105.78 (14.97)</td>
</tr>
</tbody>
</table>

*Note:* POI = Privilege and Oppression Inventory; QDI = Quick Discrimination Index. Time 1 N’s are 58 and 91 for Experimental and Comparison groups, respectively. Time 2 N’s are 40 and 47 for Experimental and Comparison groups, respectively. Time 3 N’s are 19 and 23 for Experimental and Comparison groups, respectively.
---

Table 9.

*Independent t-tests and ANOVAs for Study Hypotheses 1, 2, 5 and 6*

<table>
<thead>
<tr>
<th>Hypothesis/variable</th>
<th>Group</th>
<th>M (SD)</th>
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<th>df</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td><strong>1-POI</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>167.85 (23.12)</td>
<td>-1.13</td>
<td>39</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td>Time 2</td>
<td>170.10 (23.56)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2-QDI</strong></td>
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*Note:* * denotes significance at < .05 level. POI: Privilege and Oppression Inventory. QDI: Quick Discrimination Index.
Table 10.

*Independent t-tests and ANOVAs for Study Hypotheses 3 and 4*

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*Note:* * denotes significance at < .05 level. POI: Privilege and Oppression Inventory. QDI: Quick Discrimination Index.
Table 11.

*Independent t-tests and ANOVAs for Post-hoc Hypotheses (relevant follow-up tests located in next table)*

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### Table 11.

*Independent t-tests and ANOVAs for Post-hoc Hypotheses (continued)*

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Table 11.

*Independent t-tests and ANOVAs for Post-hoc Hypotheses (continued)*

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*Independent t-tests and ANOVAs for Post-hoc Hypotheses (continued)*

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*Independent t-tests and ANOVAs for Post-hoc Hypotheses (continued)*

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*Note:* * denotes significance at < .05 level. POI: Privilege and Oppression Inventory. QDI: Quick Discrimination Index. Sub-units of the terms s1, s2, etc., refer to subscales. For example, POIs1 is POI-1, or, subscale 1 of the POI.
Table 12.
Dependent T-test Follow-up for Post-hoc Tests

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Table 12.

*Dependent T-test Follow-up for Post-hoc Tests (continued)*

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<td>22</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>POIs4t2</td>
<td>47.35 (8.96)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>POIs4t1</td>
<td>47.22 (8.43)</td>
<td>2.54</td>
<td>22</td>
<td>.02*</td>
</tr>
<tr>
<td></td>
<td>POIs4t3</td>
<td>44.09 (10.06)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>POIs4t2</td>
<td>47.35 (8.96)</td>
<td>2.48</td>
<td>22</td>
<td>.02*</td>
</tr>
<tr>
<td></td>
<td>POIs4t3</td>
<td>44.09 (10.06)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* * denotes significance at < .05 level. Exp: Experimental Group. Comp: Comparison Group. POI: Privilege and Oppression Inventory. QDI: Quick Discrimination Index. Sub-units of terms s1, s2, etc., refer to subscales. For example, QDIs1 is QDI-1, or, subscale 1 of the QDI. Sub-units of terms t1, t2, and t3 refer to data collection times for the corresponding scale.
Figure 1.

Boxplot Analysis of POI
Figure 2.

Boxplot Analysis of QDI.
Figure 3.

Results of Repeated Measures ANOVA for POI
Figure 4.

Results of Repeated Measures ANOVA for QDI
Figure 5.

*Interaction Effect of Time and Group on Christian Privilege Awareness*
Figure 6.

Interaction Effect of Time and Group on Heterosexism Awareness
Figure 7.

Effects of Time and Group on Cognitive Racial Attitudes
Appendix A

Demographics Questionnaire – Experimental Group

1. Pre-selected Identification Code (to be destroyed at termination from study)

2. Age: ____________  3. Gender: ______

4. Racial/Ethnic Identification
   a. Bi-racial or Multi-racial
      If yes, what groups do you belong to? ______
   b. Black or African-American
   c. Asian or Asian-American
   d. White/Caucasian/White Euro-American
   e. Latino/a
   f. Native American
      If yes, what specific tribe do you care to identify with? ____
   g. So called “other”
      If yes, what groups do you prefer to list to describe your racial/ethnic identity? ____

5. Year in School:
   ____ 2nd year   ____ 3rd year   ____ 4th year or above

6. Previous RA experience (Circle One):   Yes / No

7. Previous multicultural training/workshop/coursework:   Yes / No
   If “yes,” please indicate which of the above, name of training/workshop/courses and when and
where taken: ____________________________________________________________
8. Previous NCBI training Yes/No

9. Upon completion of the training: Were you satisfied with the training experience today?
   Yes / No
   Please explain why or why not: ________________________________
   ___________________________________________________________
Appendix B

Demographics Questionnaire – Comparison Group

1. Pre-selected Identification Code (to be destroyed at termination from study)


4. Racial/Ethnic Identification
   a. Bi-racial or Multi-racial
      If yes, what groups do you belong to? ______
   b. Black or African-American
   c. Asian or Asian-American
   d. White/Caucasian/White Euro-American
   e. Latino/a
   f. Native American
      If yes, what specific tribe do you care to identify with? ____
   g. So called “other”
      If yes, what groups do you prefer to list to describe your racial/ethnic identity? ____

5. Year in School:
   _____ 2nd year   _____ 3rd year   _____ 4th year or above

6. Previous RA experience (Circle One):  Yes / No

7. Previous multicultural training/workshop/coursework:  Yes / No
If “yes,” please indicate which of the above, name of training/workshop/courses and when and where taken: ____________________________________________________________

8. Previous NCBI training Yes/No
Appendix C
Manipulation Check for NCBI Trainers

1. True or False. All of the components of today’s NCBI Welcoming Diversity training were executed by our trainer team.

   A. True
   B. False

   If “False,” which one of the component(s) was omitted? _____________________

   ____________________________________________________________

2. Please answer the following question by circling one of the choices below.

   The NCBI Welcoming Diversity training today was executed by the trainers in a way _____ to that of a “model training.”

   Very similar      Somewhat similar       Somewhat dis-similar          Very dis-similar

3. After reading the intro and target question, please circle one of the choices below.

   In a typical training, the execution of some of the NCBI components is better suited to one of the trainers more so than others, which is expected. Usually in the planning stage among NCBI team members, an effort is made to evenly spread the responsibility and workload among trainers. Usually the training as it is carried out follows closely to that plan.

   As for your team’s execution of the NCBI Welcoming Diversity training today, generally speaking, to what degree was the work load and content coverage conducted equally among trainers?

   A. There was a general “balance” in the workload among trainers
   B. The senior trainer perhaps took on most of the workload and time.
   C. The junior trainer(s) perhaps took on most of the workload and time.
4. What was the approximate duration of time, in minutes, your training team allotted to each of the NCBI components today? [Please note: Introduction and Closing are purposely not included so please do not include those amounts of time in your accounting.]
   a) Up/Down
   b) Pairs (stating memberships)
   c) Theory of NCBI training
   d) First thoughts
   e) Internalized Oppression
   f) Pride
   g) Caucuses
   h) Speak-outs
   i) Role Plays

5. Please take a brief moment to list your number of experiences executing the NCBI Welcoming Diversity training prior to today. (There is no need to list your name; simply choose the appropriate line corresponding to your role today and make your best estimate of number of trainings.)

<table>
<thead>
<tr>
<th># Trainings as the lead/senior position</th>
<th># Trainings in a junior/support position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead trainer (your role today)</td>
<td>Junior trainer (today)</td>
</tr>
<tr>
<td></td>
<td>Junior trainer (today)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
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