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Evaluating the effectiveness of a diversity training in an educational organization

Bonnie Gail Elliott

EVALUATING THE EFFECTIVENESS OF A DIVERSITY

TRAINING IN AN EDUCATIONAL ORGANIZATION

A Thesis

Presented to the

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by

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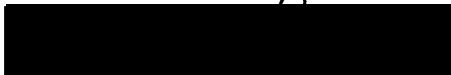---

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ABSTRACT

Diversity training programs are increasingly being
incorporated into organizations as a strategy to meet
moral standards and legal challenges. Unfortunately,
little research has been conducted to demonstrate the
effectiveness of these programs. This study describes an
effective diversity training program as one that changes a
member of the organization's negative attitude about
racial differences toward a positive attitude. First, the
study tests the effectiveness of a diversity training
program. The study then assesses whether adding computer-
mediated chat to tradition diversity training further
changes attitudes. A pilot study to develop a survey to
assess diversity training effectiveness is also described.

Participants in the investigation consist of 474
university students, of whom, 323 are females, 150 males,
240 are Caucasian, 123 Hispanic, 54 Asian or Pacific
Islander, 38 African American and 14 Native American
students. Main and simple effects are examined on each
component of attitude, those being cognition (history and
current events), affect and behavior (action and
awareness). Multiple Analysis of Variance reveals a main
effect of diversity training on attitudes, F (2,188) =

3.083, $p < .05$, $\eta = .032$, $\phi = .59$. This main effect is largely due to the univariate effect of training on students' affect, $F(2,187) = 70.944$, $p < .01$, $\eta = .431$, $\phi = 1.0$. Support for the continued use of diversity training is offered. The addition of computer-mediated chat to enhance diversity training is discussed.

ACKNOWLEDGEMENTS

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CHAPTER ONE

INTRODUCTION

The present study evaluates the effectiveness of Race
and Racism training in two university courses. One Race
and Racism training intends to change students' attitudes
by using lectures. The second Race and Racism training
intends to further change attitudes by using lectures plus
computer-mediated chat.

There are several challenges faced by race educators
related to the design, delivery and evaluation of
diversity training that contribute to the methods and
design of this research. First, little pedagogical
direction exists for the design and implementation of
effective diversity training. Second, few researchers
have contributed to the evaluation of diversity training
to determine effectiveness, which has further confused the
direction for educators.

Despite the challenges, there is a need to continue
and improve diversity training in organizations. A
proposed solution includes the use of existing research
methodology to evaluate diversity training. New direction
for training design is offered. An introduction and

overview of a new technique, computer-mediated chat, that

helps to challenge racist attitudes, is described.

CHAPTER TWO

DIVERSITY TRAINING

Current Diversity
Training Trends

The number of educational institutions, particularly
universities, making use of diversity workshops and
developing courses dedicated to diversity issues is
swiftly increasing. McCauley, Wright & Harris (2000)
provide some valuable insight into what educational
institutions are currently doing to address race relations
at their universities. McCauley et al. (2000) conducted
telephone interviews about the use of diversity workshops
with administrators from 281 four-year universities from
around the United States. (McCauley et al. define a
diversity workshop as a "short-term training program
usually lasting for a few hours and involves discussion,
group and individual exercises, to explore attitudes
toward marginalized groups. Some workshops might make use
of multimedia, interactive programs, or behavior
modeling.") The results of the interviews revealed that
diversity workshops have been implemented in 81% of U.S.
colleges and universities. Another notable finding from

these interviews was that McCauley et al. found little consistency among the diversity workshops employed by the universities. Diversity workshop involved a range of activities anywhere from sharing stories of bias and discrimination, to group exercises that challenged ethnic differences. This lack of consistency further complicates the generalizability of diversity training effectiveness across trainings.

The Need for
Diversity Training

The trend for universities to institute some form of diversity training highlighted in the McCauley et al. (2000) article indicates that members of organizations continue to have concerns about racism. Reducing racism in organizations is not a problem of the past. Universities are taking pro-active steps toward preventing harassment or violence related to racism. It is critical that organizations continue implementation of diversity training if they are to challenge racist attitudes.

Shift in Demographics

Also contributing to the need for diversity training are the demographic and economic changes occurring within

the United States and throughout the world. These changes
are increasing the diversity of interpersonal and inter-
group relationships in educational organizations (Galagan,
1991). With recent trends in immigration, an aging
population, and an increasing number of women entering and
re-entering college, interpersonal relationships within
organizations are becoming more complex. To address these
interpersonal complexities, diversity training is a viable
and popular intervention. Diversity training is likely to
emerge where there has been a recent increase in
demographic diversity and where an increase is expected
like those experienced in educational institutions
(Fulkerson & Schuler, 1992).

Organizational Necessity

Aside from the inevitable diversification of members,
organizations have other needs that are supported through
diversity training. Organizations that have obligations
to the government to comply with Affirmative Action
generally offer diversity training to facilitate
understanding of these obligations. An organization that
does not address members' discriminatory attitudes is
vulnerable to lawsuits. There has also been increased

societal pressure from civil rights groups for organizations to devise diversity initiatives. The 1996 A.T. Kearney survey revealed that 74 percent of organizations with diversity efforts attribute them to business, societal and/or political pressures not basic ethical values (Caudron, 1997). The other 26 percent welcomed diversity because it was morally and ethically the right thing to do.

In addition to societal and federal obligations, prejudiced attitudes are counter-productive to organizations. Discriminatory attitudes may cause valuable individuals to leave, reduce productivity, increase absenteeism, and lead to harassment or violence (Triandis, Kurowski & Gelfand, 1994). Although an organization might consist of diverse people, that does not necessarily mean it provides a supportive environment for minorities. The organizational atmosphere may be unpleasant for minorities and non-minorities contributing to the need for diversity training.

Recent literature on diversity is encouraging organizations to embrace the idea of incorporating people from different backgrounds who have diverse ideas

(Triandis et al., 1994). Unfortunately, increased efforts to get organizations to diversify their members do not mean that discrimination is a problem of the past. Individuals bring their own personal values and belief systems to the organization's environment. These beliefs may be racist, sexist, or prejudiced in some way. Organizations may chose to use diversity training to address or even prevent problems related to racism.

In the Absence
   of Diversity Training

Diversity training continues to be the primary intervention to address prejudiced attitudes in organizations. However some organizations disfavor or do not provide diversity training. In addition, the effectiveness of a diversity training intervention is rarely defined or evaluated by organizations, thus leading to skepticism about its use. This has prompted researchers to examine what happens to student's attitudes in the absence of diversity training. Henderson-King and Kaleta (2000) conducted research that assessed changes in inter-group tolerance across a single semester of undergraduate education. They examined how feelings about different racial groups were affected by undergraduate

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diversity experiences. A general ideology in universities that offer a liberal arts curriculum is that racial tolerance will be instilled in students as a result of experiencing a liberal arts environment. This was not the case in Henderson-King and Kalenta's research. They found that the liberal arts educational environment did not typically facilitate an acceptance of diversity. The researchers compared students who were involved in diversity-related courses to students who did not take the course. Over the period of one semester, students who did not take the diversity course were reported to have even more negative attitudes toward different groups than at the beginning of the semester. In the absence of diversity training, undergraduate students become less tolerant of others over just one semester.

Demographic shifts, organizational productivity and the persistence of racism all contribute to the need for diversity training. Universities across the United States recognize these issues and efforts to implement training are growing. Unfortunately, efforts have been made without substantial guidance from the research community on effective diversity training design or evaluation. The

present research intends to add new direction for those

planning to design, implement and evaluate their diversity

efforts.

CHAPTER THREE

EVALUATING DIVERSITY TRAINING

Current Evaluation Trends

The phone interviews conducted by McCauley et al.

(2000) also inquired about the evaluation methods employed

by universities to determine the effectiveness of their

diversity workshops. Most administrators surveyed

reported with confidence that the diversity workshop had a

positive effect on students. When McCauley et al. asked

if the university had employed an evaluation to verify the

impact of diversity workshops on students' attitudes or

behaviors, none of the universities had. Rather, most

universities conducted qualitative evaluations immediately

following the workshop. These evaluations consisted of

questions regarding student reactions about the presenter

and what the students thought about the presentation. 81%

of the institutions had students complete written

evaluations, and 2% conducted a focus group. 17% did not

use any form of evaluation.

The McCauley et al.'s (2000) interviews provide

important insight into what universities are doing to

evaluate the impact of their diversity training. There are

many universities offering diversity workshops that have
little to no support that the workshops result in a change
in attitudes or behaviors regarding race relations.
Systematic evaluation includes experimental research
methods to quantify a change realized in attitudes as a
result of attending diversity training thus, justifying
the effectiveness of diversity training. It is necessary
to make use of systematic evaluations of diversity
training if one is to demonstrate its effectiveness and
utility to the university.

The Need to Evaluate Diversity Training Effectiveness

The need to evaluate diversity training effectiveness
has been emphasized by only a handful of educators and
researchers. Diversity professionals generally agree that
training that incorporates knowledge about cultural
differences and multicultural skills for communication
will decrease bigotry, prejudice and discrimination
(Kiselica & Maben, 1999). However, there have been few
systematic evaluations of diversity education to
demonstrate this reduction in prejudice. It is necessary
to demonstrate through sound research techniques whether

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or not diversity training actually eradicates the prejudiced beliefs and behaviors of the students involved in the training (Kiselica & Maben).

Some powerful arguments supporting the need to systematically evaluate diversity training have been provided by Kiselica and Maben (1999). They reviewed several studies that reported to reduce prejudice, but did not make use of sound experimental methods. First, they reviewed an educational program for counseling students that reported to reduce prejudice through either multicultural education or diversity appreciation training. This research asserted that students who completed the diversity training perceived themselves as experiencing positive changes in their attitude toward minorities. Although feelings of positive changes are important, quantitative methods are needed to measure the level of insensitivity before training, the extent of the change in attitudes, and the permanence of these changes. The conclusion in the study firmly stated that prejudices were reduced. However, Kiselica and Maben point out that this conclusion was made in the absence of quantitative methods. The extent and nature of prejudice reduction was

not measured. Cause and effect inferences regarding the relationship between diversity training and prejudice reduction were limited because the authors did not employ experimental design to evaluate the relationship.

Another concern raised by Kiselica and Maben (1999) regarding current techniques for evaluating diversity training was that many studies used invalid instruments for measuring cultural bias reduction. It is necessary that the developers demonstrate the validity of instruments purporting to measure prejudice reduction. Diversity training effectiveness remains unclear when the investigators fail to use reliable and valid measures of racism.

Kiselica and Maben (1999) discussed that there is a great deal of uncertainty about the effectiveness in reducing prejudice of short-term diversity training such as a single workshop versus long-term diversity training such as a university course. Many of the studies they reviewed reported to reduce prejudices through both workshops and courses. The qualitative and descriptive studies reviewed suggested that training over time is more likely to result in prejudice reduction than is a single

workshop. However, these qualitative evaluations described above are not enough to infer a cause and effect relationship.

Summary

Despite the recent proliferation of diversity training programs, there has been little research on the effectiveness of these programs (Kiselica & Maben, 1999). In addition, the research on diversity training effectiveness that does exist typically ignores quantitative measurement and is insufficient. The research is generally concentrated in the qualitative nature of training content and evaluation (Kiselica & Maben, 1999), the most prevalent evaluation method being qualitative feedback from trainees (Bhawuk & Triandis, 1996). Unfortunately, trainees' reactions to the training ignore whether attitude change occurs (Rynes & Rosen, 1995). Few organizations measure how their members' behaviors or attitudes are influenced by the training at all (Carnevale & Stone, 1994).

Guidance for the Present Study. Although attitudinal, behavioral and cognitive changes are expected from diversity training, it is not enough to support these

changes with current evaluation techniques. The lack of quantitative evaluation has left educators with little guidance on how to design effective diversity training programs (Roberson, Kulik & Pepper, 2000). Kiselica and Maben's (2000) research has provided guidance to the development of the current study's methods. Specifically, two ten week long courses have been chosen to evaluate to increase the likelihood of attitude change. The present research makes use of a sound experimental design to evaluate the effectiveness of diversity training. Pre-test and post-test measures were used to examine the extent of attitude change in trainees as a result of diversity training. A pilot study was employed to demonstrate the validity of the attitude measure that was used. In addition, control for threats to internal validity related to pre-test exposure was addressed. Only quantitative data was collected and assessed to measure attitude change.

An Effective
Diversity Training Defined

The scant research on diversity training evaluation has left researchers with no direction on how to measure or even define training effectiveness. The present research intends to provide some insight to how one might define an effective diversity training. In addition, this research outlines an appropriate way of measuring those constructs that are indicative of an effective training.

The primary reason for instituting diversity training is to increase learning in the area of study, anti-racism. Training is defined as the "systematic acquisition of skills, rules, concepts, or <u>attitudes</u> that result in improved performance in another environment" (Goldstein, 1993). Learning is a multidimensional construct that includes changes in affective, cognitive and behavioral components (Kraiger, Ford, & Salas, 1993). The existing literature on the effectiveness of diversity programs generally agrees that successful training influence attitudes, values and ways of relating to one another (Rynes & Rosen, 1995).

The current research makes use of a definition concurrent with all of those listed above. This study

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defines an effective diversity training program as one that results in the change of an individual's negative attitude where it exists, to a more positive attitude with regard to racial differences. Attitude change includes affect, cognition and behavior as they relate to racism. However, it is not enough to simply define the constructs under study. The next chapter will consider the feasibility of changing attitudes and provide direction to measuring that change.

CHAPTER FOUR

MEASURING ATTITUDE CHANGE

Attitudes

Social psychologists have a long history of examining attitudes as they relate to racism. When it comes to defining the relationship between attitude and racism, there are two primary theories. The first describes a clear division of attitude. There is a cognitive, affective and behavioral component to attitude. Stereotypes reside in a person's cognition, prejudice resides in a person's affect, and discrimination is the manifestation of racism through a person's behaviors (Eagly & Chaiken, 1998). The second theory describes stereotypes, prejudice, and discrimination as inseparable constructs that fall under one umbrella, prejudice (Fiske, 1998). The present research subscribes to the first theory, a clear division of attitude as being comprised of cognitive, affective and behavioral components as they relate to stereotypes, prejudice, and discrimination respectively.

Clearly relating this model of attitudes to the present research was key to development of the survey used

to evaluate training effectiveness. Cognitive refers to accurate knowledge acquired about race groups. This study measures accuracy of knowledge through history and current event questions. Affect refers to a change in personal feelings toward valuing racial differences. This study measures a person's affect by their frequency of endorsing prejudice statements about race groups. Behavior refers to the actions that individuals engage in related to racial differences. This study measures behavior through self-report activities and behavior scenarios that describe discrimination.

Changing Attitudes

The present study defines an effective diversity training as one that leads to a positive change in attitudes. Historically, prominent social psychologists have debated about whether attitudes are a part of the human psyche that can be changed. Fortunately, recent research has provided a positive outlook for the possibility to change a person's attitude as it relates to stereotypes, prejudices, and discrimination. The Handbook of Social Psychology provides an overview of research related to this very question. Fiske (1998) summarizes

the research by stating that there is some automaticity and socially pragmatic aspects to stereotyping, prejudice and discrimination that contribute to the difficulty of changing attitudes. The automization and socially pragmatic aspects of prejudice seem grim to educators who seek to eradicate racism. However, there are aspects of stereotyping, prejudice and discrimination that can be controlled by individuals (Fiske, 1998). It is the ability to control attitudes that plays a critical role for trainers who challenge racist beliefs. Stereotypes and prejudice stay in tact due to a lack of information or a lack of correct information that allows the racism to persist (Fiske, 1998). Through diversity training, incorrect information relating to race groups can be replaced with more accurate information, leading to a change in attitudes. Students involved in diversity training can override cognitive biases like prejudice because stereotypes, prejudice and discrimination are subject to the person's intent and control (Fiske, 1998). The present research uses Race and Racism training as a mechanism to replace any incorrect information students might have with correct information about race groups in

an effort to change their attitudes as they relate to pre-existing stereotypes, prejudice and discrimination.

Measuring Attitude Change

Measuring attitude change to demonstrate training effectiveness can be achieved through administration of pre and post-test surveys. Measuring attitudes before the implementation of diversity training allows researchers to determine baseline attitudes. In addition, evaluators can measure the extent of prejudice reduction by obtaining those baseline attitudes before training and then comparing them to attitudes after training (Galagan, 1991). This experimental design allows for cause and effect inferences regarding the relationship between diversity training and prejudice attitudes. The present research closely follows Galagan's suggestions to measure attitudes. Pre and post-surveys were administered to students prior to beginning each course and again upon completion of the ten week session.

CHAPTER FIVE

DESIGNING DIVERSITY CURRICULUM

FOR THE PRESENT STUDY

Careful consideration has gone into the content and delivery of the diversity training described in this research. The choice of training method has been designed to maximize the likelihood of attitude change. An in depth description and justification of the training content and delivery methods are provided.

Defining Racism

In developing curriculum, it is necessary to define racism in order to devise clear objectives for the course as well as facilitate understanding. The present Race and Racism training course defines racism as a "system of exclusion and privilege, and a set of culturally acceptable linguistic or ideological constructions that define one's location in that system" (Wellman, 1993). The course also defines and instructs students about individual and institutional racism. According to Locke and Kiselica (1999), individual racism is a "personal belief that people of one group are inferior".

Institutional racism occurs when "individual racial beliefs are imposed in laws, customs, or practices that reflect racial inequality".

Addressing Racism

Race relations have changed dramatically in the United States, as have the expressions of racism. The expression of racism today is much more subtle, which adds to the complexity of challenging racist attitudes in training. Because Americans have shifted from open, overt forms of expressing discrimination to more subdued, covert forms of racism (Dovidio, Mann, & Gaertner, 1989; Jacobson, 1985; McConahay, 1986; Sears, Hensler, and Speer, 1979) it is difficult to design and facilitate trainings that address these subtleties in attitudes, behaviors and cognition.

A Race and Racism training that prompts students to examine their feelings and cognitions that reside below the surface of interracial dialogue is needed to address modern racism (Sydell & Nelson, 2000). Discussions surrounding racism in the classroom elicit a range of emotions. Some students may want to avoid the issues altogether. However, discourse on Race and Racism must be

delivered in order to understand what racism is and how it effects individuals as well as groups (Locke & Kiselica, 1999). The Race and Racism courses used in this study were designed to challenge students despite their fears. Educators gently challenge their students to examine their erroneous beliefs about one another. Students are taught to understand racism in their own lives and how it effects other lives overtly and subtly.

Training
Content: Anti-racist
versus Multiculturalism

In addressing racism through training, it is important to determine the breadth of the training content. The majority of diversity trainers today attempt to design a curriculum that is all encompassing of the vast differences among people in contemporary educational settings or organizations (Spencer, 1998). Other diversity trainings are designed with more salient curricula that challenge belief systems about only one "ism". The current research examines the effectiveness of a diversity training with a primary focus on racism.

In designing programs aimed at reducing racism, educational institutions have struggled whether to design

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curriculum to be anti-racist or to be multicultural in it's content. Multicultural curriculum describes curriculum that is very broad in content and intends to increase awareness about cultural differences (Spencer, 1998). The content of multicultural education varies between schools. Some teachers define their lessons about Spaniards, Greeks or the Aztecs as an effort to increase cultural awareness. Others illustrate the impact of racism by discussing the Holocaust. There has been a great deal of concern and criticism surrounding the emergence of multicultural classes that claim to reduce racism through lesson plans like those described above. Spencer states that some of these multicultural courses are no more than rhetoric and that if we want to reduce racism in schools we must move beyond just rhetoric.

Anti-racist curriculum is an effort to move beyond the rhetoric. Anti-racist curriculum is designed to address racism, social injustices and power inequalities through direct discussion about these issues as they existed in the past and how they continue to exist today (Spencer, 1998). Anti-racist curriculum is concentrated

on race relations, examining individual attitudes toward groups and challenging those attitudes.

Because educational programs that address racism are rarely quantitatively evaluated it is presumptuous to draw a conclusion about which is more effective. However, an examination of the current debate between multi-cultural and anti-racist content has provided some direction in choosing training content for the present study. By examining the advantages and disadvantages identified by educators, the present research makes use of the training content that is presumed to be more effective in changing racist attitudes.

Although multicultural education is a valuable curriculum to increase awareness and understanding of cultural differences, anti-racist curriculum is needed if the goal of the class is to reduce racism. Anti-racist programs provide a more salient approach to challenge overt and subtle racist beliefs that are at the core of bigotry (Spencer, 1998). Some educators feel that providing students with multicultural education is all that is necessary to address differences between groups. However, anti-racist educators believe that multicultural

education does not teach students about social, economic,

and political inequalities of certain groups that are

inherent in racism. Furthermore, it is unclear whether a

multicultural curriculum reduces prejudice and racism

(Spencer, 1998). Multicultural education may even

overemphasize cultural differences, and by doing so hope

that student's attitudes will be more positive toward

minorities. Spencer stated that a general view held by

anti-racist educators is that multicultural programs are

"tourist curriculum". The programs can be patronizing by

emphasizing the "exotic" differences between cultures.

Furthermore, multicultural programs trivialize and avoid

the reality of everyday problems and experiences people of

different ethnicity face.

In consideration of the arguments above, the present

study has targeted two trainings that are consistent with

anti-racist curriculum. Based on the literature reviewed,

there was reason to believe that an anti-racist curriculum

would be more effective in positively changing student's

attitudes regarding racism. Because the primary objective

of the trainings were to reduce racism and not just

increase awareness of cultural differences, anti-racist

curriculum was chosen as the most direct avenue to challenge racist attitudes.

Traditional Diversity
Training Delivery

Traditional diversity training methods in educational settings, at minimum, include a lecture style format. Lectures can vary from a single one-hour lecture to a structured curriculum lasting up to a few months. Lecture only formats include a passive learning style. Passive learning involves static, finite, linear and private learning (Greenhalgh, 2001). The present study, in part, examines the effectiveness of this lecture only style of race training on attitude. However, one other delivery style is also examined, computer-mediated chat.

Enhancing Traditional
Diversity Training Delivery

One way to enhance the passive lecture style of traditional diversity training is to introduce other mediums through which students can learn. Computer-assisted learning is our proposed alternative to enhance traditional lecture only diversity education. Educationalists are very optimistic about the use of

technology to enhance traditional training methods. Technology creates an active learning environment. By introducing computer-assisted learning, specifically, computer mediated chat, students have the opportunity to learn actively rather than passively consume knowledge as is common in a lecture only format. Computer assisted learning makes the once static, finite, linear, and private training content into a dynamic, open ended, multidimensional and public way to acquire knowledge (Greenhalgh, 2001).

It is important to understand that computer-mediated chat is not a substitute for traditional lecture style training methods. Computer-mediated chat is one way to enhance instruction and personal contact with peers, instructors, the community and other subject experts. Guthrie (1992) states that there is a higher-level of achievement associated with computer-assisted instruction, specifically when it is used to supplement a traditional lecture format. In addition to higher achievement, computer-assisted learning improves attitude and increases motivation in learning.

Computer-mediated Chat

The use of computer-mediated chat has rarely been used as a medium to assist student learning in the area of diversity. Most of the research on computer-mediated chat and training to date has examined learning in a very broad sense, not specific to racism. Given that this is a fairly new technology and a virtually unexplored method of challenging racist attitudes, an overview of advantages and disadvantages to using this technology is provided.

Advantages of
  Computer-mediated Chat

Current pedagogical approaches support the introduction of computer-assisted learning environments to increase the interaction between peers and experts for collaborative learning. The creation of new learning environments through the use of computer-mediated communication can be a powerful training medium (Mioduser, Nachmias, Lahav, & Oren, 2000). The use of this technology allows for the individualization of training needs and creates an easy access environment for student and mentor interaction (Mioduser et al., 2000). Computer-mediated communication can involve the use of e-mail, group conferencing, or internet relay chat, in order to

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communicate with peers, instructors, community members or other experts.

Advantages to using technology as a supplement to traditional teaching styles have mostly been examined where interactive teleconferencing was the primary technological interface between lecturer and student. This research demonstrated several advantages that we may assume transfer to the use of other computer-mediated chat. Computer-mediated chat turns conventional passive training methods into an active training method. Students learn more effectively when they are made to process information actively which stimulates deep cognitive processing of the training content (Anderson, et al., 1975).

Computer-mediated communication can also increase access of subject matter experts and/or role models from the surrounding community to students. The computer can provide a means for interaction outside of the classroom between classmates, mentors and lecturer thereby increasing student and community member communication (Omatsaye, 1999). Omatsaye suggests that the use of computers introduce an exciting way for students to

interact with each other and the community. It provides a forum for free speech on topics relevant to the training content, prompts responses to discussion questions from all those in the chat room and allows immediate feedback. Computer-mediated communication interrupts a certain amount of monotony involved in passive listening common to lectures and encourages the personalization of the material from the training.

Other advantages for using computer-mediated communication exist for subject matter that is sensitive or taboo, such as race relations training. One advantage might be that computer-mediated communication could provide an anonymous forum for students and community members to share ideas or attitudes without disclosing their own demographics and identity. Research conducted on Microsoft's On-line Training Institute indicated that a major advantage was that trainees felt a great deal of privacy and were more comfortable in raising questions in the chat room than in face-to-face training (Huang, 1997). Computer-mediated communication can also help break down barriers involved with traditional university-based instruction where issues of power, status and authority

sometimes inhibit student involvement in discussion and learning (Goffman, 1974).

Another important facet of group Internet relay chat is that it shifts the locus of control for learning on to the student. This shift encourages more responsibility for learning from the individual which has been attributed to improved learning (Mioduser et al., 2000). A related advantage is that chat allows students to gain more individual attention outside of the classroom. Here, a student can individually tailor the training to meet their needs. Individual instruction has been demonstrated to be more effective than conventional instruction (Bloom, 1984).

Research on computer based role playing (via chat) for interpersonal skills training indicated that computer based role-playing enhances interpersonal skill development (Holsbrink-Engles, 1997). One reason for this may be that the computer role-playing allows students to practice conversational skills, have an opportunity for reflection of other chat member's comments and increase the opportunity for individualized learning and contribution to discussions (Holsbrink-Engles, 1997).

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Similarly, research on computer simulations for ethical decision making demonstrated that the effectiveness of these simulations in part is due to the opportunity for students to reflect on their decision making (Frame & Flanagan, 1997). Students not only learned what ethics are, they were given the opportunity to apply what they learned when presented with computer simulated questions about ethics. The computer simulation encouraged students to engage in critical thinking and be metacognitive (Auerswald, 1985; Hoffman, 1990)--that is to think about their own ideas, opinions or thought process to be able to explain to others why they maintain that set of beliefs.

Groups in Computer-mediated Communication. The use of groups in computer-mediated communication can be useful for a variety of forms of group work including brainstorming, discussions, challenging belief systems and generating ideas. Groups gain both social and cognitive benefits from working together (Dickson & Vereen, 1983) in a shared communicative contexts like that which is provided in computer-mediated chat groups (Broome & Twymon, 1985). Other benefits of working in groups include increased efficiency, increased achievement,

social modeling, peer reinforcement, support and trust (Vyotsky, 1978; Watson, 1990). Research on the use of Group Support Systems (GSS), a computer based collaborative work system, has demonstrated effectiveness in group discussion, group decision making, negotiating, problem solving (Valacich, Dennis, & Connolly, 1994) and group member interaction (Jessup & Egbert, 1995). In addition, computerized group support systems such as a chat group can provide structure to the group discussion, enable simultaneous electronic talking and listening, and provide a written record of the group discussion for reference at a later time.

Trainee Confidence with Computer-mediated Training. A general assumption among educators is that interacting with technology has the potential to be intimidating to some students. However, a review of the literature demonstrates that this effect is not as strong as the assumption. For example, as a result of interactive computer training with social work students, student's increased knowledge and competency in the area of study, as well as became more comfortable with the use of interactive multimedia training (Cauble & Thurstone,

2000). Further research indicated that through the use of chat, women's involvement in group discussions was increased beyond normal face-to-face decision making involvement (Gopal & Miranda, 1997). The same research suggested that computer communication might also facilitate involvement from other minorities with regard to ethnicity, religion and culture where face-to-face discussion may otherwise inhibit their contribution. Computer-mediated communication can facilitate valuable contributions of all group members and decrease the potential interruption of majority group members. Finally, computer-mediated communication can reduce meeting, public, and group communication apprehension.

Combining Novices and Experts in Computer-mediated Chat. The present research combines students and mentors from the community in weekly group Internet relay chat sessions. In order to benefit from the group chat, experts on Race and Racism from the community were asked to join the discussion groups on-line. Heeding Greenhalgh's (2001) caution that there is a certain amount of danger in allowing inadequately trained mentors to be involved in the electronic chat, mentors were chosen from

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reputable minority education groups and other minority professional groups from the community.

Disadvantages to
Computer-mediated Chat

There are however, some potential challenges to implementing computer-mediated communication. Trainees must have the basic knowledge of computer operating systems and interactive chat. They must be motivated to take advantage of the chat as a valuable learning tool and not passively observe others' electronic conversations. Trainees must also be able to communicate effectively in writing to express their opinions electronically (Huang, 1997). Greenhalgh (2001) stated that while some students perceive their electronic chat group as warm, friendly and a supportive on-line community, others perceive the experience to be as facing a group of strangers.

Conclusion

In an effort to enhance the effectiveness of traditional diversity training delivery, the present research implemented computer-mediated chat groups. Based on the literature reviewed above, there was sufficient reason to believe that the addition of computer-mediated chat served as a tool that allowed students to explore

their beliefs, the beliefs of others, reflect and express their values and thus, increasing the chance of changing biased attitudes. The use of computer-mediated chat allowed them to practice the course content through discussions about the socio-political, historical and current issues surrounding racism which were also measures of attitude change in this study. Computer-mediated chat engaged students in active learning, which has been shown to improve learning. The Race and Racism training communication required complex interpersonal skills, required students to reflect on others' opinions, engage in individualized learning and contribute to race relations discussions. Practicing communication via internet relay chat was important in diversity training where we hoped that students would be more likely to apply their knowledge acquired about race relations to the real world as well as challenge their own and other's belief systems. Through computer-mediated chat, the trust, support and acceptance that are critical to anti-racist training environments was facilitated.

The findings described above provide support to adapt computer-mediated communication for diversity

training delivery. The seemingly overwhelming advantages of using computer-mediated chat led to the use of this medium to enhance Race and Racism training in the present study. A review of the literature revealed that no information exists on the use of computer-mediated communication to enhance the instruction of diversity training. This research is the first of its kind known to the researchers.

CHAPTER SIX

THE PRESENT STUDY

The Present Study

The intent of the present research is first, to evaluate the effectiveness of traditional diversity training in a university and second, to determine if the implementation of computer-mediated communication further enhances traditional diversity training effectiveness. A measure developed to evaluate the effectiveness of diversity training is also described.

Hypotheses

Attitudes consist of an individual's affect, cognition and behavior. These constructs were measured on a total of five scales. Each of the five scales are hypothesized to experience a main effect as a result of attending Race and Racism Training.

Hypothesis 1: Race and Racism training will result in more positive attitudes as measured by cognition (history and current events) regarding diversity.

Hypothesis 2: Race and Racism training will result in more positive attitudes as measured by affect regarding diversity.

Hypothesis 3: Race and Racism training will result in more positive attitudes as measured by behavior (action and awareness) regarding diversity.

Furthermore, the addition of computer-mediated chat is hypothesized to enhance the main effect on trainee attitudes regarding diversity. Given that experts like Greenhalgh (2001) and Guthrie (1992) demonstrated that computers improve learning, there is reason to believe that including computers in one of the Race and Racism classes will also improve learning for students. The addition of computer chat will provide another avenue for students to communicate about Race and Racism issues in order to enhance their learning and result in positive change in attitude.

Hypothesis 4: Lecture diversity training combined with computer-mediated chat will significantly improve Race and Racism training effectiveness over lecture only Race and Racism training on each of the five scales listed in the above hypotheses statements.

Methods

<u>Participants</u>

The research was conducted at a University in the southwestern United States. Students self-selected into one of three elective courses. One control group involved Psychology 100 lectures. Two treatments included a Race and Racism with lecture, or Race and Racism with lecture plus computer mediated chat. Treatments and control were identified prior to student enrollment. A total of 630 students were initially involved in the study. However, over the duration of the quarter some students elected out of the class or the study resulting in 486 participants. Further reduction in the sample size occurred due to the existence of outliers in the analyses. Twelve students were deleted from the final analyses resulting in 474 participants. Students in the control group, a Psychology 100 class, totaled 143. Students in the Race and Racism class with lecture only totaled 168. Students in the Race and Racism class with lecture plus computer-mediated chat totaled 163.

A diverse representation of participants with regard to gender and race were included in each of the three

experimental groups. Of most importance is the racial background of respondents. Respondents were Caucasian 51%, Hispanics 26%, Asians and Pacific Islanders 12%, African Americans 8%, and Native Americans 3% of which 68% were female and 32% male. The majority of students involved in the study were third and fourth year students with a mean age of 26. For a complete description of sample demographics, see Table 1.

Materials

Survey Design. A survey was designed to measure the effectiveness of Race and Racism training. An effective training is one that results in attitude change. To measure a change in attitude, the survey assessed participant's knowledge of history, knowledge of current events, affect, actions and awareness of behaviors. Each of the five scales comprised of questions about five minority groups; African Americans or Blacks, Native Americans, Hispanics, Asians, and Pacific Islanders.

To measure changes in attitude as a result of Race and Racism training participation, cognition was measured by knowledge of history surrounding minority groups as well as knowledge of current events. The two knowledge

scales assessed factual knowledge with questions about

history and current events. Eight history items were

based on content in the Race and Racism text used for the

university training. Options for the history scale

consisted of "agree", "disagree", or "don't know".

However, in the analysis of this scale, "don't know" was

re-coded as "disagree". Eight current event items were

extracted from the Lexus Nexus legal and business database

and covered the last two years, 1998-2000. Options for

this scale were "highly likely to occur in today's news",

"moderately likely to occur in today's news", "rarely

likely to occur in today's news", and "not at all likely

to occur in today's news". A third scale, affect, was

measured by prejudice endorsement. Ten prejudice

statements were composed among three race relations

subject matter experts, inter-rater reliability > .90.

Options for the affect scale were "strongly agree",

"somewhat agree", "somewhat disagree", and "strongly

disagree". The fourth and fifth scales measured behavior

through self-reported action statements and awareness

scenarios about differing levels of discriminatory

behaviors. Five actions were measured by presenting the

students with statements like, "I have called someone of a different race a derogatory name because of their race." Student were given the options, "frequently", "occasionally", "rarely", and "not at all", to report their activity level. Awareness of discriminatory behaviors were measured by presenting students with ten short scenarios depicting discrimination or not-discrimination and asked to indicate either "discrimination", or "not discrimination" on the survey. Scenarios were developed by three race relations subject matter experts who were asked to answer the survey and examine the content validity. The resulting inter-rater reliability was > .90. A high score on each of the five scales is indicative of a positive change in attitude or increased tolerance gained by participating in the Race and Racism training. (The complete survey is provided in APPENDIX B)

Pilot Study. The survey described above was constructed for the purpose of measuring trainees' baseline affect, cognition, and behaviors as they relate to racial tolerance. A pilot study to determine the reliability of survey items was conducted before the

survey was used in the main study. Forty-three undergraduate psychology students participated in the pilot survey study. Cohen (1988) power tables state that with an N = 43, the power to find a moderate effect, r = .3, is .62. Item reliability was analyzed through Cronbach's alpha and was calculated for each of the five scales. Results from the pilot study indicated that all scales were reliable, history α = .80 , current events α = .80, affect α = .60, action α = .80 and awareness α = .74 (see Table 2).

Procedure

The two Race and Racism training conditions and one control condition described in this study were each an elective course. Attendance to each of the three training sessions was required only for the students who chose to enroll in the courses. At the beginning of the quarter, research assistants verbally provided each experimental group with a brief overview of the study, informed students of the sensitive nature of some of the questions, and ensured students that their answers to the questions would remain confidential. Students were then asked to volunteer to participate in the research. Those who agreed

were given an informed consent form to read and sign, the survey, and a debriefing statement (see APPENDIX B). The survey was administered using a traditional paper-and-pencil questionnaire. In order to increase participation, each professor was asked to provide students who completed the survey four extra credit points to apply toward their class grade. Students completed the survey on the first day and then again on the last day of each class and returned the survey during the same class period.

Description of
Treatment Groups

Three treatment groups were involved in the study. Two groups received diversity training and one control group did not receive diversity training. The two groups that received diversity training were individuals who were enrolled in two courses entitled "Race and Racism". The third group was a control group that consisted of individuals who enrolled in a Psychology 100 class.

Of the two treatment groups that received Race and Racism training, the first consisted of a lecture only format. The second treatment group consisted of lecture combined with computer-mediated chat. Neither courses involved peer discussions in class. However, an additional

element, computer-mediated chat, facilitated peer-to-peer and peer-to-community member communication in the second treatment group. Students and community members logged on to computers for a minimum of two hours per week to discuss an assigned topic on racism. It was expected that this extra layer of communication would further enhance student learning and reduce prejudice beyond that which would be realized through lecture only.

Solomon Type Group Design

The experimentation used a Solomon type design that is a model that optimizes internal and external validity. Evaluation of diversity training involves pre-testing. Pre-testing can threaten the conceptual and external validity of an experiment. By exposing the participants to the survey before treatment, we may find a testing effect. The Solomon design helps correct for the possibility of reduced validity (Gold, 1984).

Each of the three treatment groups were randomly divided into two additional groups, those who received the pre and post-test (groups 1,3 and 5), and those who received the post-test only (groups 2,4 and 6) for a total of six groups (see Table 3). The students in groups 1,3

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and 5 were provided with the pre-test and asked to complete the measures in class. Groups 2,4, and 6 did not receive pre-testing but completed a different survey unrelated to the present research.

Groups 1 and 2 attended the Race and Racism lecture plus computer-mediated chat training. Groups 3 and 4 attended Race and Racism lecture only. Groups 5 and 6 attended the control training, Psychology 100. Each training session consisted of a ten week quarter that included a two-hour class twice a week. All six groups received the post-test upon commencement of the training.

Treatment: Race and
  Racism Training Classes

The present study was conducted in two Race and Racism classes. The Race and Racism classes were the stimulus for applying concepts of racial tolerance. The Race and Racism class is a diversity training program designed to change negative attitudes of students regarding racial minorities toward a more positive tolerance of differences. One Race and Racism training consisted of lecture only style of instruction. A second Race and Racism course included lecture and engaged students in computer-mediated chat every week with

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community members. In the second stimulus, groups of eight students and community members were given a discussion topic each week and met on-line for a minimum of two hours to discuss the race relations issues.

Training in both classes concentrated heavily on sensitivity toward the following protected race groups: African American, Asian and Pacific Islander, Native American and Alaskan Native, and Hispanic. Each seminar concentrated on a different issue and involved mainly lecture style instruction. In addition, another issue addressed in the literature was that substantive change is unlikely to be realized in a single diversity training workshop (Ellis & Sonnenfeld, 1994). In an effort to optimize the liklihood of attitude change, the present study examined courses that were ten weeks in duration.

The first goal of the Race and Racism training was to change students' attitudes regarding diversity by increasing their knowledge of history and current events related to minority groups. A second goal of the Race and Racism training was to change students' affect from prejudice to non-prejudice feelings related to minority groups. A final goal of the Race and Racism training was

to decrease students' involvement in discriminatory behaviors and increase awareness levels of what constitutes discriminatory behavior.

During the tenth week of the quarter, participants were asked to complete the Race and Racism survey. Students were provided with the same survey and instructions described in the pre-test administration. Again, extra-credit points were offered to those who completed the survey.

Results

Overview of the Analyses

The current research examined the effect of diversity training on attitude toward race and racism. Analyses were conducted in three phases. The first phase examined if threats to internal validity related to the effects of pre-surveying were present. The second phase attempted to detect a main effect of diversity training on attitude by examining post-test scores on each of the five scales (history, current events, affect, action, and awareness). Based on significant results from phase two, the third phase examined univariate tests with ANCOVA on each of the dependent variables using pre-test scores as covariates.

Race and Racism Scale Reliabilities

Prior to analyses, the Race and Racism scale was checked to determine scale reliability. At time 1 and time 2 of the main study administrations the following reliabilities were found, current events (Time 1 α = .75, Time 2 α = .82) affect (Time 1 α = .81, Time 2 α = .80) history (Time 1 α = .36, Time 2 α = .43), action (Time 1 α = .55, Time 2 α = .54) and awareness (Time 1 α = .48, Time 2 α = .53). (Means, standard deviations and alpha levels are provided in Table 4.) One possible reason for the low reliabilities achieved in the history and awareness scales may be that they both were scored dichotomously. Dichotomously scored variables can create a restricted range in variance particularly when responses mostly fall into one of the two categories (Tabachnick & Fidell, 2001). Most students answered correctly on both the history (M = 5.61 at Time 1, M = 5.91 at Time 2) and awareness scales (M = 8.98 at Time 1 and M = 8.88 at Time 2) potentially resulting in a deflated Chronbach alpha. Group differences may not have been entirely captured through these scales. Item statistics were analyzed for

scale improvement, however removal of items could not improve the scales. No items were deleted.

Correlations between the five scales were also examined. The survey provided students with five scales that measured racism through different constructs. Because each scale is related to one another but do not measure a redundant construct, it was expected that there would be low correlations between each scale. Table 5 illustrates their independence.

Multivariate Assumptions

Survey responses were analyzed using Multiple Analysis of Variance procedures available in SPSS 10.0. Prior to conducting the analyses, the data was examined for accuracy of data entry, missing values, distributions, and multivariate assumptions. A total of 31 students who indicated that they had taken the Race and Racism class previously were deleted from the control group. In addition, a total of ten univariate outliers were identified as having extremely low z scores on one or more of the scales. Four of these outliers were deleted from the control group, three were deleted from the Race and Racism lecture only group, and three were deleted from the

Race and Racism lecture plus computer chat group. Using Mahalanobis distance at $p < .001$, two within group multivariate outliers were detected; these cases were deleted. All twelve outliers were deleted prior to conducting the MANOVA, 474 cases remained. Multivariate assumptions for normality, linearity, and multicolinearity were met. The non-significant Box's M test, $F (75, 179564.5) = 101.15$, $p > .001$, demonstrates that homogeneity of variance-covariance was met in this analysis (Tabachnick & Fidell, 2001, p.330).

Phase One:
  Effects of Pre-testing

To check for internal validity, this research made use of the Solomon group design. Control for threats to internal validity are found in the post-test comparisons (Gold, 1984). It was possible to see what effect the pre-test had by comparing the post-tests of the six training groups.

To determine if being administered the survey at Time 1 affected students' responses at time 2, a 2 (pre-tested vs. not pre-tested) by 3 (not trained vs. trained lecture only vs. trained lecture plus computer chat) between-subjects Multiple Analysis of Variance was conducted using

the time 2 (post-test) data with five dependent variables: history, current events, affect, action, and awareness. Taking the survey neither directly affected training (Pillai's Trace = .013, F (5,464) = 1.26, p > .05) nor interacted with training (Pillai's Trace = .055, F (5,930) = 1.59, p > .05). (See Tables 6 and 7) It is optimal for the pre-test to have little or no effect on the post-test scores. This analysis demonstrates that mere exposure to the pre-test did not significantly influence the results of the students' post-training performance on the history, current events, affect, action or awareness scales.

Phase Two:
  Main Effect of Training

Because no pre-testing effect or interaction was found in phase 1, it was appropriate to examine the data further for effects of training and time. A 3 (lecture only vs. lecture plus chat vs. control) x 2 (time 1 vs. time 2) Multiple Analysis of Variance was conducted using the same five dependent variables as above (history, current events, affect, action, and awareness). The three training groups (control, lecture only and lecture plus chat) formed the between-subjects IV, within-subjects factor was time (pre-test vs. post-test). (Sample sizes,

cell means and standard deviations are provided in Tables 8 and 9).

Hypothesis One, Two and Three. The first three hypothesis statements were measured simultaneously through Multiple Analysis of Variance procedures. The hypotheses stated that Race and Racism training will have a main effect on student's attitude as measured by cognition (history and current events), affect, and behavior (action and awareness) regarding diversity. The hypotheses were partially supported. Race and Racism training did have a main effect on student's attitude. A significant training by time interaction was found (F (2,188) = 3.083, $p < .05$, η =.032, ϕ = .59). (See Table 10). In addition to this finding, a significant time effect was found (F (1,188) = 17.663, $p < .01$, η =.086, ϕ = .99). These findings indicate that there is a significant difference in pre and post-test survey scores between all groups, control, lecture only and lecture plus computer mediated chat. This significant main effect was justification to move on to univariate analyses.

Phase Three:
  Lecture Only versus Lecture
  plus Computer-mediated Chat

This study examined the effect of two different types of Race and Racism training courses. The first was a Race and Racism class with lecture only format. The second was a Race and Racism class with lecture and computer-mediated chat.

Hypothesis Four. Hypothesis four which stated that lecture diversity training combined with computer-mediated chat will significantly improve Race and Racism training effectiveness over lecture only Race and Racism training on each of the five scales (history, current events, affect, action, behavior) was supported for the affect scale. (Means and standard deviations can be found in Table 11.) Analysis of covariance revealed that the main effect found in the MANOVA is due to a significant univariate F on the affect scale. (F (2,187) = 70.944, p < .01, η =.43, ϕ = 1.0). As can be seen in Table 12, students who received the Race and Racism lecture only had an increase in affect toward minorities (time 2 M 2.63). Students who received the lecture plus chat experienced an even larger increase in their affect scores over time

(time 2 $\underline{M}$ 2.81). Significant differences between lecture only versus lecture plus chat were not found on the current events, history, action or behavior scales.

Discussion

Affect

A shortage of research that demonstrates change in prejudice attitudes has left room for speculation on whether or not training can change a person's attitude. In describing prejudice attitude, Allport (1954) stated that prejudice is considered irreversible if a person ignores evidence that exposes the contradicting belief. In general, prejudice is resistant to change. This is not to say that prejudice attitudes cannot be changed. This research was able to find that one component of attitude can change as a result of diversity training, affect.

The present research found a small change in student's affect as a result of diversity training. Although seemingly slight, any change realized in affect is an important achievement particularly in the subject of prejudice that has been hypothesized to be unworkable. The researchers did not expect that a lifetime of

collecting beliefs would be changed all together though one ten-week long Race and Racism course. However, this research demonstrates that movement toward more positive feelings about racial differences can be expected from diversity training.

For future researchers, an interesting trend might be found through an examination of affect means within the control group. If the control group endorsed more stereotypes at time two than they did at time one, this would support Henderson-King and Kalenta's (2000) research that suggests that a liberal arts curriculum alone is not enough to curtail prejudice. Non-supporters of Henderson-King and Kalenta's research advocate that a general college education should be sufficient to prevent prejudice attitudes. This argument is rooted in the idea that prejudice is caused by or related to ignorance.

Behavior

Contrary to our prediction, diversity training did not change students' behavior. A change in student behavior as measured by action on the Race and Racism survey would indicate that students reduced violent activities ranging from name calling to physical attacks.

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Pre-testing indicated that students in both diversity training groups have never engaged in more than name calling. Post-tests revealed that students maintained name-calling behavior but still did not engage in physical acts of violence. The lack of change in behavior is not necessarily cause for alarm. Allport (1954) stated that name-calling is common, however this behavior does not necessarily lead to physical violence. A natural progression from name-calling or antilocution to physical violence in not inevitable.

Neither of the diversity training groups experienced a change on the behavior awareness scale. A change on this scale would indicate that students are more effective in identifying discrimination. The lack of change in means on the behavior scale may be attributed to the fact that both groups performed exceptionally well on the pre-test survey items and duplicated that performance on the post-test. This suggests that that a potential hindrance to the survey outcomes may have been the nature of the participants. Participants appeared to be sensitive to the issues on this scale before receiving diversity training. An alternative to this may be related to the scale used to

measure awareness. The scale consisted of scenarios that described discrimination. Answers may have been obvious to keen readers.

Although a significant change in means was not experienced on the behavior scales by the diversity training groups, future researchers should look for negative relationships. A negative relationship might be cause for alarm in a control group if the control group admits to engaging in more violent activities in their post-test answers. In addition, stability experienced by any of the training groups could indicate that diversity training may be an effective tool to prevent escalation or at least control physical violence. It also indicates that diversity training may also be an effective tool to reinforce and maintain diversity awareness. If no change is experienced by the experimental groups, but a decline is experience by the control group, educators might want to consider mandatory curriculum for diversity training. However, future research is needed to determine if any differences exist between mandatory and voluntary diversity training outcomes.

Cognition

Contrary to our prediction, diversity training did not significantly improve students' performance on the cognition scales. The lack of group differences might be attributed to the nature of the scales. In the future, if a positive change is found in either the history or current events scales, consideration should be given to the general education that all college students receive.

Something else to consider is an alternative scale that measures prejudice cognition. Allport (1954) provides some insight as to why knowledge based survey items, such as the one used in this research, are not the best way to tap into prejudice attitude. Allport suggested that people might not be prejudice toward races about which they are most knowledgeable. Contrary to that belief, some people are motivated to gain a significant amount of knowledge about races they consider to be their worst enemies. Thus, increasing knowledge alone does not necessarily reduce prejudice or discrimination. Particularly, knowledge acquired through lectures is inferior when compared to knowledge acquired through experience in reducing prejudice.

Implications of the Study

Presently, there has been very little research conducted on the effectiveness of diversity training in organizations. As diversity training becomes more popular as an intervention to discourage discrimination, it is critical to measure the effects of training. The overall utility and justification for implementing a diversity training program can be strengthened by empirical support that diversity training does work. The present research serves as a model that practitioners ought to use to demonstrate training success. The result of this research is positive and can help reduce some of the skepticism that surrounds the effectiveness of diversity training. Diversity training in this study helped to change feelings that students' had related to people of different races. This is a critical starting point. A challenge for future researchers is to build on the present study to reveal the extent to which attitudes can be changed through diversity training.

This study narrowed the definition of diversity training effectiveness to say that a diversity program "works" if it changes the attitudes of the people who

attend the training. This research suggests that diversity training, that is, lecture only and lecture plus computer chat training, does change attitude on one level, a person's affect. This is a critical finding in that much of the research about attitude is skeptical about change. The present research supports the position supplied by Fiske (1998) that suggests that while prejudice attitudes are difficult to change, they are not impossible to change. Fiske stated that there is some automaticity and socially pragmatic aspects to stereotyping, prejudice and discrimination that contribute to the difficulty of changing attitudes. However, there are aspects of prejudice attitude that can be controlled by individuals. It is the ability to control attitudes that plays a critical role for trainers who challenge racist beliefs. Stereotypes and prejudice stay in tact due to a lack of information or a lack of correct information that allows the racism to persist (Fiske). By challenging incorrect information through diversity training, the present study was able to change attitudes.

The present study supports the claims made by researchers that attitude change can occur through a long-

term training. Kiselica and Maben (1999) discussed that
there is a great deal of uncertainty about the
effectiveness in reducing prejudice of short-term
diversity training such as a single workshop versus long-
term diversity training such as a university course. Many
of the studies they reviewed reported to reduce prejudices
through both workshops and courses, however they did not
use quantifiable data to confirm their claims. This
research has made use of appropriate quantitative methods
to assert the claim that long-term diversity training can
result in attitude change. Though, clearly more research
contributing to diversity training effectiveness is
needed.

This research can also support educators' arguments
about the importance of incorporating diversity training
into general education requirements. Henderson-King and
Kalenta's (2000) research suggested that a liberal arts
educational environment does not typically facilitate an
acceptance of diversity. As evident by the increase in
performance of the experimental groups in this study, we
found some support for their research. This study
compared students who were involved in diversity-related

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courses to students who did not take the course. Over the period of one quarter, students who did not take the diversity course did not experience a change in affect. The groups that did take the diversity course did experience a positive change in affect. This suggests that diversity training is not only essential in changing students' attitudes regarding racial differences, training is essential to maintain a pre-existing positive affect and possibly violence prevention.

The addition of computer-mediated chat can amplify attitude change. This study adds to the overwhelming positive literature on the advantages to using computer assisted learning. Anderson (1975), Mioduser (2000), Goffman (1974) and Omatsaye (1999) all provided advantages, some assumed and some confirmed through research, for increased learning through computer assisted training. However, research did not clarify what subject matter is best served by the addition of computers. The present research was able to identify a specific subject matter that is conducive and receptive to the addition of computer aided chat, racism.

It is difficult to determine exactly what about computer mediated chat improved affect in this study. Several factors may have contributed. Students were given an anonymous forum to discuss with other students and community members the sensitive issues that surround race. Communication beyond that which would have been allowed in a tradition lecture only classroom was required. Discussions over the computer encouraged students to relate sensitive race issues to themselves and may have contributed to the additional change in affect. Unfortunately, the reasons provided above regarding the success of computer mediated chat are all speculations. Future research is needed to determine what it is about computer communication that aided the change in affect for students. However, an important discovery in this research was that computers are a viable and successful platform to facilitate additional communication that reduces prejudice.

The results of this study suggest that diversity training is effective where the goal of the training is to change students' affect. Secondly, diversity training is needed to reinforce pre-existing positive feelings in

order to maintain affect and maintain behavior. Finally,
supplemental training methods such as computer-mediated
chat can be effective in enhancing traditional diversity
training to change student affect.

Limitations of the Study

This study used two elective Race and Raism courses
that students voluntarily opted to attend. The use of an
elective course raises a participant sensitivity
limitation for the study. Volunteers may initially posses
some sensitivity toward the racism issues of the class
that prompted them to chose to enroll. This initial
sensitivity to race issues may have contributed to the
high pre-test means found in the results of the study.
Although voluntary versus involuntary attendance was not
measured in this study, high means in the pre-test scores
indicated that groups were somewhat sensitive to the
issues before training.

A related limitation for this study was that we used
psychology students in the control group. Again,
sensitivity to race issues might be expected from students
that enroll in psychology courses. On many of the
measures, the control group initially scored higher than

one or both of the diversity training groups. This
suggests that the control group did in fact have some
sensitivity toward race and racism.

A second limitation to the study was the low scale
reliabilities found in the history, action and awareness
scales. At time 1 and time 2 in the main study, only two
scales, current events and affect, were found to have
sufficient coefficient alphas. Although the low
reliabilities experienced by history and awareness scales
may be related to their dichotomous scoring, no
explanation was found for the low reliability on the
action scale. An alternate explanation might be that the
scales included questions with low content validity. All
three of these scales are potentially problematic due to
their lack of ability to detect variability in the
population. An important issue to highlight here is that
although our scales were not as successful as the
researchers expected, the measurement of attitude in it's
entirety should not be aborted. Future attempts to
measure diversity training effectiveness should also
include each component of attitude (cognition, affect and
behavior) as they relate to prejudice and discrimination.

A final limitation to this study might be that the mean difference in affect could be perceived to be small. Perhaps the variance accounted for could be improved in future research. However, the researchers feel that any significant mean differences discovered in prejudice attitude change are important. The critical issue is that affect is not completely resistant to change. Incremental changes in attitude are important.

Future Directions

The present research was unable to detect any effects on the behavior scales. An explanation may be that the likelihood of detecting overt expressions of racism in students who chose to attend diversity training is far too small. Future researchers may want to consider alternate methods of measuring discrimination reduction as a result of diversity training. Perhaps an exploration of physical or social distancing might be a better measure of behavior for future researchers than the overt discrimination that was measured here.

In addition to measuring behavior differently, cognition should be measured differently. Allport (1954) has provided some direction on how prejudice cognition

might better be measured. He suggests that a person who is prejudiced uses very generalized thinking to the point that it is habitual. Probability is a concept that is rarely applied appropriately for prejudice thinkers. Categorical thinking also posses a problem. They find it difficult to differentiate categories by applying one category to many related objects or concepts. In addition, people who are prejudice have a difficult time tolerating ambiguity. Everything must fit into a familiar category.

Rather than using the traditional knowledge tests provided in this research, a combination of scales that measure generalizations, categorical thinking and tolerance of ambiguity may be more appropriate. These types of scales may reveal a resistance to change that is inherent in prejudice thoughts. If cognition is to be measured in this way, it is suggested to include exercises in probability as part of the diversity curriculum.

Since the Race and Racism courses in this study were voluntary and also resulted in high pre-test means, control for voluntary versus involuntary attendance could be a variable to be incorporated into the research design

for future research. It is possible to control for these variables. If no significant difference is found between voluntary and involuntary student outcomes, future researchers can provide educators direction in deciding to make diversity training mandatory.

The present research found some support for the use of computer-mediated chat as a supplemental training method. This was effective in improving students' affect. Future researchers may want to explore other types of computer assisted learning to aid in the improvement of cognition and behavior. One suggestion might be to provide students with computer modules that describe scenarios involving discrimination then ask them to chose the appropriate responding behavior. Other supplemental training methods might consist of adding behavior modeling to the diversity training (Bandura, 1971).

Little is known about the effectiveness of diversity training. Although some of the results in this study did not yield significant mean differences, an appropriate framework for evaluation was fully described. The present research provides a sound experimental design for future researchers that are interested in evaluating the

effectiveness of diversity training. Particularly,

control for internal validity through the use of the

Solomon group design that was used in this study can serve

as a guideline for researchers. In addition to the

experimental design, this study provides some good ideas

for the composition of a measurement tool that captures

the three theorized components of prejudice attitude. A

challenge for future researchers is to add to the body of

diversity training effectiveness research by improving the

scales and executing similar studies. This study provides

a comprehensive model for methodology researchers ought to

adopt to demonstrate attitude change as a result of

diversity training.

Conclusion

The present research supports the retention of race

training in educational institutions. Diversity training

can change students' affect regarding prejudice.

Furthermore, the addition of supplemental training methods

such as computer-mediated chat can further improve

students' affect.

Demonstrating diversity training effectiveness is

especially critical considering the state of race

relations today. There has been a resurgence of racism

expressed through old hate groups and a rise in new hate

groups. This suggests that diversity training has not

outlived is usefulness. Groups such as Aryan Nations,

Covenant Sword and Arm of the Lord, Christian Patriots,

and the Ku Klux Klan are active and destructive. Their

activity is made evident by statistics provided by The

Northwest Coalition against Malicious Harassment. In

1992, there were 956 racially motivated incidents such as

assaults, cross burnings, and vandalism in just five of

the Northwestern states, Idaho, Montana, Oregon,

Washington, and Wyoming (Spencer, 1998). Diversity

classes can help counter the negative attitudes that

contribute to the persistence of hate crimes and

prejudice.

The need to evaluate the effectiveness of diversity

training in organizations is also instrumental in

eradicating hate crimes, prejudice beliefs and

discrimination. Evaluation of curriculum reveals whether

or not diversity training works to reduce racism. Through

systematic evaluation, educators can determine a need for

curriculum improvements. By not systematically evaluating

diversity training, we are ignoring the outcomes.

Ignoring whether or not diversity training reduces racism

can be equated to the silence that continues to surround

this sensitive issue of race relation in America.

According to Locke and Kiselica (1999), "silence about the

issue of racism leads to its perpetuation." By not using

the best of our science to evaluate race training with the

rigorous experimental methods that are available, we are

ignoring whether the program works thus leading to the

perpetuation of racism.

APPENDIX A

Table 1

Demographics for all Survey Participants

	N	Mean
Overall Sample Size	474	
Age		26
Race		
Asian/Pacific Islander	54	
Native American	14	
African American	38	
Hispanic	123	
Caucasian	240	
Gender		
Female	323	
Male	150	
Sexual Orientation		
Heterosexual	453	
Gay	1	
Lesbian	10	
Bisexual	4	

Disability	
No	451
Yes	22

Practice a Religion	
Yes	321
No	153

Major	
Undecided	9
Business	106
Social/Behavioral Science	105
Math/Science	53
Education	5
Other Liberal Arts	196

Parent's Education	
Below High school	46
High school	187
Associates Degree	79
Bachelor Degree	97
Master Degree	47
Ph.D.	14

APPENDIX B

Informed Consent

This study is being conducted by Bonnie Elliott under the supervision of Dr. Mark Agars of the Psychology Department at California State University, San Bernardino. This study has been approved by the Psychology Department Human Subjects Review Board at CSUSB. The purpose of this study is to survey your current beliefs about different races in America. The results of this study will be used in the future to further develop the effectiveness of the Race and Racism course at CSUSB. There are no foreseeable risks associated with this study and your participation will take 30-45 minutes. Results from this study will only be reported in group format so that confidentiality will be maintained. Results from this study will be available from your instructor, Dr. Michael Lewin and Dr. Barry Ladner, after July 2001.

Please read the following before indicating that you are willing to participate.

1. The study has been explained to me and I understand the explanation that has been given and what my participation will involve.

2. I understand that my answers on this survey will in no way affect my grade in this course.

3. I understand that I am free to choose not to participate in this study without penalty, free to discontinue my participation in this study at any time and am free to choose not to answer any questions that make me uncomfortable.

4. I understand that my responses will remain anonymous. I may request group results of this study.

5. I understand that, at my request, I can receive additional explanations of this study after my participation is completed.

Please do not put your name on this questionnaire.

Please place a check or an X in the space provided below to acknowledge that you are at least 18 years old and have read and understand the statements above. By marking the space below you give consent to participate voluntarily in this study.

Thank you

_____   _____
Place an X here   Date

This questionnaire is anonymous and completely confidential. Do not put your name on this survey. It is very important that you be as honest as possible. If you are at all uncomfortable with the questions, you may stop taking this survey at any time. This survey is expected to take about thirty minutes of your time. The information gathered from this survey is crucial for maintaining and improving the race relations courses at California State University.

INSTRUCTIONS: Please answer only once for each question provided unless otherwise instructed. When you have completed the survey, fold it and seal it in the envelope provided to you. Thank you for your willingness to participate!

The following questions are about history. Please answer whether you Agree that the event described happened in our history or Disagree if the event did not ever occur to the best of your knowledge. If you do not know the answer, mark "Don't Know". Please do not guess.

1. In 1973, the tiny village of Wounded Knee on the Pine Ridge Indian Reservation in South Dakota was seized by supporters of the American Indian Movement.

_____ Agree _____ Disagree _____ Don't Know

2. Cesar Chavez led the United Farm workers in a strike against the lettuce growers of California to fight for the right of Mexican-American farm workers to have the same rights held by union workers in other industries.

_____ Agree _____ Disagree _____ Don't Know

3. In September 1957, under a federal court order, nine black children tried to go to the all-white Central High School in Little Rock, Arkansas.

_____ Agree _____ Disagree _____ Don't Know

4. Affirmative Action was first instituted into university policies and workplace policies in the early 1990's.

_____ Agree _____ Disagree _____ Don't Know

5. In the 1930s, some African Americans could not vote, could not enroll in universities, and could not be treated in hospitals.

_____ Agree _____ Disagree _____ Don't Know

6. The holocaust claimed the lives of millions of Jews.

_____ Agree _____ Disagree _____ Don't Know

7. The Klu Klux Klan has not been active since the 1960's once the Civil Rights Movement occurred.

_____ Agree _____ Disagree _____ Don't Know

8. There was a time when racial minorities have been forced to attend substandard schools.

_____ Agree _____ Disagree _____ Don't Know

9. A popular drink company is being sued for racial discrimination against four African American women, who claimed they were passed over for promotions and paid less than their white colleagues. An event like this is...

_____ highly likely to occur in today's news
_____ likely to occur in today's news
_____ somewhat likely to occur in today's news
_____ not at all likely to occur in today's news

10. A luxury hotel chain is charging African American customers higher prices than whites and segregating them in less desirable rooms. An event like this is...

_____ highly likely to occur in today's news
_____ likely to occur in today's news
_____ somewhat likely to occur in today's news
_____ not at all likely to occur in today's news

11. A popular pizza place is refusing to allow an African American family to celebrate their child's birthday in their restaurant. An event like this is...

_____ highly likely to occur in today's news
_____ likely to occur in today's news
_____ somewhat likely to occur in today's news
_____ not at all likely to occur in today's news

12. An African American family finds racial slurs and swastikas written in chalk on the driveway of their house. There are large swastika burned into the grass with chemicals at a park after a community celebration of ethnic and cultural diversity. An event like this is...

_____ highly likely to occur in today's news
_____ likely to occur in today's news
_____ somewhat likely to occur in today's news
_____ not at all likely to occur in today's news

13. A major university is undergoing a lawsuit of a Latina woman's claim of race discrimination. An event like this is...

_____ highly likely to occur in today's news
_____ likely to occur in today's news
_____ somewhat likely to occur in today's news
_____ not at all likely to occur in today's news

14. Three Latino males in a high school are arbitrarily singled out to attend a sexual harassment workshop. An event like this is...

_____ highly likely to occur in today's news
_____ likely to occur in today's news
_____ somewhat likely to occur in today's news
_____ not at all likely to occur in today's news

15. An owner of a popular Philippine restaurant discovers that someone spray painted "Dog Eaters" on his restaurant window. An event like this is...

_____ highly likely to occur in today's news
_____ likely to occur in today's news
_____ somewhat likely to occur in today's news
_____ not at all likely to occur in today's news

16. Native Americans who have the right to hunt one whale one time out of each year, are viciously rammed by a boat driven by protesters. An event like this is...

_____ highly likely to occur in today's news
_____ likely to occur in today's news
_____ somewhat likely to occur in today's news
_____ not at all likely to occur in today's news

Please check only one answer that matches closest to how you feel with each statement, strongly agree, agree, disagree, or strongly disagree.

17. Latinos don't try hard enough to learn English.

____ Strongly   ____ Somewhat   ____ Somewhat   _____ Strongly
        Agree   Agree   Disagree   Disagree

18. African Americans have less natural born intelligence.

____ Strongly   ____ Somewhat   ____ Somewhat   _____ Strongly
        Agree   Agree   Disagree   Disagree

19. Asians are naturally gifted in math and science.

____ Strongly   ____ Somewhat   ____ Somewhat   _____ Strongly
        Agree   Agree   Disagree   Disagree

20. Latinos tend to have bigger families than they can support.

____ Strongly   ____ Somewhat   ____ Somewhat   _____ Strongly
        Agree   Agree   Disagree   Disagree

21. Immigration of Asians is hurting the opportunities for native born Americans to find jobs.

____ Strongly   ____ Somewhat   ____ Somewhat   _____ Strongly
        Agree   Agree   Disagree   Disagree

22. Native American men are more aggressive and brutal than other men.

____ Strongly   ____ Somewhat   ____ Somewhat   _____ Strongly
        Agree   Agree   Disagree   Disagree

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23. For the most part, Pacific Islanders are not yet as civilized.

_____ Strongly   _____ Somewhat   _____ Somewhat   _____ Strongly
      Agree   Agree   Disagree   Disagree

24. Racism was created by African Americans as an excuse for their lower level of success in the business world.

_____ Strongly   _____ Somewhat   _____ Somewhat   _____ Strongly
      Agree   Agree   Disagree   Disagree

25. Native American men are generally have not evolved at the same rate as other men.

_____ Strongly   _____ Somewhat   _____ Somewhat   _____ Strongly .
      Agree   Agree   Disagree   Disagree

26. Samoans are more frequently involved in fighting and gang activity than most groups.

_____ Strongly   _____ Somewhat   _____ Somewhat   _____ Strongly
      Agree   Agree   Disagree   Disagree

Please answer the following questions to indicate at what frequency you have personally engaged in the following activities and how you felt. If necessary, briefly explain your behavior.

27a. I have called someone of a different race a derogatory racial name because of their race.

_____ Frequently   _____ Occasionally   _____ Rarely   _____ Not at all

27b. How did you feel about this behavior?
_____ I felt badly   _____ I felt neither bad nor good   _____ I felt good

27c. explain_____

28a. I have played a trick on someone of a different race than mine because of their race.
_____ Frequently   _____ Occasionally   _____ Rarely   _____ Not at all

28b. How did you feel about this behavior? .
_____ I felt badly   _____ I felt neither bad nor good   _____ I felt good

28c. explain_____

29a. I have gotten into an argument with someone of a different race because of their race.
_____ Frequently   _____ Occasionally   _____ Rarely   _____ Not at all

29b. How did you feel about this behavior?
_____ I felt badly   _____ I felt neither bad nor good   _____ I felt good

29c. explain_____

30a. I have damaged or been involved in damaging the property of someone of a different race than mine because of their race.

_____ Frequently   _____ Occasionally   _____ Rarely   _____ Not at all

30b. How did you feel about this behavior?
_____ I felt badly   _____ I felt neither bad nor good   _____ I felt good

30c. explain_____

31a. I have gotten into a physical fight with someone of a different race because of their race.

_____ Frequently   _____ Occasionally   _____ Rarely   _____ Not at all

31b. How did you feel about this behavior?
_____ I felt badly   _____ I felt neither bad nor good   _____ I felt good

31c. explain_____

Please read the scenarios below. Then, consider whether you think the scenario depicts racial prejudice or not. Mark only one answer.

32. Rosa is a stand-out employee, whose performance on the job is consistently excellent. On Monday morning, at work, Rosa was to give a presentation on a project she was working on. In the middle of her presentation, Rosa realized she'd left one of the visual aids at home. She apologized to her coworkers in attendance at the presentation, mentioning that she must've forgotten it at home. After the presentation, Mary approaches Rosa and says, "You're lucky, no one will hold you accountable for that mistake because you're Latina. Now if it were me, well, you know, management just expects more of me."

_____ Prejudice   _____ Not Prejudice

33. Phong is new to the company and tells her coworker, John, that she is really happy with her new job. John asks Phong how the pre-employment tests went, and she answers, "Well, they must've gone just fine, since I was given the position." John replies, "I'm glad you made it. Oh, and just to let you know, the human resources office was recently required to diversify. You're probably here because you're Filipino."

_____ Prejudice   _____ Not Prejudice

34. In between classes, Richard remembered that he needed to pick up his test from a professor on the 4th floor. Richard was in a hurry, so he decided to take the elevator this time instead of the stairs. Once Richard approached the elevator, he noticed that there was an Asian woman waiting for the elevator as well. After a few minutes of waiting in silence, the elevator door opened and Richard entered before the woman who was waiting.

_____ Prejudice   _____ Not Prejudice

35. Late one Wednesday evening, after almost everyone from the office had gone home, Mary and Sky, a Native American, were staying late to finish a project with a deadline of the following morning. The two decided to take a break and head to the vending machines for a snack. On their way down the stairs, Mary says, "You know, I've been meaning to tell you all day how unique and different your ideas for the project are."

_____ Prejudice   _____ Not Prejudice

36. Young comes back to the office after his lunch break and stops by Jane's desk, which is on the way back to his desk. Jane and Young are working on a project together. Young sets his soda on Jane's desk to reach into his briefcase to show Jane some new reports, and Young accidentally spills his soda all over Jane's desk. Jane says, "What is it with you Asians? You all seem to get more and more stupid and incompetent every day."

_____ Prejudice   _____ Not Prejudice

37. At a major university, a group of women basketball players accused, Jesse, their coach, of mistreating them. The players described to authorities that Jesse had made the African American players practice separately from the white players. Once Jesse heard about the accusations from her players, she cut a player from the team who was one of the accusers.

_____ Prejudice   _____ Not Prejudice

38. Jose and Shontel who are Latino and African American Secret Service agents decide to have dinner at a restaurant outside Washington, D.C. While waiting to be seated, groups who entered the restaurant after them were attended to before them. Finally, after a 20 minute wait, the waitress sat them at table 4. When the waitress disappeared into the kitchen, she was overheard saying, "Great, I won't be getting any tip from table 4. I hate being on shift when those type of people come in and take up table spaces."

_____ Prejudice   _____ Not Prejudice

39. Rolando, a young Latino in Illinois is on trial for the rape and murder of an 11 year old suburban white girl. Included in Rolando's defense, is an eye witness account that the attacker was a white male. The officers and prosecutors decide not to pursue the evidence that the assailant is a white man.

_____ Prejudice   _____ Not Prejudice

40. One Friday night, Amadou, a young west African man returned to the vestibule of his apartment building. Once he entered, he saw New York police officers in the building. Amadou attempted to retrieve his wallet from his back pocket to prove his identification and his residence in the building. When Amadou reached for his wallet, he was shot 19 times by the police officers.

_____ Prejudice   _____ Not Prejudice

41. At lunch, Shontel and Greg are talking about their family origins. Shontel tells Greg that his mother is white and his father is African American. Once work was over, Greg returned home to his wife. At the dinner table, Greg says to his wife, "Hey, did you know that Shontel has biracial parents?"

_____ Prejudice   _____ Not Prejudice

Debriefing Statement

We thank you for your willingness to participate in this survey. The questions were designed to assess your knowledge, attitudes and behaviors regarding tolerance of different races. From your valuable input, we are hoping to design effective diversity training programs. If you have any questions about the results of this survey, results will be provided to your instructor Dr. Michael Lewin or Dr. Barry Ladner after July 2001. Results from this study will be reported in group format only, to ensure confidentiality.

Thank you for your participation!

Please remove and keep this page.

Table 2

Cronbach's Alpha: Reliabilities for Pilot Survey Scales

Scale	α
History	.8070
Current Events	.8070
Affect	.6094
Action	.8014
Awareness	.7404

APPENDIX C

Table 3

Sample Sizes within Solomon Group Design

	Time 2		
	No Training Control	Training Lecture Only	Training Lecture Plus Chat
Previously Surveyed	99	49	74
Not Previously Surveyed	54	112	86

Table 4

Summary Statistics: Race and Racism Scale Reliabilities

Construct	# Items	Time 1	Time 2	Time 1	Time 2
		M (SD)		α	
Cognitive					
Knowledge of history pertaining to minority groups	8	5.61 (1.34)	5.91 (1.32)	0.36	0.43
Knowledge of *current events* pertaining to minority groups	8	10.54 (4.21)	11.22 (4.93)	0.75	0.82
Affect					
Affect toward minority groups	10	23.29 (4.49)	23.82 (4.27)	0.81	0.8
Behavior					
Actions toward minority groups	5	13.96 (1.15)	13.86 (1.32)	0.55	0.54
Awareness of prejudice vs. non-prejudice acts	10	8.98 (1.21)	8.88 (1.21)	0.48	0.43

Table 5

Race and Racism Scale Correlations for Time 1 and Time 2

	Students n = 191				
Time 1	History	Current Events	Affect	Action	Awareness
History	-	0.1935	0.1296	-0.1286	0.1005
Current Events		-	0.1208	-0.1783	-0.0281
Affect			-	0.2348	0.3057
Action				-	0.116
Awareness					-

	Students n = 191				
Time 2	History	Current Events	Affect	Action	Awareness
History	-	0.1735	-0.0458	0.0665	0.0837
Current Events		-	0.1196	-0.1232	0.128
Affect			-	0.3453	0.1612
Action				-	0.0979
Awareness					-

APPENDIX D

Table 6

Pre-test Effect Means and Standard Deviations

Time 2

	Not Pre-tested			Pre-tested		
Scale	Not Trained	Trained (Lecture Only)	Trained (Lecture plus chat)	Not Trained	Trained (Lecture Only)	Trained (Lecture plus chat)
Cognitive						
Knowledge of history pertaining to minority groups	5.86 (1.44)	6.01 (1.27)	5.81 (1.25)	5.80 (1.47)	6.22 (1.17)	5.87 (1.27)
Knowledge of *current events* pertaining to minority groups	1.53 (.61)	1.51 (.58)	1.33 (.66)	1.33 (.62)	1.35 (.54)	1.39 (.65)
Affect						
Affect toward minority groups	2.56 (.41)	2.33 (.44)	2.35 (.42)	2.45 (.37)	2.33 (.44)	2.34 (.44)
Behavior						
Actions toward minority groups	2.8 (.25)	2.73 (.29)	2.76 (.28)	2.85 (.21)	2.81 (.22)	2.72 (.28)
Awareness of prejudice vs. non-prejudice acts	8.84 (1.35)	8.9 (1.28)	8.89 (1.14)	9.06 (1.05)	9.02 (.98)	8.53 (1.36)

Table 7

<u>Between Subjects Multiple Analysis of Variance for Pre-testing Effect</u>

Multivariate tests

Source	df	F	η	p
Pretest	5	1.262	.013	0.279
Trained	10	2.639**	.028	0.004
Pretest*Trained	10	1.589	.017	0.105

**p <.01, *p < .05

APPENDIX E

Table 8

Multiple Analysis of Variance Sample Sizes

(WS - Time)

	Time 1				
	History	Current Events	Affect	Action	Awareness
(BS - Group)					
Control	68	68	68	68	68
Lecture only	49	49	49	49	49
Lecture + chat	74	74	74	74	74
	Time 2				
	History	Current Events	Affect	Action	Awareness
Control	68	68	68	68	68
Lecture only	49	49	49	49	49
Lecture + chat	74	74	74	74	74

Table 9

Multiple Analysis of Variance Means and Standard
Deviations for Time 1 versus Time 2

	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Scale	Not Trained		Trained (Lecture Only)		Trained (Lecture plus Chat)	
Cognitive						
Knowledge of history pertaining to minority groups	5.37 (1.45)	5.69 (1.54)	5.57 (1.24)	6.20 (1.17)	5.62 (1.33)	5.86 (1.27)
Knowledge of *current events* pertaining to minority groups	1.36 (.49)	1.36 (.63)	1.26 (.50)	1.35 (.54)	1.38 (.59)	1.36 (.63)
Affect						
Affect toward minority groups	2.28 (.35)	2.29 (.28)	2.26 (.46)	2.61 (.28)	2.36 (.45)	2.81 (.23)
Behavior						
Actions toward minority groups	2.84 (.23)	2.85 (.23)	2.79 (.19)	2.81 (.22)	2.72 (.27)	2.72 (.28)
Awareness of prejudice vs. non-prejudice acts	9.07 (1.1)	8.99 (1.1)	8.98 (1.11)	9.00 (.98)	8.77 (1.28)	8.51 (1.36)

Actual means are presented.

Table 10

Multiple Analysis of Variance - Control, Lecture
Only, Lecture plus Chat Race and Racism Training

Effect	df	F	η	p
Time	1	17.663**	.086	.000
Time*Experimental Group	2	3.083*	.032	.048
Survey	4	2438**	.981	.000
Survey*Experimental Group	8	11.381**	.197	.000
Time*Survey	4	16.241**	.263	.000
Time*Survey* Experimental Group	8	4.629**	.091	.000

**p <.01,*p < .05

APPENDIX F

Table 11

Analysis of Covariance Estimated Means and Standard
Deviations

Scale	Not Trained	Trained (Lecture Only)	Trained (Lecture plus chat)
Cognitive			
Knowledge of history pertaining to minority groups	5.77 (.142)	6.18 (.167)	5.81 (1.36)
Knowledge of *current events* pertaining to minority groups	1.35 (.055)	1.42 (.065)	1.33 (.053)
Affect			
Affect toward minority groups	2.30** (.031)	2.63** (.037)	2.81** (.03)
Behavior			
Actions toward minority groups	2.81 (.025)	2.81 (.029)	2.76 (.024)
Awareness of prejudice vs. non-prejudice acts	8.90 (.118)	8.97 (.139)	8.61 (.113)

**p <.01

Table 12

Analysis of Covariance – Control, Lecture Only, Lecture plus Chat Race and Racism Training (df 2,187)

Univariate Tests

Dependent Variable	df	F	η	p
History	2	2.022	.021	.135
Current Events	2	.529	.006	.590
Affect	2	70.944**	.431	.000
Action	2	1.581	.017	.209
Awareness	2	2.607	.027	.076

**p < .01, *p < .05

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