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A BRIEF ONLINE ACCEPTANCE AND COMMITMENT TRAINING FOR
ENHANCING OUTCOMES OF A CULTURAL
COMPETENCE INTERVENTION

by

Elizabeth Tish Hicks

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Psychology

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Logan, Utah

2020

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ABSTRACT

A Brief Online Acceptance and Commitment Training for Enhancing Outcomes of a
Cultural Competence Intervention

by

Elizabeth Tish Hicks, Master of Science

Utah State University, 2020

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Department: Psychology

In an increasingly diverse and multicultural society, there is a pressing and practical need for interventions to help professionals improve their cultural competence. Cultural competence trainings that target psychological flexibility in addition to knowledge, awareness, and skills may produce more efficacious results. The current study examined the utility of targeting psychological flexibility as a process to enhance the impact of a cultural competence intervention with an ACT-enhanced cultural competence intervention.

Sixty-nine participants completed four-week online cultural competence trainings. Participants were randomly assigned to complete either a cultural competence as usual training (CCAU) or a cultural competence plus psychological flexibility training (CC+PF). Results from program engagement and program evaluation data suggest that the CC+PF condition was feasible and acceptable. Analysis of data between and within groups did not show statistically significant shifts in psychological flexibility, which may

have been due to low power from a small sample size. Analysis of data did not show statistically significantly different shifts in cultural competence between groups, however, there were significant improvements in cultural competence and ethnocultural empathy when the sample was examined as a whole.

While the results of the present study suggest that adding techniques aimed at increasing psychological flexibility to a cultural competence intervention is feasible and acceptable to participants, future research with a larger dosage and a larger sample size is needed to examine the utility of ACT to enhance outcomes in tripartite cultural competence interventions.

(67 pages)

PUBLIC ABSTRACT

A Brief Online Acceptance and Commitment Training for Enhancing Outcomes of a Cultural Competence Intervention

Elizabeth Tish Hicks

In an increasingly diverse and multicultural society, there is a pressing and practical need for interventions to help professionals improve their cultural competence. Cultural competence trainings that target psychological flexibility in addition to knowledge, awareness, and skills may produce more efficacious results. The current study will examine the utility of targeting psychological flexibility (the ability to maintain contact with the present moment and current internal experiences and to choose contextually appropriate, values-consistent behaviors, regardless of what one's internal experiences are) as a process to enhance the impact of a cultural competence intervention with an Acceptance and Commitment Training (ACT)-enhanced cultural competence intervention.

Sixty-nine participants completed four-week online cultural competence trainings. Participants were randomly assigned to complete either a cultural competence as usual training (CCAU) or a cultural competence plus psychological flexibility training (CC+PF). Results from program engagement and program evaluation data suggest that the CC+PF condition was feasible and acceptable. Analysis of data between groups did not show statistically significant shifts in psychological flexibility, which may have been due to low power from a small sample size. Analysis of data did not show statistically different shifts in cultural competence between groups, however, there were significant

improvements in cultural competence and ethnocultural empathy when the sample was examined as a whole.

While the results of the present study suggest that adding techniques aimed at increasing psychological flexibility to a cultural competence intervention is feasible and acceptable to participants, future research with a larger dosage and a larger sample size is needed to examine the utility of ACT to enhance outcomes in tripartite cultural competence interventions.

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E. Tish Hicks

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CHAPTER I

INTRODUCTION

With each passing year, the United States is becoming an increasingly diverse nation in terms of racial, ethnic, and cultural composition (Colby & Ortman, 2014; U.S. Census Bureau, 2012). As we live in an increasingly multicultural society, there is a pressing and practical need for culturally competent professionals across all fields, both to competently serve a multicultural population, and also as a component of how we, as a society, begin to address and reduce institutionally perpetuated disparities.

Institutionalized disparities and discrimination continue to adversely affect racial/ethnic minority individuals in virtually every aspect of society, including, but not limited to, employment, housing, health, and education (Musu-Gillette et al., 2016; SAMHSA, 2015; Shapiro et al., 2016). For example, the white-Black achievement gap for high school seniors has increased from 24 points in 1992 to 30 points in 2013; additionally data from 2013 showed that the percentage of adults age 25 and older with a Bachelor's degree was significantly lower for American Indian/Alaskan Native adults than white adults (15% and 33%, respectively; Musu-Gillette et al., 2016).

It is problematic that even amongst well-meaning people who may care about being culturally competent, a lack of awareness of implicit prejudice, cultural knowledge gaps, and skills deficits can still be present, and can lead to inadvertent discrimination or microaggressions, which contribute to the perpetuation of institutionalized disparities, including educational disparities (Hardin & Banaji, 2013; Sue, 2013; Sue et al., 2007). Additionally, the discomfort associated with acknowledging and correcting for such biases or skills deficits can lead to denial of one's need for, or avoidance of, cultural

competence training (e.g. Holtz Deal & Hyde, 2004; Tatum, 1992). Therefore, there is a particular need not only for increased access to efficacious cultural competence training, but also for strategies that can assist with handling the discomfort associated with engaging with such training. While strategies and interventions for increasing cultural competence and reducing the impact of prejudices should be of interest to all well-meaning people, they are of particular importance for educational professionals, who could unknowingly harm diverse students and contribute to higher attrition rates and poorer educational outcomes through manifestations of prejudice, regardless of intention.

Cultural competence is commonly defined as “the belief that people should not only appreciate and recognize other cultural groups but be also able to effectively work with them” (Sue, S., 1998, p. 440). Cultural competence has been conceptualized as a tripartite model consisting of self-awareness, knowledge, and skills (Sue et al., 1992). Cultural competence trainings often target these three aspects of the tripartite model. Cultural competence interventions have been shown to be effective in varied formats (e.g., workshops, classes) for diverse participant groups (e.g., undergraduate students, health professionals, helping professionals; e.g., Beach et al., 2005; Patterson et al., 2018). A systematic review of cultural competence trainings for health professionals found that tested trainings were excellent at improving knowledge, and good at improving awareness and skills (Beach et al., 2005).

While there may be a general understanding of effective implementations for cultural competence and diversity trainings, a thorough review of diversity trainings by Bezrukova and colleagues (2012), noted that a major weakness in the literature is a lack of a guiding theory of change; without a guiding theory, it is difficult to identify and

understand mechanisms of change. The tripartite model offers us a route to understanding the *content* of cultural competence—awareness, knowledge, and skills, but less is understood about the *process*, or mechanisms of change, for *how* we effectively increase awareness, knowledge, and skills. Furthermore, a review of prejudice reduction interventions by Paluck and Green (2009) noted that a startlingly large number of prejudice reduction trainings (including some cultural competence trainings) have never been empirically evaluated.

Lack of empirical testing of many prejudice reduction interventions is especially concerning given that some results from research in this area have produced counter-intuitive results. Previous research has shown that attempting to reduce prejudiced attitudes via thought suppression strategies and external social pressure, which could be thought of as common-sense techniques, have increased prejudiced attitudes and discriminatory behaviors (Galinsky & Moskowitz, 2000; Legault et al., 2011). Alternatively, research suggests that focusing on values, and increasing internal motivation, mindfulness, empathy, and psychological flexibility are effective in decreasing the influence of prejudice and stigma (Hayes et al., 2004; Legault et al., 2011; Levin et al., 2014; Levin et al., 2016; Lillis & Hayes, 2007). Acceptance and Commitment Therapy (ACT) targets most of these facets (i.e., values/internal motivation, mindfulness, and psychological flexibility) as mechanisms of change, signaling the utility of ACT for reducing the impact of prejudiced thoughts and enhancing cultural competence training.

Approaching a tripartite cultural competence training from an ACT perspective would provide a robust and thoroughly researched process theory and rationale to inform

intervention creation and clarify mechanisms of change—two identified areas of weakness in diversity training literature (Bezrukova et al., 2012). An ACT intervention would provide well-researched and theory-consistent strategies to teach skills that would allow participants to effectively carry the discomfort, shame, and guilt that may arise while increasing knowledge, awareness, and skills, during cultural competence training (Ancis & Szymanski, 2001; Nylund, 2008; Pinterits et al., 2009), thereby enhancing participants' receptivity to, and the impact of, cultural competence training.

The current study will examine the utility of targeting psychological flexibility as a process to enhance the impact of a cultural competence intervention with an ACT-enhanced cultural competence intervention. The results of Hayes et al. (2004), Levin et al. (2014), Levin et al. (2016), and Lillis and Hayes (2007), offer preliminary evidence to support the utility of an ACT-enhanced intervention, but this specific approach of combining an ACT approach with a tripartite cultural competence training, has not yet been tested. This concept of ACT as a process theory which can be utilized to compliment the tripartite model of cultural competence will be tested by adding a psychological flexibility (PF) module to the beginning of a cultural competence (CC) training based on the tripartite model. The augmented training (CC+PF) will be compared to a cultural competence training as usual (CCAU). Specific research questions of the current study are as follows:

Research Question 1. What is the feasibility of adding a 30 min PF module to a CCAU training?

Research Question 2. Is there a significant change in psychological flexibility over time in the CCAU as compared to the CC+PF groups?

Research Question 3. Are there different shifts in ethnocultural empathy, colorblind attitudes, and cultural competence, from baseline to post-intervention in CCAU as compared to CC+PF?

CHAPTER II

REVIEW OF THE LITERATURE

Increasing Diversity of the United States

The United States is becoming an increasingly diverse nation in terms of racial, ethnic, and cultural composition (U.S. Census Bureau, 2012). A report from the US Census Bureau projects that by 2044, over half of all Americans will belong to an ethnic minority group, meaning any group other than non-Hispanic white alone; by 2060, nearly one in five Americans will be foreign born (Colby & Ortman, 2014).

Increasing diversity within the US in general also means that diversity within student populations will be also increasing. A report from the Federal Interagency Forum on Child and Family Statistics (2018) showed that in 2017, just 50.7% of US children between the ages of 0-17 years reported their race/ethnicity as white, non-Hispanic. The remainder reported 25.2% Hispanic, 13.7% Black, non-Hispanic, 5.0% Asian, non-Hispanic, 4.3% two or more races, non-Hispanic, and 0.8% Native American or Alaska Native, non-Hispanic, and 0.2% Native Hawaiian or other Pacific Islander, non-Hispanic. While the diversity in student aged populations Kindergarten through high school has increased to almost 50% non-white, non-Hispanic students, higher education demographic ratios have moved in a similar direction. The U.S. Department of Education, National Center for Education Statistics (2016), reported that racial/ethnic percentages of fall enrollments into post-secondary institutions were: 56.9% white, 18.2% Hispanic, 13.7% Black, 6.7% Asian, 3.5% two or more races, 0.8% American Indian/Alaskan Native, and 0.3% Pacific Islander.

Institutional Disparities

As racial/ethnic diversity increases, institutional racial/ethnic disparities remain prevalent and widespread. For example, racial/ethnic minorities in the US generally have higher rates of chronic disease and premature death compared to whites (National Academies of Sciences, 2017). In terms of mental health, there are disparities in service utilization; people from racial/ethnic minority groups are less likely to receive mental health care, and, across racial/ethnic groups, the most frequently cited reasons for not using mental health services were service cost or lack of insurance coverage (SAMHSA, 2015). That cost and lack of insurance are barriers to care is not surprising considering wealth and employment disparities among racial/ethnic minorities. The wealth gap between white and Black families is actually increasing, from \$85,000 in 1984 to \$236,500 in 2009, and white families continue to have higher rates of home ownership than Black families (Shapiro et al., 2016). Additionally, unemployment rates are higher for Black and Latino individuals than white individuals (23.7%, 13%, and 11.4%, respectively, 2018 quarterly average; Bureau of Labor Statistics, 2019). White-Black achievement gaps in reading and math still persist and drop-out rates for racial/ethnic groups are still higher than those of white students (Musu-Gillette et al., 2016). Additionally, the percentage of 18- to 24-year-olds who had not completed high school was higher for American Indian/Alaskan Native adults (25%) than any other racial/ethnic group (Musu-Gillette et al., 2016).

While the demographics of postsecondary enrollment have indeed diversified (U.S. Department of Education, 2016), disparities related to graduation rates between racial/ethnic groups remain. Among students who enrolled at four-year institutions in 2008, the racial/ethnic five-year graduations rates within demographic groups were:

65.7% of Asian students, 60.5% of students who identify as two or more races, 59.5% of white students, 47.1% of Hispanic students, 35.7% of Black students, 43.8% of Pacific Islander students, and 36.3% American Indian/Alaskan Native students (U.S. Department of Education, 2016). While within group graduation rates for Asian students and students of two or more races have caught up to and surpassed their white peers, the graduation rates within Hispanic, Black, Pacific Islander, and American Indian/Alaskan Native students remain below their white peers; this trend applies to four-year, five-year, and six-year within group graduation rates (U.S. Department of Education, 2016). In terms of Bachelor's degrees conferred, in 2013, more than 1 million Bachelor's degrees were conferred to white students, while less than 200,000 were conferred to Black students, Hispanic students, and Asian/Pacific Islander students, less than 35,000 were conferred to students of two or more races, and less than 15,000 were conferred to American Indian/Alaskan Native students (Musu-Gillette et al., 2016).

Cultural Competence

In the context of increasing diversity and continuing institutional disparities, it is of paramount importance that professionals be able to provide culturally competent services to diverse peoples. Cultural competence is not only something that individuals may work toward developing, but scholars have also pointed to the necessity of culturally competent systems and policies (e.g., Brach & Fraserirector, 2000; Cross et al., 1989; Sue et al., 2019); a combination of efforts aimed at increasing cultural competence amongst individuals, as well as of larger systems, policies, and institutions, could play a role in addressing institutional disparities. Research consistently points toward cultural competency yielding improvements in patient outcomes in health (Beach et al., 2005) and

mental health (Chu et al., 2016). Similarly, in education, a lack of culturally competent instructors and staff can negatively affect students in multitudes of ways (e.g., Sue et al., 2007; Sue, 2013). For example, instructors may inadvertently engage in discrimination or microaggressions, or mishandle microaggressions, race talks, or difficult dialogues in the classroom; either case can result in harm to students (Sue, 2013). Furthermore, culturally competent teaching in the form of using a multicultural approach, as opposed to a colorblind approach, has been shown to predict more inclusive teaching practices (Aragón et al., 2016).

There are many definitions and conceptualizations of cultural competence, though most generally point to the importance of knowledge, awareness, and skills, and emphasize that working towards cultural competence is a continual process (Tehee et al., 2020). This conceptualization of cultural competence as being made up of awareness, knowledge, and skills is known as the tripartite model (Sue et al., 1992). Working towards cultural competence under this model means that one must foster awareness of their attitudes, beliefs, biases, stereotypes, etc. related diverse groups, as well as an awareness of their own values and worldview, and how these may differ from members of diverse, or culturally different, groups. One must also have specific knowledge about other cultural groups, and specific skills related to working and interacting with members of other cultural groups. The tripartite model of cultural competence is widely used and strongly supported within the field of psychology, and its influence is evident throughout the field, including within the American Psychological Association's (APA) Multicultural guidelines (APA, 2017).

Measuring Cultural Competence. To measure the construct of Cultural Competence, researchers have used a large variety of measures (Beach et al., 2005; Bezrukova et al., 2012; Bezrukova et al., 2015; Gallagher & Polanin, 2015; Patterson et al., 2018). There are measures specifically created to measure cultural competence as a general subject (e.g. The Awareness, Skills, Knowledge: General; Domenech Rodríguez et al., 2019). There are also measures that get at specific constructs related to cultural competence, such as colorblind racial attitudes (e.g. Color-Blind Racial Attitudes Scale; Neville et al., 2000) or ethnocultural empathy (e.g., The Scale of Ethnocultural Empathy; Wang et al., 2003).

Cultural competence trainings. Trainings and interventions aimed at increasing cultural competence, namely, knowledge, awareness, and skills, are widespread throughout health, helping, and educational settings. Interventions have been shown to be effective in varieties of formats, such as through workshops, courses, or seminars, for varieties of different groups, such as students, educators, helping professionals, and health professionals (e.g., Beach et al., 2005; Bezrukova et al., 2016; Genao et al., 2009; Patterson et al., 2018). Additionally, trainings often examine intersectional demographic characteristics as covariates, and trainings have been shown to be effective across age, gender, and racial/ethnic groups (Bezrukova et al., 2016).

In a systematic review of cultural competence trainings for healthcare professionals, Beach et al. (2005) found that the majority of interventions were excellent at increasing providers' knowledge, and good at increasing providers' awareness and skills. A meta-analysis of cultural competence interventions for nurses and nursing students found that interventions successfully increased cultural competence (Gallagher

& Polanin, 2015). In a meta-analysis of diversity-trainings more broadly (i.e., not all interventions were informed by a tripartite cultural competence framework), the positive effects of diversity trainings were greater among interventions that targeted both awareness and skills development, as opposed to focused on awareness or skills alone (Bezrukova et al., 2016), meaning that interventions more in-line with a tripartite cultural competence model resulted in greater improvements.

Weaknesses of trainings. Various reviews of cultural competence and diversity trainings note weaknesses related to the rigor of methodology used for studying many interventions (Bezrukova et al., 2012; Bezrukova et al. 2016; Gallagher & Polanin, 2015; Paluck & Green, 2009). Paluck and Green (2009) note that a large number of prejudice reduction trainings and cultural competence trainings have never been empirically evaluated, and amongst those that have, a large amount are lacking control group comparisons. Gallagher and Polanin (2015) noted that only a handful of studies were randomized controlled trials, and noted study rigor as a weakness of the literature. Interestingly, Bezrukova and colleagues (2016) did not find significant differences in the results of diversity intervention studies based on rigor, suggesting that while study rigor is a limitation of much of the literature, the findings of less rigorous studies are not significantly different from those of more rigorous studies. This suggests that while an increase in rigorous studies containing control groups are warranted, the knowledge gained from less rigorous studies should still be utilized to inform further research and practice.

Additional weaknesses in cultural competence and diversity training literature clarified in these reviews include heterogeneity of interventions and dependent measures

(Bezrukova et al., 2012; Bezrukova et al. 2016; Gallagher & Polanin, 2015; Paluck & Green, 2009), lack of details about intervention protocols (Gallagher & Polanin, 2015), and lack discussion of theories of change (Bezrukova et al., 2012; Gallagher & Polanin, 2015) and examination/discussion of mechanisms of change for intervention protocols. While cultural competence trainings clearly have a theory guiding the content and goals of the interventions, it is interesting that there has not been more focus on theory guiding how to most effectively increase knowledge, awareness, and skills in terms of specific intervention strategies, techniques, and processes of change.

Finally, while research related to white privilege has specifically focused on managing the discomfort, guilt, and shame that arise in response to training (e.g. Ancis & Szymanski, 2001; Nylund, 2008; Pinterits et al., 2009), there does not appear to be much empirical focus on the influence these emotions could have on the effects of cultural competence trainings.

Acceptance and Commitment Therapy

Acceptance and Commitment Therapy (ACT) is an evidence-based, contextual cognitive behavioral therapy which utilizes six core processes of change: acceptance, cognitive defusion, present moment awareness (mindfulness), values, committed action, and self-as-context, in order to increase psychological flexibility. Psychological flexibility refers to the ability to maintain contact the present moment and current internal experiences (e.g., thoughts, feelings, bodily sensations), and to choose contextually appropriate, values-consistent behaviors, regardless of what one's internal experiences are (Hayes et al., 2006). Acceptance, also referred to as willingness, describes the ability to be willing to experience one's internal experiences, regardless of whether they are

painful, unpleasant, enjoyable, etc., without trying to control or change them. Cognitive defusion refers to relating to internal experiences for what they are, internal experiences, without relating to them as if they are literally or objectively true, and without being rigidly tied to evaluations of them as “good” or “bad”. Present moment awareness refers to a mindfulness process in which one attends, nonjudgmentally, to their present moment internal experiences and external environment, as opposed to attending to past experiences or future concerns. Values are chosen directions that serve to guide and motivate behavior; values differ from goals in that a goal can be completed, whereas a value refers to a concept/direction that one can continuously move toward. Committed action refers to chosen behaviors and developed patterns of behavior that are linked to values. Finally, self-as-context refers to open and present awareness and perspective taking that is not tied to self-evaluations or internal experiences; self-as-context can be thought of as defusion from self-evaluations or self-conceptualizations.

Efficacy and research support. The formulation of the applied ACT model of psychological flexibility, and the six core processes that make up psychological flexibility, was informed by Relational Frame Theory (RFT) and behavioral principles (Hayes et al., 2006). ACT and RFT both have strong research programs behind them that offer support for the theories (e.g., Hayes et al., 2006; Hayes et al., 2012). Hayes and colleagues (2006) noted that the RFT literature included over 70 empirical studies testing its tenets. In terms of empirical studies of ACT, the Association for Contextual Behavioral Science (ACBS) reports that there have been over 280 randomized controlled trials (RCTs) testing the efficacy of ACT with a wide variety of presenting problems (ACBS, 2019). The Society of Clinical Psychology (Division 12 of APA) recognizes

ACT as an empirically supported treatment for chronic pain, depression, mixed anxiety, obsessive compulsive disorder, and psychosis (APA, 2019). There have also been a number of meta-analyses synthesizing the results from RCTs, such as a recent meta-analysis showing ACT to be an effective intervention for mental and physical health problems (A-Tjak et al., 2015). ACT has also been shown to be an effective intervention for non-clinical issues, such as academic procrastination (e.g., Glick & Orsillo, 2015). Additionally, ACT has been shown to be an effective intervention in many formats, including individual and group therapy, workshops, and online formats (e.g., Brown et al., 2016; Hacker et al.; 2016, Masuda et al., 2012).

ACT for stigma and prejudice. When the ACT model is applied to life areas outside the context of psychotherapy, it is often referred to as Acceptance and Commitment *Training* (ACT) as opposed to Acceptance and Commitment *Therapy*, to differentiate between clinical and non-clinical use of the model and techniques associated with it (Hayes et al., 2004). ACT has been applied in many areas outside of clinical psychotherapy use, including for reducing the impact of stigma and prejudice.

A recent meta-analysis by Krafft and colleagues (2018) reviewed seven studies testing ACT for reducing stigma towards others, specifically, stigma toward individuals with mental illnesses (Kenny & Bizmic, 2016; Masuda et al., 2007, 2009), personality disorders (Clarke, Taylor, Bolderson et al., 2015; Clarke, Taylor, Lancaster et al., 2015), substance users (Hayes et al., 2004), and racial/ethnic prejudice (Lillis & Hayes, 2007). In each of these studies, the ACT groups saw significant improvements at either post or follow-up, or both (Krafft et al., 2018). Lillis and Hayes (2007) conducted a study with a counterbalanced within-group design to test the efficacy of an ACT-based intervention

for reducing prejudice in comparison to an educational lecture for prejudice awareness training. The results showed that the ACT intervention, but not the educational lecture, increased positive behavioral intentions at post-intervention and at the one-week follow-up. While this was a pilot study with a small sample ($n = 32$), the results provide preliminary support for the efficacy of an ACT-based intervention to reduce the influence of prejudice.

In addition to intervention studies, there has also been descriptive research examining the relationship between measures of psychological flexibility and measures of prejudice. Levin and colleagues (2014) found that psychological flexibility was significantly correlated with constructs related to stigma and prejudice, such as interpersonal reactivity, social distance, right wing authoritarianism, social dominance orientation, and ethnocultural empathy. Another study by Levin and colleagues (2016) found that psychological flexibility predicted generalized prejudice, which was composed of measures of modern racism, modern homonegativity, neosexism, attitudes towards obese persons, and community attitudes towards substance abusers.

The Current Study

Considering the dearth of research examining specific intervention strategies and processes of change in cultural competence trainings in conjunction with the preliminary support for the use of ACT interventions for prejudice and stigma, the current study will examine the utility of targeting psychological flexibility as a process to enhance the impact of a cultural competence intervention with an ACT-enhanced cultural competence intervention. Given the utility of ACT processes for increasing one's ability to cope with discomfort and adverse emotions, such as guilt and shame, it is also hypothesized that

targeting psychological flexibility will increase participants' ability to cope with any discomfort that arises during cultural competence training.

CHAPTER III

METHOD

Participants

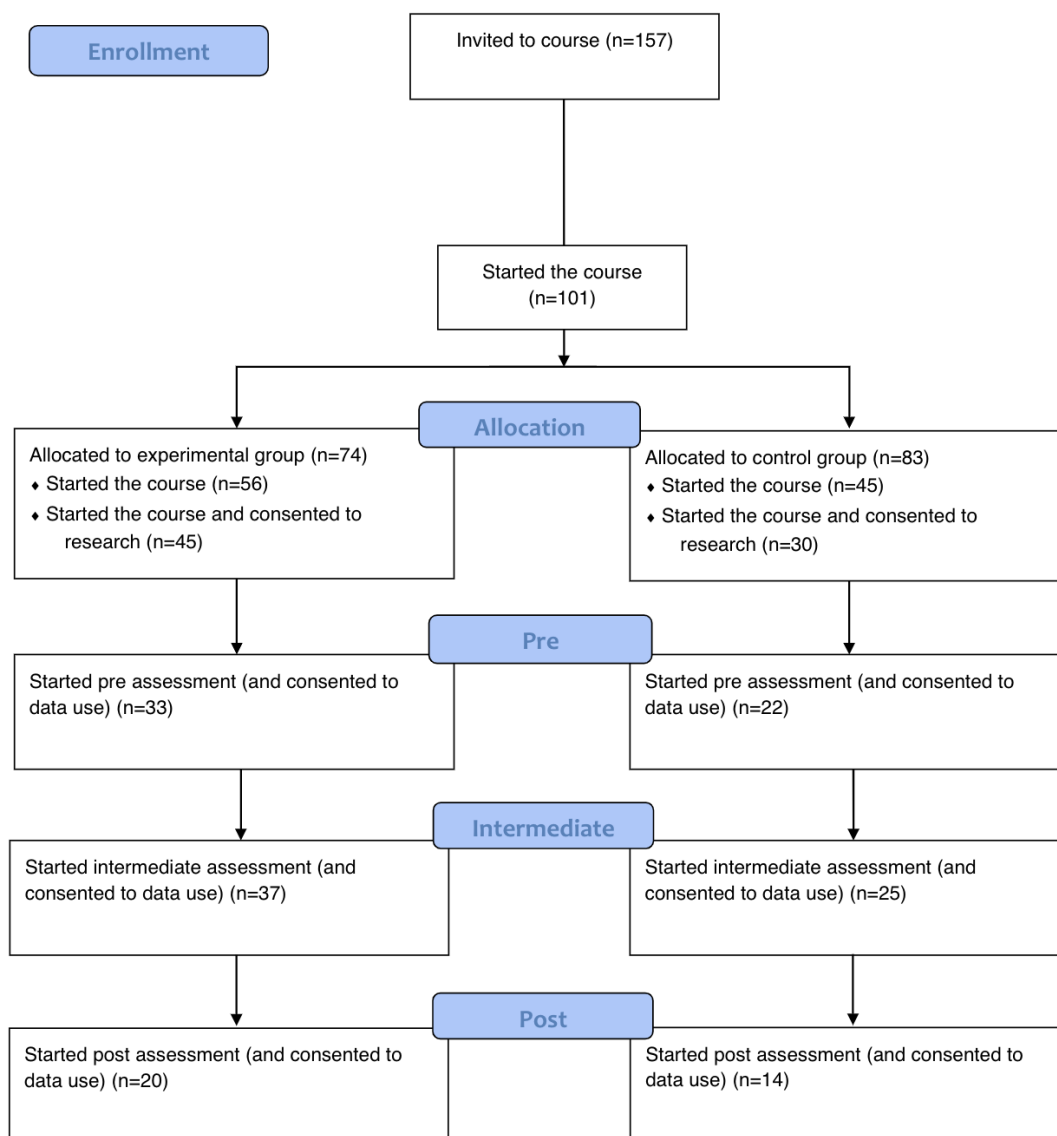
Participants included faculty, staff, and students at Utah State University who signed up to host Native American students during the summer semester for the Native American Summer Mentorship Program (NASMP).

Inclusion and Exclusion Criteria

Faculty, staff, and students that were members of research groups (“labs”) at Utah State University, and whose labs volunteered to host NASMP students, were eligible for inclusion in the study. Participants were excluded if they were under the age of 18, did not provide sufficient data to run analyses, or did not consent to their data being used in research analysis.

Sampling Procedure

Faculty, staff, and graduate students from 90 labs were invited to host NASMP students. All who were interested in participating and met inclusion and exclusion criteria were invited to participate in the study. Once the list of participating faculty and students was finalized, lab groups were randomized into the control or experimental condition. Lab groups, rather than individuals, were randomized to avoid treatment contamination within groups between conditions. Fifty-two labs enrolled in the study, with the number of individuals in a lab group ranging from one to 32 people. The total number of individuals invited to participate in the Cultural Competence course was 157, with 74 in the experimental group, and 83 in the control group. See Figure 1 for participant flow diagram.

Figure 1*Participant Flow From Recruitment to Post-Assessment***Sample Size**

For the second research question, power analyses were conducted under pilot/exploratory and confirmatory scenarios to better understand the possible sample range. In the pilot scenario, the effect size was set at .25, alpha at .05, power at .80 with

two groups (with and without psychological flexibility modules) and three measurements (psychological flexibility). We set correlations among measures at .50 and the nonsphericity correction at 1.0. This returned a sample size of 28. At the other end we set the effect size at .15, kept alpha at .05, and power at .80 for two groups and three measures. We set the correlation between psychological flexibility measures over time at .70 and added a nonsphericity correction at .50. This returned a sample size of 72. For the third research question the power analyses were the same with the exception that there were only two measurement time points. Power analyses returned sample sizes of 34 and 56. We estimated that we needed a sample of 72 to answer all of the research questions with adequate power.

Research Design

Over the course of four weeks, participants in the control group (CCAU) completed a four module Cultural Competence (CC) training that was targeted at improving cultural competence with particular focus on working with Native American college students. This intervention, TEACH for Native Students, was developed by Melissa Tehee, Devon Isaacs, Erica Ficklin, and Tish Hicks (Tehee et al., 2020). Participants completed each of the four 60-90 min modules over the course of the four weeks. The first three modules, Awareness of Self, Awareness of Others, and Knowledge were completed entirely online via a Canvas course. The fourth module, Skills, had both an online component (also housed in the Canvas course), followed by an in-person skills training. After participation in the study was complete, participants were emailed a consent form so that their participation data could be analyzed.

The experimental group (CC+PF), was enrolled in a separate section of the Canvas course in which they completed the same CC training developed by Tehee, Isaacs, and Ficklin, with the addition of a 30 min Psychological Flexibility (PF) module developed for the present study. The PF module was completed at the beginning of the online training as part of the Self Awareness module, followed by the same CC intervention sequence that the control group receives. To control for dosage, the control group completed a 30 min control module that was similar in format and length to the PF module, and covered local diversity-related statistics at the university. Both groups completed their online trainings simultaneously, and both groups completed the in-person skills training together; see Table 1 for more detailed descriptions of the two interventions.

Each group completed a baseline assessment battery before beginning their respective 4-week CC trainings. At the end of the 4 weeks, upon completion of their respective CC trainings, participants in both groups completed the post-assessment battery. The groups also had an additional intermediate assessment point immediately upon completion of the PF module or control module, where psychological flexibility was measured.

Psychological Flexibility Intervention

The PF intervention consisted of a 30 min, interactive online Acceptance and Commitment Training (ACT) informed module section aimed at increasing psychological flexibility. The PF module section began with psychoeducation on implicit bias and “cultural programming” from a relational frame theory (RFT) perspective.

Both the educational content and interactive exercises in the intervention were used to target the following: increasing awareness of automatic prejudiced thoughts and

Table 1*Description of Control and Experimental Conditions*

	Control (CCAU)	Experimental (CC+PF)
Getting Started	Start Here	Start Here
	Reflection: Motivation for participating	Reflection: Motivation for participating
	Working Together	Working Together
	Course Objectives	Course Objectives
	Activity: Tell us about yourself	Activity: Tell us about yourself
Awareness of Self	Cultural Competence Overview	Cultural Competence Overview
	Activity: Values worksheet	Activity: Values worksheet
	Cultivating Self-Awareness	Cultivating Self-Awareness
	Activity: Self-Awareness Reflection	Activity: Self-Awareness Reflection
	Understanding our Diversity*	Acting In Line with our Values*
	Intermediate Assessment	Intermediate Assessment
	Difficult Dialogues Reflection	Difficult Dialogues Reflection
Gaining Knowledge	Who are Native Americans?	Who are Native Americans?
	Activity: Culture Card	Activity: Culture Card
	Native Americans and Education	Native Americans and Education
	Activity: Learning Styles	Activity: Learning Styles
	The Impact of Racism	The Impact of Racism
	Activity: History of American Indian Education	Activity: History of American Indian Education
Awareness of Others	Learning about Others	Learning about Others
	Activity: Native Lands	Activity: Native Lands
	Communication in the Lab and Classroom	Communication in the Lab and Classroom
	Activity: Key Considerations	Activity: Key Considerations
	Thriving in STEM Fields	Thriving in STEM Fields
	Activity: The Story of Bean	Activity: The Story of Bean
	Tying it all Together	Tying it all Together
	Skills Vignettes	Skills Vignettes
Building Skills	In-Person Skills Training	In-Person Skills Training

Note: Descriptions of the activities in the Control (CCAU; Cultural Competence as usual) and the

Experimental (CC+PF; Cultural Competence + Psychological Flexibility). *Denotes differences between interventions.

reactions, clarifying values related to nonprejudiced behavior, exploring negative consequences of trying to suppress or deny prejudiced thoughts and reactions, accepting prejudiced thoughts and feelings as the natural result of living in a prejudiced society, accepting and defusing from the discomfort that arises when noticing prejudiced thoughts, and re-orienting to one's own values and committing to actions consistent with those values.

Prior to intervention launch, the PF intervention was reviewed by three experts in multicultural psychology (two faculty members and one graduate student member of multicultural research laboratory groups), three experts in ACT (one faculty member and two graduate student members of ACT research laboratory groups), and one layperson. The multicultural experts approved of the intervention's discussion of implicit bias and cultural programming, and the ACT experts rated the intervention as having high fidelity to the ACT model. The layperson found the intervention "user-friendly" and the content "understandable and digestible".

Measures

Demographics. Demographic information was gathered for participants including participants' age, gender identity, and racial/ethnic identity based on Hughes et al. (2016). The age, gender, and racial/ethnic representation across groups at baseline was similar.

Psychological flexibility. Psychological flexibility was measured with the Acceptance and Action Questionnaire-Stigma (AAQ-S; Levin et al., 2014). The AAQ-S is a 21-item measure of psychological flexibility related to stigmatizing thoughts with two subscales, Psychological Inflexibility and Psychological Flexibility, that can be

interpreted separately or as a combined score. The AAQ-S uses a 7-point rating scale, ranging from 1 (*never true*) to 7 (*always true*). For the overall score and subscale scores, lower scores indicate higher levels of psychological flexibility. In a sample of 604 undergraduate students, the AAQ-S demonstrated adequate internal consistency (Cronbach's alpha = .84), as well as predictive and construct validity (Levin et al., 2014). In the present sample, reliability was alpha = .790 at pre, alpha = .784 at intermediate, and alpha = .905 at post.

Empathy. The Scale of Ethnocultural Empathy (SEE; Wang, Davidson, Yakushko, Savoy, Tan, & Bleier, 2003) is a 31-item measure of empathy toward people of different racial and ethnic backgrounds with a 6-point scale ranging from 1 (*strongly disagree that it describes me*) to 6 (*strongly agree that it describes me*) with higher scores indicative of higher levels of ethnocultural empathy. The SEE is composed of 4 subscales: Empathic Feeling and Expression (EFE), Empathic Perspective Taking (EP), Acceptance of Cultural Differences (AC), and Empathic Awareness (EA). In a sample of 340 undergraduate students, the SEE was found to have adequate internal consistency (alpha = .91), and demonstrated adequate construct and convergent validity (Wang et al., 2003). In the present sample, reliability was alpha = .900 at pre and alpha = .915 at post.

Cultural competence. The Awareness, Skills, Knowledge: General (ASK-G; Domenech Rodríguez et al., 2019) is a 36-item measure of cultural competence for the general population with a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) with higher scores indicating higher awareness, knowledge, and/or skills related to cultural competence. The ASK-G contains four subscales, Awareness of Self, Awareness of Others, Proactive Skills Development, and Knowledge. In a sample of 204 adults, the

ASK-G demonstrated strong reliability ($\alpha = .94$), as well as strong concurrent, convergent, and divergent validity (Domenech Rodríguez et al., 2019). In the present sample, reliability was $\alpha = .821$ at pre and $\alpha = .918$ at post.

Colorblindness. Colorblind attitudes were measured with the Color-Blind Racial Attitudes Scale (CoBRAS; Neville et al., 2000). The CoBRAS is a 20-item measure of color-blind racial attitudes with a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*) with higher scores indicating greater levels of color-blind racial attitudes. The CoBRAS has 3 subscales: Racial Privilege, Institutional Discrimination, and Blatant Racial Issues. In a sample of 594 college students and community members, the CoBRAS was found to have adequate reliability ($\alpha = .86$) as well as concurrent and discriminant validity (Neville et al., 2000). In the present sample, reliability was $\alpha = .938$ at pre and $\alpha = .953$ at post.

Program engagement. Engagement with the PF module was measured by measuring the amount of time participants spent on the PF module video in minutes and by how much of the PF module worksheet they completed (e.g. 100% of worksheet activities, 50% of worksheet activities, etc.). Canvas, the online platform used to host the Cultural Competence course, allows the researchers to view each individual participant's number of PF video "plays", average view "drop-off" time, average view time, and total view time; total view time of the PF video was used for program engagement analysis. For PF worksheet completion, there were 14 fill-in response items on the worksheet; writing in a response to each of the 14 items would constitute 100% completion of worksheet activities.

Program evaluation. Participants were asked to rate, on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*), their satisfaction with and the helpfulness of, the module, as well as how easy the module was to use and whether or not they would recommend the module. They were also asked two open ended questions about what they liked best and least about the module.

Analysis Plan

Research Question 1

The question, “is it feasible to add a 30 min PF module to a CCAU training?” was addressed by examining participants’ engagement via the number of minutes they spent watching the PF module video and the percentage of the PF module worksheet they completed. It was also addressed by examining participants’ program evaluation ratings of the module.

Research Question 2

The second research question, is there a significant change in psychological flexibility over time in the CCAU as compared to the CC+PF groups?, was addressed by comparing AAQ-S scores before (baseline) and after the 30 min PF module (post-PF), and at the conclusion of the full CC+PF intervention in order to examine any gains (baseline to post-PF) and retention of gains (post-PF to post-CC+PF). Data was analyzed using a 3 (time) x 2 (group) mixed design repeated measures ANOVA. ANOVA assumptions, such as violations to normality, sphericity, and homogeneity of variance, were checked.

Research Question 3

The third research question, are there different shifts in ethnocultural empathy, colorblind attitudes, and cultural competence, from baseline to post-intervention in CCAU as compared to CC+PF?, was addressed by comparing shifts in scores on the SEE, ASK-G, and CoBRAS from baseline and post between the CC+PF and CCAU groups. Because ANOVA assumptions were sure to be violated in a MANOVA, mixed design repeated measures ANOVAs were run for each outcome individually. Additionally, age, race, and gender were examined as potential covariates, as they are the most frequently examined or reported participant characteristics in the diversity training literature (Bezrukova et al., 2016).

Statistical Methods. Both repeated measures ANOVA and Multilevel Model (MLM) analyses were run to compare the shifts in attitudes between the experimental training (CC+PF) and the control training as usual (CCUA). These analyses were used to examine the effect of the intervention on the participants' shifts in ethnocultural empathy (SEE), color-blind racial attitudes (CoBRAS), psychological flexibility (AAQ-S) and cultural competence (ASK-G) from baseline to post-intervention. All data preparation and analysis were conducted using R (R Core Team, 2014). Multilevel models were done through the lme4 package (Bates et al. 2015). ANOVA analysis would allow for examination of shifts in measures over time with a relatively simple statistical approach. MLMs were computed in addition to repeated measures ANOVAs because ANOVA restricts analysis to only complete cases, which would greatly decrease sample size and subsequently power for the current study.

MLM Levels and Variables. This dataset was nested by persons. The level 1 unit of analysis was time, or observation (pre and post), the level 2 variable was measure

(AAQ, SEE, CoBRAS, ASK-G), and the nesting variable, or level 3 variable, was the individual person or participant. The outcome variables were the participants' change from pre to post on the measures (AAQ, SEE, CoBRAS, ASK-G). The independent variable was condition (control CCAU group or experimental CC + PF group), and covariates examined included participants' age, gender, and race.

Transformation of Demographic Variables. For the examination of race and gender as covariates, we condensed the demographic information into dichotomous variables. The control group consisted of 19 women and 10 men and the experimental group consisted of 25 women, 16 men, one of whom identified as a transgender man. Recoding “transgender male” into the male group was informed by the literature, which states that when norming samples are examined, gender identity is more impactful than biological sex (De Vries et al., 2011).

Additionally, given the lack of diversity in our sample, splitting participants by reported race would have resulted in cells too small for meaningful analysis. It was hypothesized that participants of color attending and working at a primarily white university would have similar experiences, thus the race variable was recoded into a binary variable of white/non-white (Gaertner et al., 1993). The final sample consisted of eight participants of color, and 44 white participants.

Model Building Approach. A bottom-up model building approach was used, beginning with a null, or empty, model. The original empty model analyzed final score by condition, time, and measurement. The equation used was, (score ~ condition + time + measure + (1 | participant ID)). Models attempting to analyze more than one scale as the outcome, or those that combined “measures” would not compute due to issues of

singularity. Given this, separate models for each of the four individual measures were run. With each successive model, interactions such as time by condition (control or experimental) and covariates were added. A final model from each set was chosen based on likelihood ratio test comparisons to the null model, and then likelihood ratio test comparisons between models that were significantly different from the null model. Based on likelihood ratio test results, and when all other indicators were roughly equivalent, the simplest models (those that limited the number of covariates and interactions) were found to be the best fitting and thus chosen for the final models.

CHAPTER IV

RESULTS

Demographics

Sixty-nine participants started the demographic survey at baseline. No significant differences were found between the control and experimental groups at baseline in terms of demographics or outcome measures (see Table 2).

Table 2

Demographics and Baseline Scores by Randomized Condition

	Control (<i>n</i> = 29) M (SD) or N (%)	Experimental (<i>n</i> = 40)	<i>p</i> value
Age (years)	31.70 (12.3)	34.60 (13.2)	.342
Gender			.676
Female	19 (65.5%)	25 (61%)	
Male	10 (34.5%)	16 (39%)	
Race			1.000
White	24 (82.8%)	34 (85%)	
Person of Color	5 (17.2%)	6 (15%)	
Measures			
SEE	4.73 (0.5)	4.73 (0.6)	.642
CoBRAS	2.16 (0.9)	1.96 (0.9)	.101
ASK-G	4.40 (0.3)	4.30 (0.4)	.164
AAQ-S	3.00 (0.5)	3.00 (0.6)	.618

Note: Demographics and measure scores for experimental and control conditions; there were no significant differences between groups at baseline. SEE = Scale of Ethnocultural Empathy (Wang et al., 2003); CoBRAS = Color-Blind Racial Attitudes Scale (Neville et al., 2000); ASK-G = Awareness, Skills, Knowledge – General (Domenech Rodríguez et al., 2019); AAQ-S = Acceptance and Action Questionnaire-Stigma (Levin et al., 2014).

Treatment of Missing Data

In order to utilize as much data as possible for analysis, imputations were carried out for partially completed questionnaires. For the AAQ-S, if at least 18 out of the 21 total items were completed, the average score was utilized for analysis. For the ASK-G, if at least 31 out of the 36 total items were completed, the average score was utilized for analysis. For the SEE, if at least 27 out of the 31 total items were completed, the average score was utilized for analysis. For the CoBRAS, if at least 17 out of the 20 total items were completed, the average score was utilized for analysis. See Table 3 for pre- and post- means and standard deviations.

Table 3

Pre- and Post- Scores Means and Standard Deviations by Randomized Condition

Measures	Pre-			Post-		
	Control <i>M (SD)</i>	Experimental <i>M (SD)</i>	<i>p</i> value	Control <i>M (SD)</i>	Experimental <i>M (SD)</i>	<i>p</i> value
SEE	4.73 (0.5)	4.73 (0.6)	.642	5.00 (0.6)	4.90 (0.5)	0.391
CoBRAS	2.16 (0.9)	1.96 (0.9)	.101	2.20 (0.9)	2.00 (0.9)	0.463
ASK-G	4.40 (0.3)	4.30 (0.4)	.164	4.60 (0.4)	4.40 (0.5)	0.157
AAQ-S	3.00 (0.5)	3.00 (0.5)	.618	2.90 (0.8)	2.80 (0.6)	0.660

Note: Measure scores for experimental and control conditions at pre-assessment and post-assessment; there were no significant differences between groups at baseline or post. SEE = Scale of Ethnocultural Empathy (Wang et al., 2003); CoBRAS = Color-Blind Racial Attitudes Scale (Neville et al., 2000); ASK-G = Awareness, Skills, Knowledge – General (Domenech Rodríguez et al., 2019); AAQ-S = Acceptance and Action Questionnaire-Stigma (Levin et al., 2014).

Research Question 1

The total length of the PF module video was 20.5 min. The average total number of minutes participants spent watching the video was high ($M = 19.27$, $SD = 5.77$). Twenty-six participants watched the video in its entirety. The average percentage of the PF module worksheet that participants completed was also high ($M = 98.96\%$, $SD = 5.89$) with 42 participants completing 100% of the sheet. Additionally, participants' average program evaluation ratings were positive ($M = 4.37$, $SD = 1.33$), landing between *slightly agree* and *mostly agree* (see Table 4). Overall, these results suggest that it is feasible to add a 30 min PF module to a CCAU training.

Research Question 2

Assumptions for normality and homogeneity of variance were met, and a 3 (time) x 2 (group) mixed design repeated measures ANOVA was calculated to examine changes in psychological flexibility over time. There were no outliers in the data, as assessed by inspection of a boxplot. Data was normally distributed, as assessed by Shapiro-Wilk's test of normality on the studentized residuals ($p > .05$). ANOVA results showed no significant changes in psychological flexibility over time within groups, $F(2, 46) = 1.867$, $p = .166$, $\eta_p^2 = .075$ or between groups, $F(1, 23) = 1.239$, $p = .277$, $\eta_p^2 = .051$.

Table 4*Program Evaluation Mean Ratings by Condition*

	Control (<i>n</i> = 23) M (SD)	Experimental (<i>n</i> = 37)	<i>p</i> value
“Overall, I was satisfied with the quality of this module section.”	5.10 (0.9)	4.30 (1.4)	.012*
“This module section was helpful to me.”	5.00 (1.2)	4.20 (1.5)	.044*
“This module section was easy to use.”	5.00 (1.2)	4.20 (1.5)	.044*
“I would recommend this module section to someone who was trying to improve their cultural competence.”	5.00 (1.2)	4.20 (1.5)	.044*

Note: Program evaluation ratings for experimental and control conditions; there were significant differences between groups for each item, with the control group rating items significantly higher than the experiment groups; 1 = *strongly disagree*, 2 = *mostly disagree*, 3 = *slightly disagree*, 4 = *slightly agree*, 5 = *mostly agree*, 6 = *strongly agree*.

Research Question 3

Repeated Measures ANOVAs. Assumptions of variance were met across all measures. Data was normally distributed, as assessed by Shapiro-Wilk’s test of normality on the studentized residuals ($p > .05$). Results from repeated measures ANOVAs for each outcome measure produced non-significant results for time and the interaction of time by condition (see Table 5). However, ANOVA analysis of SEE scores for time verged on significance, $F(1, 50) = 3.584$, $p = .064$, $\eta^2 = .067$. Due to the requirements for ANOVA analysis, incomplete cases were removed from analysis. The final sample size was greatly

reduced from the original sample size of $N = 69$ for these analyses (CoBRAS, $n = 46$; SEE, $n = 50$; ASK-G, $n = 26$).

Multilevel Models. Consistent with the analysis performed through ANOVA, MLM analysis did not reveal any significant interactions related to scores on any of the

Table 5

Analysis of Covariance Summary for Each Outcome

Measure	df	Mean Square	F	<i>p</i> -value
CoBRAS				
Time	46	0.09	0.72	.306
Condition x Time	46	0.07	0.98	.362
SEE				
Time	49	0.35	3.58	.064
Condition x Time	49	0.04	0.41	.526
ASK-G				
Time	25	0.17	2.45	.130
Condition x Time	25	0.56	0.81	.375

Note: Results from repeated measures ANOVA's for each outcome measure produced non-significant results for time and the interaction of time by condition. Outcome measures include: Awareness, Skills, Knowledge – General scores (ASK-G; Domenech Rodríguez et al., 2019), the Scale of Ethnocultural Empathy (SEE; Wang et al., 2003), and the Color-Blind Racial Attitudes Scale (CoBRAS; Neville et al., 2000).

four outcome measures. Additionally, MLM analysis did not reveal significant main effects for condition on any of the measures, meaning there were no significant differences between the control and experimental condition (see Table 6). However, when the groups were examined as a whole, significant main effects for time were found for scores on the SEE and the ASK-G. Additionally, there were significant covariates

associated with SEE scores; main effects for gender and age were also found on the SEE, with women and older participants displaying higher levels of ethnocultural empathy than men and younger participants, respectively. See Table 7 for results from final multilevel models for the SEE and ASK-G; see Figures 2 and 3 for visualizations of the final models.

Table 6

Models Testing Main Effects and Interaction Effects by Randomized Condition for all

Outcome Measures

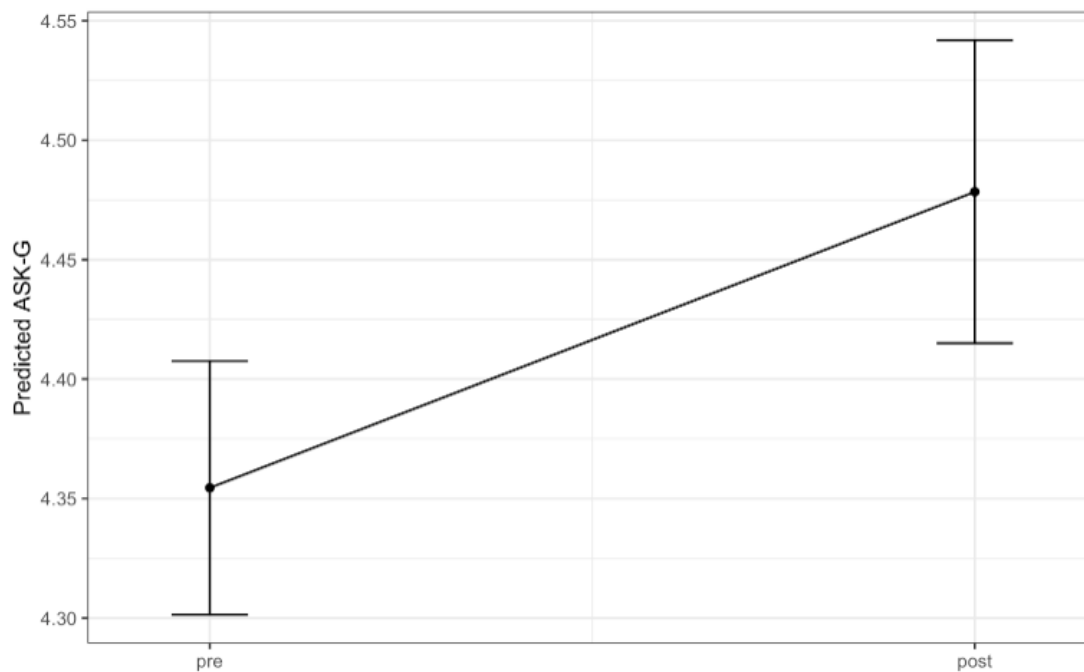
	AAQ-S	CoBRAS	SEE	ASK-G
FIXED EFFECTS	β (SE)	β (SE)	β (SE)	β (SE)
intercept	2.95***(0.29)	60.23***(8.54)	135.02***(7.17)	4.28***(0.19)
Time	-0.11 (0.18)	-2.50 (1.95)	4.91 (3.24)	0.20* (0.10)
Condition	-0.08 (0.17)	-3.72 (4.28)	-2.47 (3.74)	-0.14 (0.11)
Age, years	0.00 (0.01)	-0.27 (0.18)	0.28* (0.13)	0.00 (0.00)
Gender	-0.07 (0.15)	-1.14 (4.28)	8.45* (3.56)	-0.15 (0.10)
Race	0.05 (0.20)	-6.59 (5.54)	-2.25 (4.66)	-0.13 (0.13)
Time x Condition	-0.05 (0.22)	2.55 (2.42)	-1.55 (4.02)	-0.11 (0.13)
RANDOM EFFECTS	variance	variance	variance	variance
intercept, person	0.150	256.584	134.994	0.082
residual	0.206	31.260	97.338	0.063
SAMPLE SIZE	n	n	n	n
people	60	68	69	59
observations	87	114	119	86

*** $p < .001$, ** $p < .01$, * $p < .05$

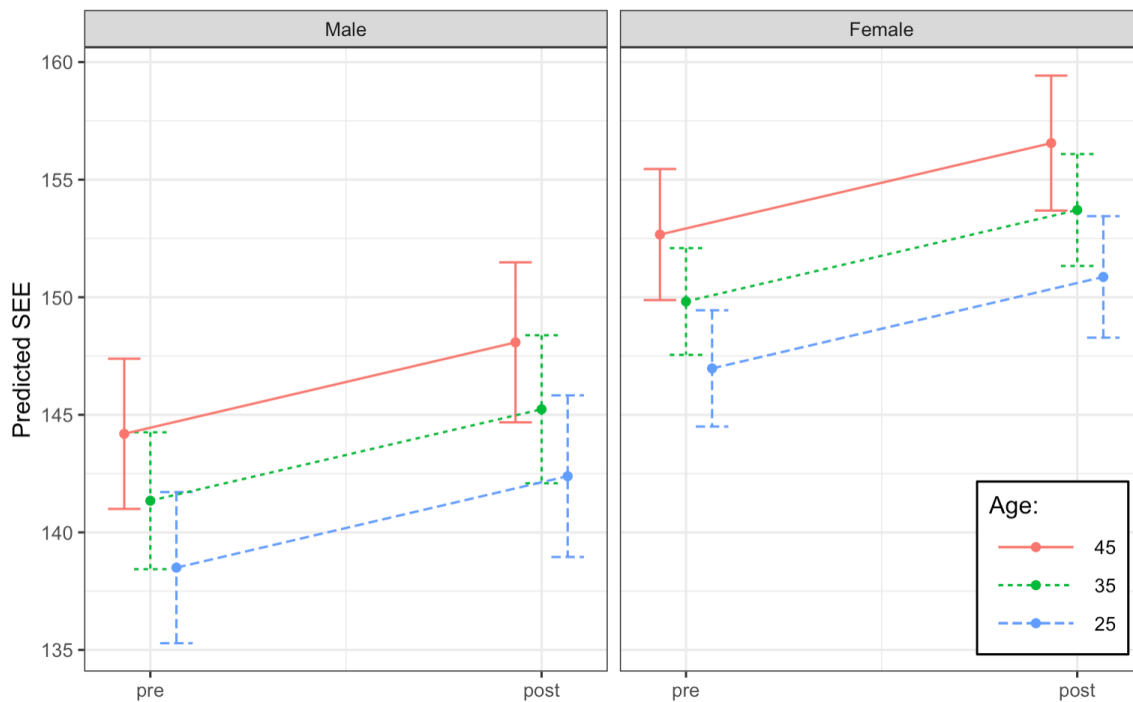
Note: Models testing for main effects and interaction effects by randomized condition for the Awareness, Skills, Knowledge – General scores (ASK-G; Domenech Rodríguez et al., 2019), the Scale of Ethnocultural Empathy (SEE; Wang et al., 2003), the Color-Blind Racial Attitudes Scale (CoBRAS; Neville et al., 2000), and the Acceptance and Action Questionnaire-Stigma (AAQ-S; Levin et al., 2014).

Figure 2

Increase in ASK-G Cultural Competence



Note. Figure depicting results from final model of Awareness, Skills, Knowledge – General scores (ASK-G; Domenech Rodríguez et al., 2019) showing the significant change in scores from pre to post intervention, $p = .0561$. The error bars represent one standard error above and below the marginal mean.

Figure 3*Increase in Ethnocultural Competence by Gender*

Note. Figure depicting results from final model of Scale of Ethnocultural Empathy (SEE; Wang et al., 2003) showing the change in SEE scores over time, and split by age and gender, $p = 0.048$. Panels were split by gender. Female participants had significantly higher ethnocultural empathy (SEE) scores than male participants. Older participants had significantly higher ethnocultural empathy (SEE) scores than younger participants. The error bars represent one standard error above and below the marginal mean.

Table 7*Final Models for ASK-G and SEE*

	ASK-G	SEE
FIXED EFFECTS	β (SE)	β (SE)
intercept	4.44***(0.08)	133.29***(5.70)
Time	0.13* (0.06)	3.89* (1.93)
Condition	-0.17 (0.10)	-3.10 (3.47)
Age, years		0.28* (0.13)
Gender		8.47* (3.56)
RANDOM EFFECTS	variance	variance
intercept, person	0.098	135.521
residual	0.066	97.617
SAMPLE SIZE	<i>n</i>	<i>n</i>
people	60	69
observations	87	119

*** $p < .001$, ** $p < .01$, * $p < .05$

Note: Final Models for the Awareness, Skills, Knowledge – General scores (ASK-G; Domenech Rodríguez et al., 2019) and the Scale of Ethnocultural Empathy (SEE; Wang et al., 2003). There was a significant time effect for both the ASK-G and the SEE. Additionally, for the SEE, age and gender were significant covariates.

CHAPTER V

DISCUSSION

This study examined the utility targeting psychological flexibility as a process to enhance the impact of a cultural competence intervention with an ACT-enhanced cultural competence intervention. It was hypothesized that targeting psychological flexibility could enhance the outcomes of a cultural competence training by increasing participants' ability to cope with any discomfort that arises during cultural competence training while working to improve their knowledge, awareness, and skills. Specific research questions examined in the current study were: (a) What is the feasibility of adding a 30 min PF module to a CCAU training? (b) Is there a significant change in psychological flexibility over time in the CCAU as compared to the CC+PF groups? And (c) Are there different shifts in ethnocultural empathy, colorblind attitudes, and cultural competence, from baseline to post-intervention in CCAU as compared to CC+PF?

While our results in regard to the first research question suggest that it is indeed feasible to add a 30 min psychological flexibility module to cultural competence training, our results related to research questions two and three suggest that 30 min of exposure to a psychological flexibility intervention did not contribute to statistically significant increases psychological flexibility (as measured by the AAQ-S) or differential shifts in cultural competence (as measured by the ASK-G, SEE, and CoBRAS). However, when examining the sample as a whole, our results suggest that the intervention in general contributed to statistically significant increases in ethnocultural empathy as measured by the SEE, and in cultural competence as measured by the ASK-G. Given the tripartite approach of both interventions, these results would be expected based on previous

literature, such as metaanalytical results which found that significant effects among diversity trainings that targeted both awareness and skills development (Bezrukova et al., 2016). Additionally, previous online tripartite cultural competence interventions have resulted in shifts in ethnocultural empathy as measured by the SEE (e.g., Alvarez & Domenech Rodríguez, in press). Because the ASK-G is a relatively new measure, the current study is the first study to show significant changes in the measure over time in response to intervention. Finally, considering that baseline scores on the SEE and ASK-G were already quite high (see Table 3), these statistically significant shift in scores over time are encouraging.

When examining the sample as a whole, we also found that women reported significantly higher levels of ethnocultural empathy on the SEE, which is consistent with previous research (e.g. Alvarez & Domenech Rodríguez, in press; Cundiff & Komarraju, 2008), and that older participants reported significantly higher levels of ethnocultural empathy than younger participants. The latter finding was surprising, and may warrant further investigation with future research; age was not found to be a significant covariate in Wang et al. (2003) or Cundiff and Komarraju (2008), however, both of these studies analyzed data from undergraduate samples and cited homogeneity of age as limitations to the generalizability of their findings. Furthermore, our sample of faculty, staff, and graduate students may differ from an undergraduate population, and, patterns in ethnocultural empathy of those in educational context may differ from a general population.

Limitations and Future Directions

Dosage. While 30 minutes was the maximum amount of time that could feasibly be tested in the current study due to practical constraints, it is a very low dosage of exposure to ACT techniques. Considering that even studies of brief and focused ACT for clinical therapy utilize two (e.g. Ruiz et al., 2018) to four (e.g. Glover et al., 2016) sessions, and that in a meta-analysis of research testing the use of ACT for reducing stigma (Krafft et al., 2018) the briefest intervention examined utilized a 2.5 hr single session, it is possible that the lack of statistically significant difference between the control CCAU condition and the experimental CC+PF condition (i.e., Research Question 3), and the lack statistically significant shifts in psychological flexibility (i.e., Research Question 2), could be explained by the low dosage in the current study. Future research might examine a cultural competence intervention where there is longer exposure to ACT techniques, several exposures to ACT techniques, or integrated ACT techniques throughout, to see if increased dosage leads to significant shifts in psychological flexibility and differential shifts in cultural competence.

Sample size, attrition, consent for analysis, and lessons learned. For participants in the NASMP program, this was the first time that a mandatory cultural competence training was required, and attrition was high. As a result of this pilot implementation of the mandatory cultural competence training, many lessons were learned by the researchers which will be implemented in future iterations to reduce attrition. For example, in the future, we will offer the training earlier in the Spring semester so that it will not overlap with finals week, when participants' schedules are particularly busy. We will also improve participant communication; it became apparent over the course of the intervention that not all participants in the NASMP program who

were signed up for the cultural competence course were aware that the course was mandatory, and that it was meant to be completed before the NASMP began. Another factor that contributed to attrition for research analysis was that a portion of participants who completed pre and post did not fill out consent forms after post (see Figure 1). While we were required by IRB to leave consent until the end of the study for the present study, in future iterations, we will work with our IRB to create a procedure in which consent forms can be completed prior to the pre-assessment, rather than after the post-assessment. This change would likely decrease the number of participants who must be excluded from analysis because they did not fill out a consent form after the intervention was completed. Addressing these limitations would likely increase the sample size, which would increase the likelihood of detecting between group effects if they are present.

Conclusion

In an increasingly diverse and multicultural society, there is a pressing and practical need for interventions to help professionals improve their cultural competence. While research suggests that tripartite cultural competence interventions are effective at increasing knowledge, awareness, and skills (e.g., Bezrukova et al., 2016; Gallagher & Polanin, 2015), there is a possibility that the effect of these interventions could be enhanced by utilizing ACT as a process theory to inform intervention implementation, and by utilizing ACT techniques to teach skills that would allow participants to effectively carry the discomfort, shame, and guilt that almost inevitably arise (e.g. Nylund, 2008; Pinterits, Poteat, & Spanierman, 2009) while engaging in cultural competence training.

While the results of the present study suggest that adding techniques aimed at increasing psychological flexibility to a cultural competence intervention is feasible and acceptable to participants, and the results previous research suggests that ACT interventions can be effective for reducing the impact of stigma and prejudice (e.g. Krafft et al., 2018), future research with a larger dosage and a larger sample size is needed to examine the utility of ACT to enhance outcomes in tripartite cultural competence interventions.

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