

Louisiana State University

LSU Scholarly Repository

LSU Master's Theses

Graduate School

April 2022

Implicit Bias in Speech-Language Pathology Students

Skyller Castello

Louisiana State University and Agricultural and Mechanical College

Follow this and additional works at: https://repository.lsu.edu/gradschool_theses



Part of the [Speech Pathology and Audiology Commons](#)

Recommended Citation

Castello, Skyller, "Implicit Bias in Speech-Language Pathology Students" (2022). *LSU Master's Theses*. 5522.

https://repository.lsu.edu/gradschool_theses/5522

This Thesis is brought to you for free and open access by the Graduate School at LSU Scholarly Repository. It has been accepted for inclusion in LSU Master's Theses by an authorized graduate school editor of LSU Scholarly Repository. For more information, please contact gradetd@lsu.edu.

IMPLICIT BIAS IN SPEECH-LANGUAGE PATHOLOGY STUDENTS

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Arts
in
The Department of Communication Sciences and Disorders

by
Skyller D. Castello
B.A., Louisiana State University, 2020
May 2022

Table of Contents

Abstract	iii
Introduction	1
Implicit bias in health care professionals	2
Implicit bias in speech-language pathology	4
Racial disparities and self-examination in speech-language pathology	6
Products of implicit bias	9
Summary and rationale	10
Methods	12
Participants	12
Procedure	12
Measures	14
Results	18
Participant Description	18
Color-Blind Racial Attitudes Scale (CoBRAS)	19
Acceptability of Racial Microaggressions Scale (ARMS)	30
Qualitative Trends from Optional Feedback Provided by Respondents	39
Discussion	41
Research Question 1: What are the perceptions of current speech-language pathology (SLP) students in terms of microaggressions and color blindness?	41
Research Question 2: Are there any significant differences in perceptions between the groups (White vs. BIPOC) being assessed?	44
Exploratory Analysis by Class Cohort	45
Limitations	46
Practical implications	47
Conclusion	48
Appendix A. IRB Approval	49
Appendix B. Survey	52
References	80
Vita	83

Abstract

Implicit racial biases have been documented across a variety of allied health professions. A systematic review conducted by FitzGerald and Hurst (2017) of implicit bias in healthcare professionals found that 20 out of 25 studies examined displayed bias against BIPOC in diagnosis, treatment recommendations, and other aspects of the medical care they received. A literature review completed by Hall et al. (2015) found similar results, stating that 9 of the 15 studies examined identified bias against Black clients. One allied healthcare profession, speech-language pathology, interacts with a diverse clientele in a clinical environment and yet have been excluded from much of the existing implicit bias literature. According to the Code of Ethics outlined by the American Speech-Language-Hearing Association (ASHA), SLPs are prohibited from discriminating in the delivery of professional services based on race, ethnicity, sex, gender identity/gender expression, sexual orientation, age, religion, national origin, disability, culture, language, or dialect (ASHA, 2016). Therefore, the purpose of this study was to gain insight into implicit bias within students enrolled in speech-language pathology programs by evaluating their perceptions and attitudes about two common forms of implicit bias: color blindness and microaggression. Fifty-nine SLP students voluntarily completed a Qualtrics survey comprised of two well-validated scales: the Color-Blind Racial Attitudes Scale (Neville, 2000) and the Acceptability of Racial Microaggressions Scale (Mekawi & Todd, 2018). Results suggested that while 63% of students did not endorse statements that express color-blind beliefs on the CoBRAS, and 70% did not support microaggressive statements on the ARMS, approximately one-third of students either (a) endorsed these statements or (b) did not rate these statements as *unacceptable*. White students' responses indicated higher levels of bias compared to BIPOC peers, although overall levels of implicit bias were low-to-moderate for both groups. Although

data indicating low-to-moderate levels of implicit bias found in this study are promising, responses were not uniform and qualitative responses provided evidence of polarized opinions within the student cohort.

Introduction

Unlike overtly derogatory or racist comments, events, or actions, implicit racial bias is a prejudice that is non-conscious and unrecognized by the person holding that belief (Merriam-Webster, n.d.). Implicit bias was first discussed by Greenwald and Banaji (1995) who explain that attitudes, stereotypes, and self-esteem are controlled by unconscious, indirect, and implicit thoughts held by all people which impact social cognition. Although implicit bias does not always result in direct, outward forms of discrimination, it impacts the decisions we make when interacting with people of a race different from our own. This results in an inequality in the treatment of Black, Indigenous, People of Color (BIPOC)¹. Implicit bias manifests in insidious forms of prejudice, such as color blindness or microaggressions. According to Sue (2010), microaggressions occur in everyday life as verbal or nonverbal slights or snubs. Microaggressions target a particular group and can go undetected by those who do not identify with that group. Sue (2020) explains that members of marginalized groups are targets of microaggressions which impacts their physical and mental health.

Several systematic reviews conducted over the past decade highlight a pattern of explicit discrimination as well as implicit bias against BIPOC within the medical field and allied health professions. FitzGerald and Hurst (2017) reviewed 42 peer-reviewed studies in search of evidence of implicit bias within doctors, nurses, and other health care providers currently working in the medical field. These authors based their selection of studies on a definition of implicit bias which involves a lack of intention, conscious availability, or controllability. Results

¹ The term BIPOC is considered the most accurate and appropriate term to use when referring to racial groups that often face injustice within our society. The distinction of Black and Indigenous in the term BIPOC signifies that not all people of color are equally discriminated against or face equal levels of injustice (Clarke, 2020).

suggested that healthcare professionals exhibit levels of implicit bias comparable to the general population. Twenty of the 25 studies evaluated reported some form of bias in a variety of contexts, including (a) diagnosis, (b) treatment recommendations, (c) the number of questions asked to the patient, and (d) the number of tests ordered. For example, Lutfey (2009) found physicians were less confident in their diagnosis of coronary heart disease for Black and young female patients. Stepanikova (2012) reported that 81 general practitioners and family physicians demonstrated a greater time pressure while visiting Black patients, which resulted in a lower rate of referral to specialists. Furthermore, FitzGerald and Hurst (2017) found that there is a significant correlation between the level of implicit bias within health care providers and quality of life indicators for BIPOC. These findings highlight the consequence of implicit bias within clinical settings and the importance of analyzing and addressing implicit racial biases that may prevail within current institutional policies.

Implicit Bias in Health Care Professionals

A systematic review conducted by Hall et al. (2015) analyzed studies pertaining to health care professionals' treatment and diagnoses of BIPOC to assess the level of implicit racial bias among health care providers. Unlike FitzGerald and Hurst (2017), these authors included medical students who were training to become health care providers, as well as practicing nurses and doctors. Evaluation of 15 studies ($n = 4,197$ students, nurses, and doctors) revealed that most health care providers demonstrate implicit bias, resulting in more positive attitudes toward White people and more negative attitudes toward BIPOC. Fourteen of the 15 studies assessed implicit bias via the Implicit Association Test (IAT) developed by Greenwald et al. (2003). The only study evaluated by Hall et al. that did not use the IAT to measure implicit bias used a method of sequential priming. According to Hall et al., implicit bias measured by the IAT negatively

impacted how long patients of color (a) wait for their appointments, and (b) how much time the doctor spends in the room with them, as compared to their White counterparts. This trend of bias was exhibited in 14 (93%) of the 15 studies which revealed evidence of low to moderate levels of implicit bias against BIPOC among health care professionals. Thirteen (87%) of the 15 studies found that health care professionals are more likely to associate Black Americans with negative words. Four (27%) of the 15 studies found that health care professionals associated Black Americans with being less cooperative, less compliant, and less responsible in a medical context. Hall et al. also revealed that health care professionals exhibited a comparable amount of implicit bias against Hispanic/Latino/Latina people as Black Americans. Based on these findings, the authors recommended that further research should focus on multiple strategies to minimize racial bias, such as (a) primary prevention training for health profession students, (b) interventions for practitioners actively working with patients, and (c) systemic interventions that neutralize biases institutionalized in health care settings.

A systematic review by Maina et al. (2017) assessed 37 studies to evaluate racial/ethnic bias in health care providers by using the Race Implicit Association Test (Race IAT). Of the 37 studies, 31 (84%) revealed evidence of “pro-White or light-skin/anti-Black, Hispanic, American Indian, or dark skin bias among health care professionals across various levels of training and disciplines” (p. 221). The authors also found that health care providers who display a higher level of implicit bias exhibited poorer patient-provider communication (e.g., more verbal dominance and less emotional responsivity from providers) and greater disparities in treatment recommendations (e.g., predicted adherence to recommendations and follow-up appointments). These providers also held lower expectations of therapeutic bonds between their patients and themselves, pain management, and empathy for their patients. In sum, higher implicit anti-Black

bias was shown with anticipated therapeutic bonds among practicing counselors and counselors in training.

Similar implicit bias shown throughout the medical field has been observed in the allied health professions. Steed (2014) surveyed the attitudes of students and faculty at one Southern school of allied health using the Racial Argument Scale (RAS; Saucier & Miller, 2003) to compare their racial attitudes, in terms of cultural sensitivity, to those of students and faculty of the general population in the United States. Unlike Steed (2009), which focused exclusively on occupational therapists, Steed (2014) compared occupational therapists' bias to that of other allied health care providers (i.e., speech-language pathologists, physicians assistants, physical therapists). Findings from the RAS indicated that speech-language pathologists, physicians assistants, and physical therapists all displayed a higher negativity toward Black people than White people.

Implicit Bias in Speech-Language Pathology

Minimal investigation of implicit bias within speech-language pathology (SLP) has been conducted. One way in which implicit bias has been examined is treatment of non-standard dialects of English (e.g., for review of implicit accent and linguistic biases, see Ayala-Lopez, 2020). Clark et al. (2020) utilized an online survey to assess the implicit bias of 129 Australian speech-language pathologists. SLPs were instructed to rank 28 statements regarding phrases spoken by children in primary and secondary school on a 5-point Likert scale based on agreeableness in terms of their positive or negative attitude toward the child's dialectical variation (e.g., a survey item assessing language "impurity", such as *'Youse' is an appropriate way to indicate 'more than one of you'*). This study was adapted from Oliver and Haig (2005) who used statements from students in primary and secondary schools in Western Australia to

investigate the attitudes of teachers. The purpose of Clark et al. (2020) was to explore what SLPs, rather than teachers, believe to be acceptable or correct and standard Australian language. Data indicate that negative attitudes toward a person with a different dialect from the clinician can potentially impact their clinical judgment in distinguishing whether their client has a dialectical difference or a disorder. If this is the case, such judgements can result in an inequitable service provision, differential diagnosis, clinical goal setting, and diminish the overall quality of services to those who speak with non-standard dialects. Clark et al. demonstrated that more negative views are found in less experienced SLPs with respect to language purity. Hendricks et al. (2021) evaluated the perception of African American English (AAE) by speech-language pathology graduate students by surveying 73 students from 46 randomly selected SLP graduate programs in the United States. This survey revealed that the students who participated hold positive opinions of AAE but rank those who speak AAE, primarily African Americans, lower in three personal attribute categories: socio-intellectual, dynamism, and aesthetic.

Although under-researched, it is reasonable to predict that the accent- and linguistic-based implicit biases shown by Clark et al. (2020) and Hendricks et al. (2021) may extend to the implicit racial biases observed in similar allied medical fields (e.g., FitzGerald & Hurst, 2017; Hall et al., 2015) and result in similar patient-care consequences. As outlined by the Code of Ethics created by the American Speech-Language-Hearing Association (ASHA, 2016), SLPs are prohibited from inequality in the delivery of professional services based on race, ethnicity, sex, gender identity/gender expression, sexual orientation, age, religion, national origin, disability, culture, language, or dialect. As future SLPs, students have an ethical responsibility to understand and adhere to the ASHA Code of Ethics, and speech-language pathology programs

have a corresponding ethical responsibility to provide a thorough education in cultural competency during their pre-professional training.

Racial Disparities and Self-Examination in Speech-Language Pathology

According to ASHA's CSD Education Survey: Communication Sciences and Disorders Education Trend Data (2020), 23.3% of students enrolled in speech-language pathology master's programs identified as a racial or ethnic minority in the 2019-2020 academic year. Although this is an upward trend from 13.6% reported in the 2010-2011 academic year, there is still a large discrepancy in minority student enrollment for speech-language pathology programs (ASHA, 2020). The most recent report by ASHA indicated that 91.4% of certified SLPs identified as White (ASHA, 2022). Due to the current disproportionate racial composition of the field, and the potential for implicit bias within allied health professions, the need to evaluate implicit bias within SLP programs is immediate.

The potential impact of implicit bias within speech-language pathology programs may be particularly prominent due to its long-standing racial disparity. A 2016 article entitled *Our Clients Are Diverse: Why Aren't We?*, for example, found that less than 8% of ASHA members and affiliates identified as racial minorities (4.7% Hispanic, 5% bilingual; Rodriguez, 2016). Others have discussed addressing the stark lack of racial concordance between the race of SLPs and that of clients. According to Kimmons (2017), 50.4% of the United States' infant population (i.e., 12 months or younger) was considered a racial minority in 2012, whereas 92.1% of practicing SLPs identified as White/non-Hispanic in the same year. Kimmons argues that it takes more than tolerance to effectively serve people within their cultural and linguistic communities. She also provides ways to move from tolerating to appreciating cultural differences (i.e., learning more about your own culture, evaluating and considering your own views, and finding positive

examples of people who represent communities you serve). Like Rodriguez, Kimmons recommends SLPs re-evaluate their ideas surrounding the races and cultures of those they serve.

In 2002, Vicki Deal-Williams – the newly appointed CEO of ASHA – discussed the increasing diversity of the United States, and consequently, the communities served by speech-language pathologists. She argues that increasing opportunities for students from traditionally underrepresented groups is needed, which can be accomplished by adding minority professionals as role models and mentors to the current professional pool. This recommendation can serve as a foundation for future recruitment efforts. Almost 20 years later, amidst the wide-spread events fueled by racial injustice in 2020, Deal-Williams noted that racial disparity and injustice remains within the field of communication sciences and disorders, stating clearly “We have failed to eliminate disparities in admissions of BIPOC students, achieve inclusion within our programs, address microaggressions leveled at students and professionals of color, and achieve multicultural inclusion in the CSD curriculum” (Deal-Williams, 2020). Deal-Williams discusses a three-year focused initiative by ASHA devoted to culturally/linguistically diverse populations. This was designed to address two outcomes: (a) increasing the racial/ethnic minority membership in ASHA and (b) developing additional resources for improving service delivery to culturally and linguistically diverse populations.

One way to move toward is to provide thorough, culturally competent speech-language pathology programs which promote racial diversity and inclusion. It is also beneficial to analyze perceptions of racial privilege and to compare racial attitudes across all races within the field. This was accomplished in Ebert’s (2013) study which surveyed the awareness of White privilege among graduate-level SLP students. The survey assessed the students’ perceptions of White privilege and racial disparities within speech-language pathology. Graduate students from 11

programs across the United States participated in the three-part survey. Responses indicated that there is a predominance of White racial majority in graduate-level training programs and in professional roles, with the highest percentage of White people serving as instructors or supervisors (at least 90%). The author also found that 57% of White students who completed the survey believe that both White and BIPOC graduate students experience the same challenges throughout their program. This was one of the six questions where over 50% of White students expressed their belief in fairness pertaining to the experience and delivery of services for students of all races enrolled in SLP graduate programs. However, the survey revealed that graduate BIPOC students held lower rates of agreement on all questions pertaining to racial equality. Data also indicated an inconsistent awareness of White privilege among White students. Combined, these findings demonstrate a discrepancy in awareness regarding racial equality in SLP graduate-level programs between White and BIPOC students.

Preis (2013) discusses the effects of teaching speech-language pathology students ($n = 20$) about White privilege during an undergraduate course entitled *Cultural Diversity in Communication* which focused on “communication’s impact on a multicultural society and the role it plays in that society”. This course examined cultures’ systems and characteristics and the role racial bias and perception of race have on intercultural communication. Preis defines White privilege as an unjustified advantaged earned entirely because of skin color. This definition of White privilege results in racial obliviousness (e.g., not recognizing the influence of one’s culture or race) and color blindness (e.g., stating that all people are the same), effectively ignoring “consciously or unconsciously” that racial discrimination and privilege exist. Preis notes that a conversation surrounding race with speech-language pathology students should

begin with discussing White privilege. The author also suggests that racial obliviousness or color blindness seen in SLP students may be due to the lack of racial diversity within the profession.

Products of Implicit Bias

Implicit bias can manifest as attitudes or behaviors that subsequently have negative consequences on the targeted group, regardless of whether the perpetrator is aware of their actions. Primary ways in which implicit bias can impact people of racial minority is through microaggressions, color blindness, and White privilege (Ebert, 2013; Preis, 2013). Two of these—microaggressions and color blindness—can be quantitatively measured using validated scales.

Color blindness is a byproduct of White privilege and a form of implicit racial bias (Preis, 2013). It is defined by Neville et al. (2000) as a belief that race does not and should not matter to people. Color blindness results in a disregard of racism by creating the notion that if a race does not matter, then racism does not matter. Educational materials produced by the American Psychological Association (APA, 1997) explain that a color blind perspective on race ignores evidence provided in research that skin color impacts everyday behaviors and attitudes, even with well-intentioned people. ASHA's Cultural Competence section of the Practice Portal, used by SLPs for professional development, states that "cultural blindness" is a continuum of cultural competence, one in which services provided by SLPs function under the belief that color and culture do not make a difference and all people are the same (Cross et al., 1989).

Racial microaggressions are statements that communicate derogatory, hostile, or negative slights that negatively impact racial and ethnic minorities' wellbeing (Mekawi & Todd, 2018). These consist of microinvalidations (e.g., statements which discount or minimize the impact of race and racism, such as "not seeing race") and microinsults (e.g., statements which

are based on “positive” stereotypes, such as telling someone they have an “exotic” skin tone). Mekawi and Todd (2018) explain that there is ongoing debate surrounding whether it is socially acceptable for White people to make racially microaggressive statements despite their proven negative impact on racial and ethnic minorities. While statements such as these are inadvertent and perhaps unintentional, and often observed in popular media, such comments are, nevertheless, considered unacceptable by persons within BIPOC communities.

Summary and rationale for study

Given the precedent of implicit bias impacting the medical field and allied health professions shown by FitzGerald and Hurst (2017), Hall et al. (2015), and Maina et al. (2017) and the pronounced racial and ethnic disparities in the field of communication science and disorders (Deal-Williams, 2002, 2020; Kimmons, 2017; Rodriguez, 2016), it is important to examine implicit bias within SLP programs to assess any potential disconnect in racial attitudes and awareness of implicit bias presented as microaggressions and color blindness between BIPOC students and White students. Assessing and acknowledging the presence or absence of implicit bias is the necessary first step for change to occur within any allied health field. It is necessary to include the perspective of SLP students when assessing implicit racial bias within SLP programs due to research that suggests White students may be unaware that any implicit racial bias exists (i.e., color blindness, racial obliviousness; Preis, 2013).

The aim of this study, therefore, was to analyze implicit bias in speech-language pathology students by administering two quantitative surveys: Color-Blind Racial Attitudes Scale (Neville et al., 2000) and Acceptability of Racial Microaggressions Scale (Mekawi & Todd, 2018). These surveys will be used to evaluate the perceptions of microaggressions and color blindness from SLP students of all races based on two research questions:

(1) What are the perceptions of current speech-language pathology (SLP) students in terms of microaggressions and color blindness?

(2) Are there any significant differences in perceptions between the groups (White vs. BIPOC) being assessed?

SLP students are predicted to express levels of implicit bias specific to microaggressions and color blindness that are comparable to the general population. BIPOC SLP students are predicted to have a higher awareness of the social acceptability of microaggressions (as measured by the ARMS) and color blindness (as measured by the CoBRAS) than White SLP students. Gaining an understanding of potential implicit bias among SLPs in training can result in more specified and effective methods for reducing implicit bias to provide students of all races with a respectful and ethical educational experience.

Methods

Participants

This study was approved by the Louisiana State University Institutional Research Board on October 11, 2021 (IRBAM-21-0294). Participants included speech-language pathology students currently enrolled in a communication sciences and disorders program ($N = 334$; including both undergraduate degree or master's degree-seeking students). Both BIPOC and White students were recruited to participate to in an attempt to gain a comprehensive understanding of the level of implicit racial bias with in SLP students. All participants were currently enrolled in a large public university in the Southeast region of the United States. Although comparison of data from an equal number of students who identify as a member of each race would have been ideal, an unequal distribution of race amongst respondents was unavoidable and indicative of racial composition of speech-language pathology programs across the country. Because a smaller number of BIPOC students existed in the target program, a smaller number of BIPOC students were ultimately recruited to participate.

Procedure

Students within the speech-language pathology program were invited to participate via email on November 22, 2021. A follow up reminder email was sent on November 27, 2021, and a final reminder was sent on December 15, 2021. Students consented to participating in the study by clicking a link to a Qualtrics survey included in the recruitment email. After opening the survey, students were prompted to again provide consent to be a participant in the study. If a student selected "I consent," the survey began; if a student selected "I do not consent," the survey was immediately terminated. Participants were then instructed to complete the CoBRAS (Neville et al., 2000) and the ARMS (Mekawi & Todd, 2018). The survey was completed by

selecting a response on a scale of 1-5 based on the respondent's personal agreement with each statement for the CoBRAS (e.g., 1: Strongly Disagree to 5: Strongly Agree) and perceived acceptability of each statement included in the ARMS (e.g., 1: Totally Unacceptable to 6: Perfectly Acceptable). After completing the ARMS portion of the survey, students were then required to provide general demographic information. The demographics section of the survey included the following questions: (1) Please select your race/ethnicity (e.g., White, Black or African American, Hispanic or Latino, Asian, Native Hawaiian or Pacific Islander, other [insert response]), (2) Please select your gender(s), (3) Please select your age, (4) Please indicate your country of origin, (5) Please select your current graduate student distinction (e.g., first year master's student, second year master's student, doctoral student, undergraduate student), (6) Please select your anticipated graduation year, and (7) [OPTIONAL] Please describe your political affiliation. Students were then required to acknowledge that the parent university, department, and research team do not endorse any of the preceding statements or opinions included in the CoBRAS and ARMS items. Lastly, students were encouraged but not required to provide feedback on the survey in a free-response text box. Qualtrics-based versions of both the CoBRAS and the ARMS², as well as demographic questions and optional response questions, are provided in Appendix B.

² Each question of the survey is accompanied by a 0-100 visual analog scale to allow respondents to rate how strongly they felt about their opinion. These were not a part of the original CoBRAS and ARMS surveys and were included by the researcher, on the advisement of her committee, to provide response variance in anticipation that many, if not most, respondents would uniformly select the most socially appropriate response (i.e., "Totally Unacceptable", "Strongly Disagree"). As observed after data collection, and as reported, response variation was not a concern. For these reasons, data from the visual analog scales were disregarded during analyses. We do, however, acknowledge that this likely prolonged the survey duration and negatively impacted the response rate.

Measures

Color-Blind Racial Attitudes Scale (CoBRAS) Construction and Validation

The Color-Blind Racial Attitudes Scale (CoBRAS) was established by Neville et al. (2000) to assess attitudes related to racial color blindness. It includes three factors: (1) Racial Privilege, (2) Institutional Discrimination, and (3) Blatant Racial Issues. These factors pertain to the respondent's level of awareness of racially color-blind statements regarding each factor. The CoBRAS consists of 20 statements which are each individually ranked on a scale from 1 to 6 based on their agreeableness (1: Strongly Disagree to 6: Strongly Agree). Factor 1, Racial Privilege, consists of seven items: statements 1, 2, 6, 8, 12, 15, 20 (e.g., Statement 6: Race is very important in determining who is successful and who is not.). Factor 2, Institutional Discrimination, consists of seven items: statements 3, 4, 9, 13, 14, 16, 18 (e.g., Statement 18: Racial and ethnic minorities in the U.S. have certain advantages because of the color of their skin.). Factor 3, Blatant Racial Issues, consists of six items: statements 5, 7, 10, 11, 17, 19 (e.g., Statement 19: Racial problems in the U.S. are rare, isolated situations.). Items 2, 4, 5, 6, 8, 11, 12, 15, 17, 20 are reversed score (e.g., 6 = 1, 5 = 2, 4 = 3, 3 = 4, 2 = 5, 1 = 6). Scores are obtained for each of the three factors, as well as a total score. Higher scores on the CoBRAS indicate greater levels of color blindness, denial, or unawareness.

Neville et al. (2000) completed five studies utilizing 1,100 observations from college students ($n = 1,188$) to test the validity and reliability of CoBRAS. The first study completed on the preliminary 26-item CoBRAS scale revealed that a three-factor scale resulted in the most interpretable solution. The three factors include (1) Racial Privilege, (2) Institutional Discrimination, and (3) Blatant Racial Issues. The second study assessed the validity of the 20-item CoBRAS by determining whether the previously established factors were the best overall

structure compared to competing models. Confirmatory factor analysis suggests the three-factor model of CoBRAS is the best model compared to other competing models and was a good fit of the data according to the goodness-to-fit index. Study three evaluated the CoBRAS test-retest reliability and found that the Institutional Discrimination and Racial Privilege factors were acceptable (.80), while the Blatant Racial Issues factor showed .34. CoBRAS total showed .68 test-retest reliability after a 2-week period. Study four was performed to provide additional information regarding concurrent validity. Results indicated significant correlations among CoBRAS, Modern Racism Scale, and Quick Discrimination Index scales. The fifth study assessed whether the color-blind racial attitudes CoBRAS evaluates were sensitive to an intervention pertaining to multicultural training.

Descriptive statistics of all five studies reported moderate levels of color-blind racial attitudes among participants and showed significant intercorrelations among CoBRAS factors (subscales). Higher results from the CoBRAS factors and total score suggest greater (a) racial prejudice, (b) global belief in a just world, (c) sociopolitical dimensions of a belief in a just world, and (d) racial and gender intolerance. Following these studies, the authors concluded CoBRAS has criterion-related, discriminant, construct, and concurrent validity and was reliable.

Acceptability of Racial Microaggressions Scale (ARMS) Construction and Validation

The Acceptability of Racial Microaggressions Scale (ARMS) is a multidimensional scale created by Mekawi and Todd (2018) to assess attitudes associated with the social acceptability of different racially microaggressive statements made by White people to people of ethnic and racial minorities during interpersonal interactions. There are four factors or subscales included in the ARMS: (1) Victim Blaming, (2) Color Evasion, (3) Power Evasion, and (4) Exoticizing. These factors are measured using different items included in the ARMS 34-statement scale.

Subscale 1, Victim Blaming, is scored via items 1-9 (e.g., Statement 1: African Americans would get more jobs if they dressed more professionally.). Subscale 2, Color Evasion, is scored via items 10-17 (e.g., Statement 15: I don't notice race.). Subscale 3, Power Evasion, is scored via items 18-26 (e.g., Statement 25: When people get shot by the police, it is more about what they were doing rather than their race). Subscale 4, Exoticizing, is scored via items 27-34 (e.g., Statement 33: You're so beautiful, you look like Pocahontas.). These 34 statements are ranked on a 1-6 Likert scale (e.g., 1 -Totally Unacceptable to 6- Perfectly Acceptable) based on how acceptable it would be for a White individual to say each item to a BIPOC member of their group.

The authors conducted two studies (Study 1; $n = 596$, Study 2; $n = 404$) to provide exploratory and confirmatory support for the ARMS. The studies assessed the four factors of acceptability incorporated into the ARMS: (1) Victim Blaming, (2) Color Evasion, (3) Power Evasion, and (4) Exoticizing. Construct validity of the ARMS was tested by evaluating ideological, personality, and race-related measures. Mekawi and Todd tested for test-retest reliability by performing a third study ($n = 90$) in which they assessed the ARMS reliability over a 2-week period. Microaggressions were examined in two categories: microinsults (e.g., insensitive, demeaning statements about one's ethnic or racial heritage) and microinvalidation (e.g., states that discount or deny the impact of race or racism on individuals and society—color-blind racial attitudes).

The first study conducted supported the ARMS reliability for all four factors and established preliminary names for these factors (e.g., (1) Undesirable Culture and Reliance on Stereotypes, (2) Reliance on Negative Stereotypes, (3) Denial of Institutional Racism, and (4) Reliance on Stereotypes and Sexual/Physical Objectification) and items to be included for each.

During the second study performed, the authors found significant correlations for construct validity, and convergent validity suggested that the four factors (subscales) included in ARMS have moderate to large positive correlations with measures of explicit prejudice. Also, the second study indicated that the ARMS four subscales have a small negative correlation with intellect. Victim Blaming and Power Evasion have a negative correlation with agreeableness. A similar correlation was seen in Color Evasion, Power Evasion, and Exoticizing with neuroticism. The third study conducted by Mekawi and Todd which analyzed ARMS test-retest reliability suggested that ARMS responses were consistent for all four factors (e.g., Victim Blaming ($r = .80$), Color Evasion ($r = .86$), Power Evasion ($r = .81$), and Exoticizing ($r = .77$)).

Results

Results for the present study were analyzed based on two initial research questions (1) What are the perceptions of current speech-language pathology (SLP) students in terms of microaggressions and color blindness? (2) Are there any significant differences in perceptions between the groups (White vs. BIPOC) being assessed? It was predicted that SLP students would express an understanding of the concepts of microaggressions and color blindness that is comparable to the general population. It was also predicted that BIPOC students would express greater awareness of the social acceptability of microaggressions (as measured by the ARMS) and color blindness (as measured by the CoBRAS), and therefore, exhibit lower implicit bias as compared to their White peers. Descriptive analysis was completed regarding the means, standard deviations, and overall trends in variance for both the CoBRAS total score and individual factor scores and the ARMS subscale scores. Additional descriptive analysis was performed based on response variance between groups of students who completed the survey based on the students' identified race.

Participant Description

Of the 334 students who received the study invitation, 104 students (31%) started the survey, and 59 students (18%) completed the survey. As expected, a majority of the 59 students who completed surveys were provided by respondents who identified themselves as White ($n = 42$; 71%, see Table 1) and/or female ($n = 54$, 95%). Sixteen BIPOC students who completed the survey (27%), including students who identified as Black or African American ($n = 7$; 12%), Hispanic or Latino ($n = 2$; 3%), Asian ($n = 2$; 3%), and biracial ($n = 1$, 2%). There were 4 students (7%) who identified as White and BIPOC (e.g., Hispanic or Latino, Native Hawaiian, or Pacific Islander). One student marked "other" as their race and indicated that they "prefer not to

say” (i.e., this student chose to not identify their race/ethnicity). All participants were required indicate their class cohort distinction. Of the 59 students who completed the survey, there were 19 undergraduate students (32%) and 40 master’s students, either in the 1st year of their program ($n = 16$; 27%) or the 2nd year ($n = 24$; 41%).

Table 1. Student Participant Race by Class Cohort

Students	Undergraduate		1 st Year Graduate		2 nd Year Graduate		Total	
	White	10	White	12	White	20	White	42
	BIPOC	8	BIPOC	2	BIPOC	2	BIPOC	12
	Biracial	-	Biracial	2	Biracial	2	Biracial	4
Total ($n = 59$)	Other	1	Other	-	Other	-	Other	1

Note. Graduate-level students are enrolled in a COMD master’s program. The Biracial category refers to students who identified as both White and BIPOC (e.g., Hispanic or Latino, Native Hawaiian or Pacific Islander). The Other category refers to one student who chose not to report their race.

Color-Blind Racial Attitudes Scale (CoBRAS)

As described by Neville et al. (2000), higher CoBRAS scores are associated with an increased level of color blindness, as are higher scores on each of the CoBRAS three subscales (i.e., Racial Privilege, Institutional Discrimination, Blatant Racial Issues). The Racial Privilege subscale is thought to reflect opinions associated with blindness of the existence of White privilege. The Institutional Discrimination subscale is thought to reflect opinions associated with a limited awareness of the effects of institutional forms of racial discrimination. The Blatant Issues subscale is thought to reflect unawareness of pervasive racial discrimination in general.

CoBRAS: Overall Scores

In general, student participants expressed an overall low-to-moderate level of color-blind attitudes ($M = 2.17$, $SD = 1.38$; 1: strongly disagreeing, 3: unlabeled midpoint, 5: strongly agreeing) toward all provided statements of the CoBRAS. Of the 59 students who completed the survey, the highest level of color blindness was seen in responses to statements pertaining to

Racial Privilege out of the three subscales included in the CoBRAS (see Table 2). Statements associated with Racial Privilege (e.g., “Everyone who works hard, no matter what race they are, has an equal chance to become rich.”) yielded a highest level of agreement with the statements from the student respondents ($M = 2.58$, $SD = 1.52$). This means that students scored these statements higher on the five-point Likert scale and/or their responses to the reverse-scored items were scored higher than for other two factors. Student responses suggested a lower level of color blindness in items pertaining to Institutional Discrimination ($M = 2.12$, $SD = 1.26$). Examples of color-blind statements involving Institutional Discrimination include “Immigrants should try to fit into the culture and adopt the values of the U.S.” and “White people in the U.S. are discriminated against because of the color their skin. Student responses indicated the least amount of color blindness for statements relating to Blatant Racial Issues ($M = 1.76$, $SD = 1.20$; e.g., “Racism may have been a problem in the past, but it is not an important problem today,” “Talking about racial issues causes unnecessary tension.”).

Table 2. CoBRAS Factor Means and Standard Deviations by Total Student Responses

Students	Racial Privilege		Institutional Discrimination		Blatant Racial Issues		CoBRAS Total	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Total ($n = 59$)	2.58	1.52	2.12	1.26	1.76	1.20	2.17	1.38

Note. CoBRAS = Color-blind Racial Attitudes Scale.

CoBRAS: Response Variance

The means and standard deviations of the CoBRAS provided important information about the overall level of awareness of color-blind attitudes in speech-language pathology students and indicated that the students surveyed display a relatively neutral (e.g., not an extremely high or extremely low level of color blindness).

Figures provided below depict the overall total variance in responses to all statements on the CoBRAS (see Figures 1-2) and the variance in responses for each of the three factors (see Figures 3-5). Across all 1180 item responses on the CoBRAS (20 statements x 59 respondents), there were 789 instances in which students disagreed with the color-blind statements, 218 instances in which they agreed with the statements, and 173 instances in which statements yielded a neutral score from the students (see Figure 1). Overall, 67% of student responses did not agree with color-blind statements (i.e., when a student selected 1 or 2, with 1 labelled “strongly disagree”). When combined, the latter two response types (i.e., when a student selected 3-5, with 3 as the unlabeled midpoint and 5 labelled “strongly agree”) represented 33% of student responses (i.e., 391 of 1180, or 33%). That is, approximately one-third of responses indicated that SLP students either agreed, or did not explicitly disagree, with these color-blind statements (see Figure 2).

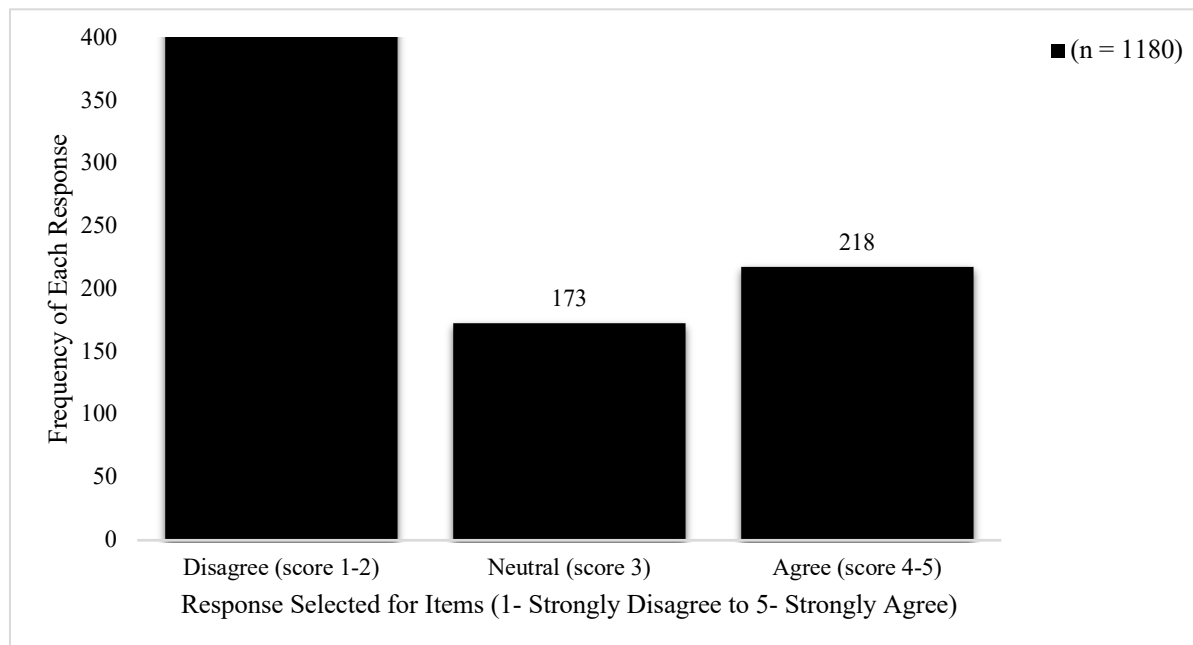


Figure 1.
Student Response Variance for All Items in CoBRAS
Note. CoBRAS = Color Blind Racial Attitudes Scale.

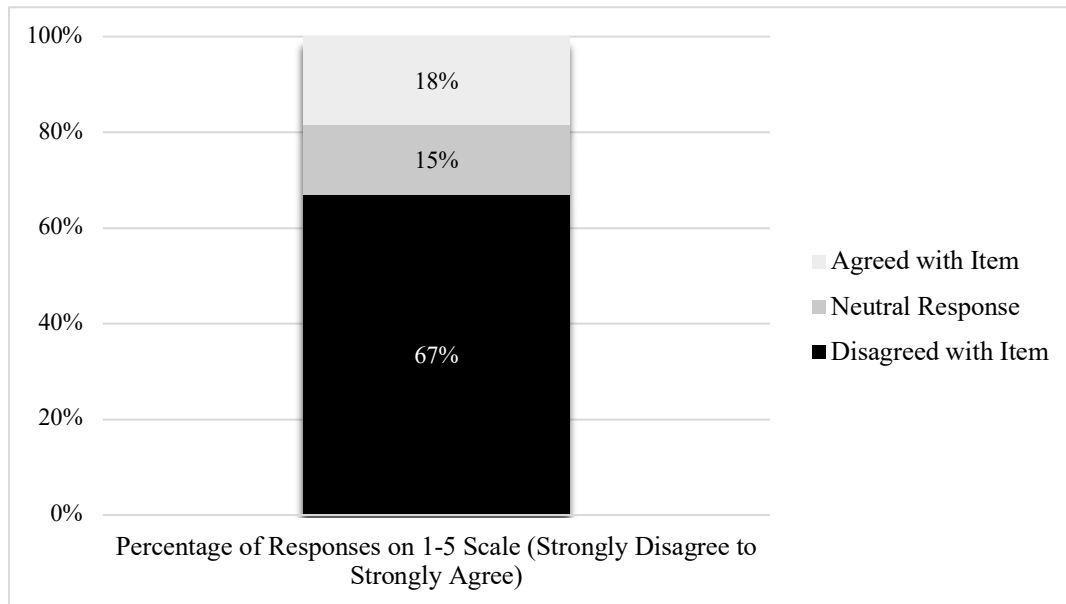


Figure 2.
CoBRAS Total Response Variance by Item Scores in Percentages
Note. CoBRAS = Color Blind Racial Attitudes Scale.

As depicted in Figure 3, the greatest polarization among student responses was observed for items focusing on Racial Privilege. An example of a Racial Privilege color-blind statement on the CoBRAS is “Everyone who works hard, no matter what race they are, has an equal chance to become rich.” Racial Privilege was considered polarized based on the number of non-neutral responses. Of 413 item responses regarding Racial Privilege (7 items x 59 respondents), students disagreed with these statements reflecting Racial Privilege 229 times (55%; i.e., a respondent selected 1 or 2, with 1 labelled “strongly disagree”). Students agreed with these statements (i.e., a respondent selected 4 or 5, with 5 labelled “Strongly Agree”) a total of 123 times (30%). Respondents neither agreed nor disagreed with these statements 61 times (15%; see Figure 3). In sum, approximately half of the responses indicated SLP students rejected statements that dismiss Racial Privilege, while half of responses indicated SLP students either agreed or did not disagree with these statements. This suggests that, as a group, SLP students who participated in this study

may have strong yet conflicting opinions on what Racial Privilege is and how it impacts BIPOC students.

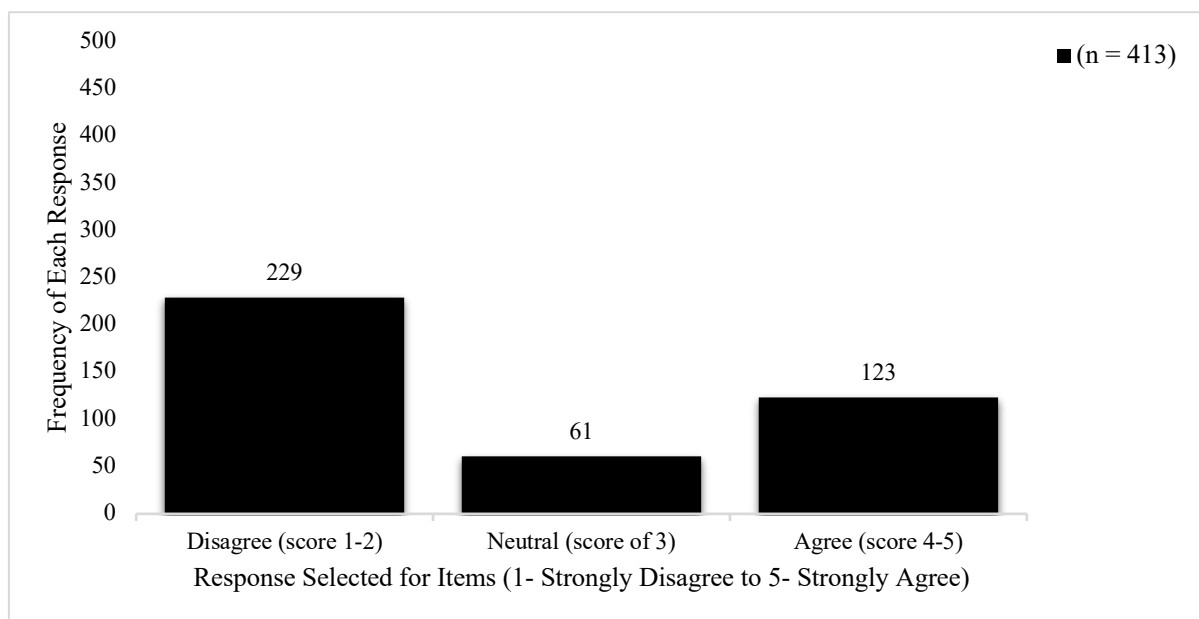


Figure 3.
Student Response Variance for Items in CoBRAS Factor 1 (Racial Privilege)
Note. CoBRAS = Color-blind Racial Attitudes Scale.

In contrast to statements related to Racial Privilege, SLP students more conclusively disagreed with statements associated with Blatant Racial Issues. An example of a Blatant Racial Issues color-blind statement on the CoBRAS is “Racism may have been a problem in the past, but it is not an important problem today.” Of these 354 responses (6 items x 59 respondents), there were 281 times items were rejected (scored as 1 or 2) at a relatively high frequency (79.3%, see Figure 4) and endorsed or viewed neutrally (scored as 3-5) at a relatively low frequency (11.3% endorsed, 9.3% neutral; 20.6% combined) compared to the two remaining factors on CoBRAS related to Racial Privilege (discussed previously) and Institution Discrimination (discussed below). In sum, SLP students rejected 79% of the statements associated with Blatant Racial Issues and endorsed or did not disagree with approximately 21% of these statements. This pattern suggests a more consistent rejection of biased statements that dismiss Blatant Racial

Issues by SLP students, with a small but non-trivial number of responses (approximately 1 in 5) viewing these statements as neutral or openly agreeing with these statements.

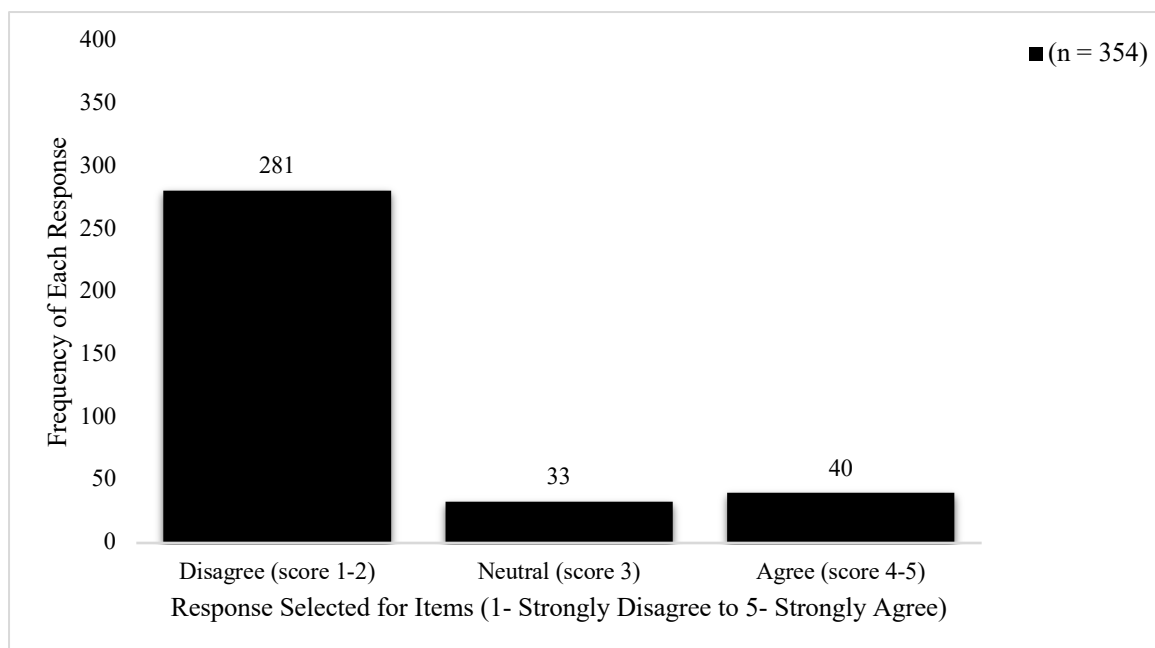


Figure 4.
Student Response Variance for Items in CoBRAS Factor 3 (Blatant Racial Issues)
Note. CoBRAS = Color Blind Racial Attitudes Scale.

SLP students expressed moderate views about statements associated with Institutional Discrimination, compared to views of Racial Privilege and Institutional Discrimination. An example of an Institutional Discrimination color-blind statement on the CoBRAS is “English should be the only official language in the U.S.” Of the 413 item responses (7 items x 59 respondents), SLP students disagreed with these statements (selected 1-2) a majority of the time (279, or 67.5%, see Figure 5). SLP students did not disagree (selected 3, 79 responses, or 19.1%), or openly agreed (selected 4-5, 55 responses, or 13.3%) with these statements a combined (32.4%). This pattern suggests SLP students expressed relatively strong disagreement with statements that dismiss Institutional Discrimination, but a smaller and non-trivial number of responses (approximately 1 in 3) neither disagreed with these statements or openly agreed with the statements).

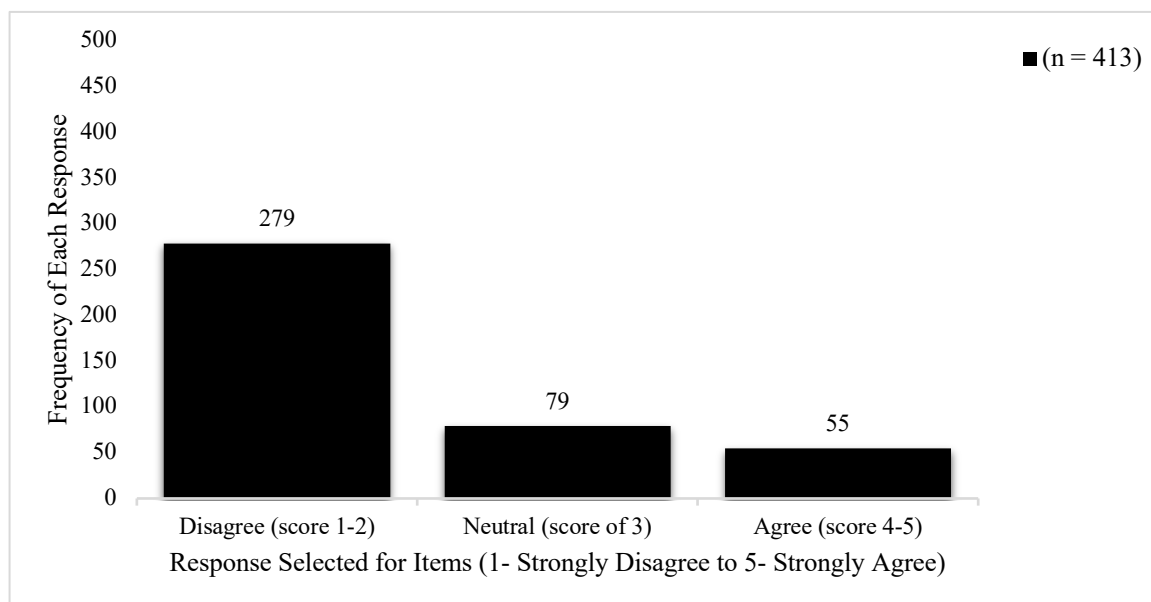


Figure 5.
Student Response Variance for Items in CoBRAS Factor 2 (Institutional Discrimination)
Note. CoBRAS = Color-blind Racial Attitudes Scale.

CoBRAS: Responses by Group

Race. The results for the CoBRAS were also assessed based on race (e.g., White or BIPOC) to evaluate any potential disparity in awareness of factors associated with implicit bias. Student respondents who identified as Black or African American, Hispanic or Latino, Asian, Native Hawaiian or Pacific Islander, or multiple races/ethnicities were classified as “BIPOC” ($n = 12$). Students who identified as White ($n = 42$) were classified as “White”. Data from students ($n = 4$) who identified as biracial - both White and BIPOC (e.g., Hispanic or Latino or Native Hawaiian or Pacific Islander) - were included in both the White and BIPOC group categories.

Overall, both White and BIPOC students expressed relatively low levels of color blindness, as indicated in Figures 6 and 7 (< 3 on 5-point Likert scale; White $M = 2.26$, $SD = 1.40$ BIPOC $M = 1.69$, $SD = 1.14$; see Figures 6 and 7; 1: strongly disagree, 5: strongly agree.) However, students who identified as White expressed an overall higher level of racial color blindness than their BIPOC peers across all factors included on the CoBRAS. This was seen in

the mean responses for all factors included in the CoBRAS, as well as the total mean for White student participants.

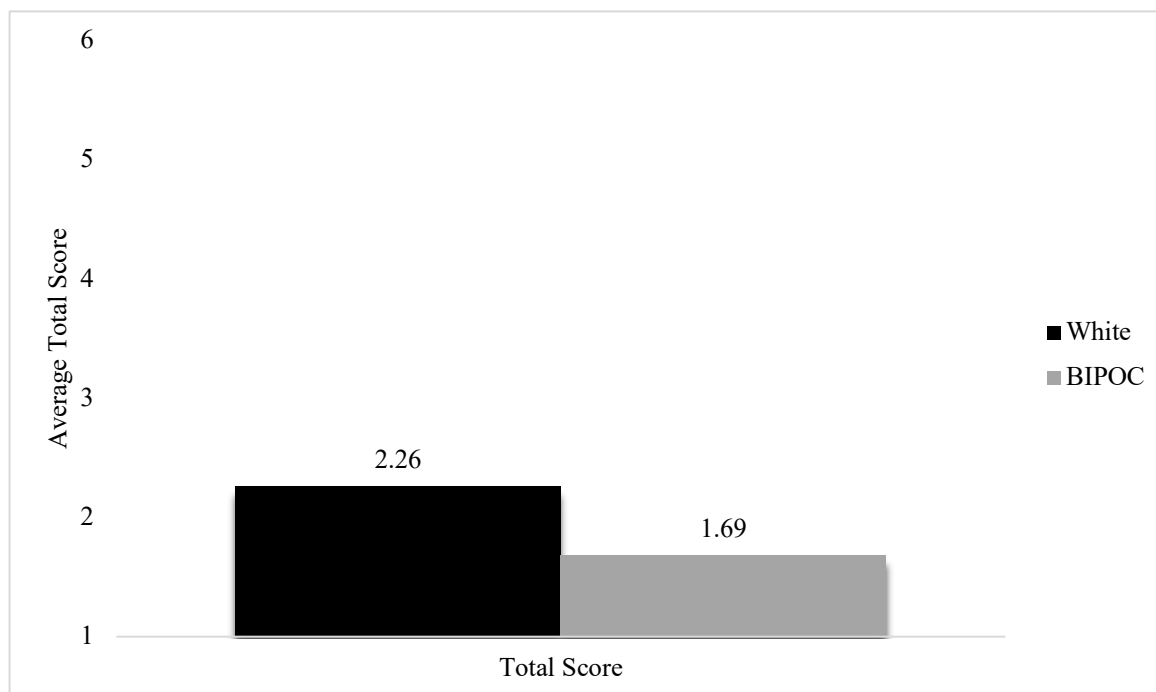


Figure 6.
CoBRAS Total Mean Results Comparison by Race of Student Respondents
Note. CoBRAS = Color Blind Racial Attitudes Scale.

Of the three subscales, the greatest disparity in means between racial groups was seen for items pertaining to Racial Privilege (White $M = 2.70$, $SD = 1.52$, BIPOC $M = 1.93$, $SD = 1.29$; see Figure 7). Blatant Racial Issues revealed the lowest level of color blindness among both White and BIPOC students (White $M = 1.88$, $SD = 1.25$, BIPOC $M = 1.28$, $SD = 0.91$). In both the total SLP student data, as well as when students were grouped by race, color-blind statements associated with Racial Privilege and Blatant Racial Issues yielded the most disagreement among SLP students.

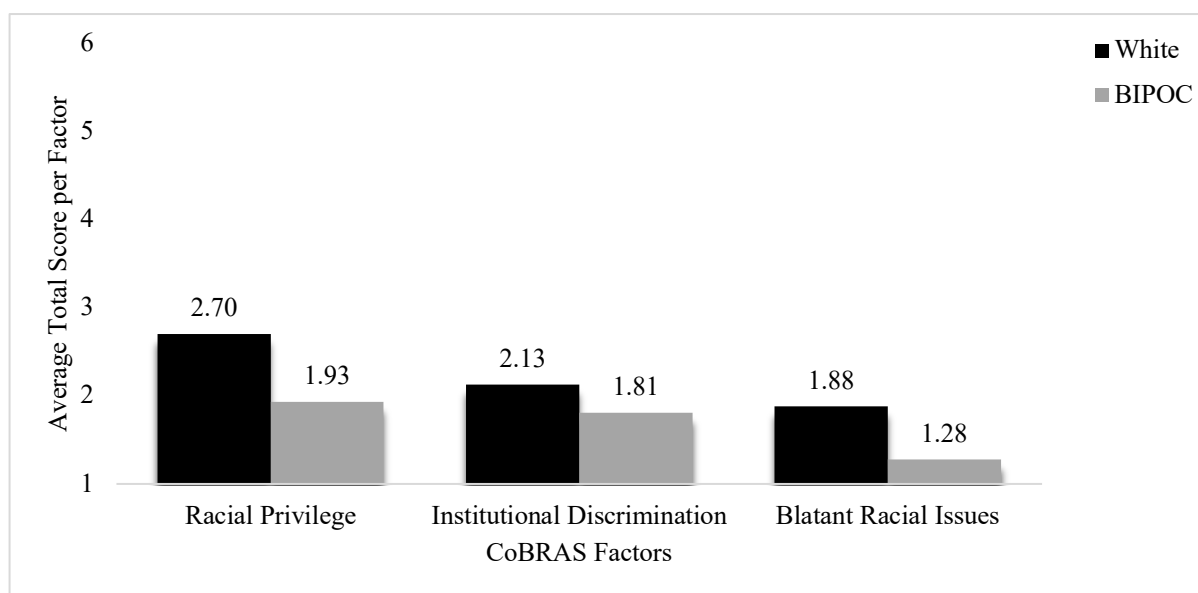


Figure 7.
CoBRAS Factors Mean Results Comparison by Race of Student Respondents
Note. CoBRAS = Color Blind Racial Attitudes Scale.

Class Cohort. Upon visual inspection of the responses with respect to select demographic data, a descriptive analysis was conducted on a second demographic factor: class cohort (e.g., undergraduate student, 1st year master’s student, 2nd year master’s student). Overall, and similar to previous analyses, SLP students displayed low-to-moderate levels of color-blind attitudes on the CoBRAS (< 3 on 5-point Likert scale; see Figure 8). However, 2nd year graduate students displayed markedly higher levels of color blindness ($M = 2.59$, $SD = 1.45$) than their undergraduate ($M = 2.16$, $SD = 1.52$) and 1st year graduate level peers ($M = 2.11$, $SD = 1.33$).

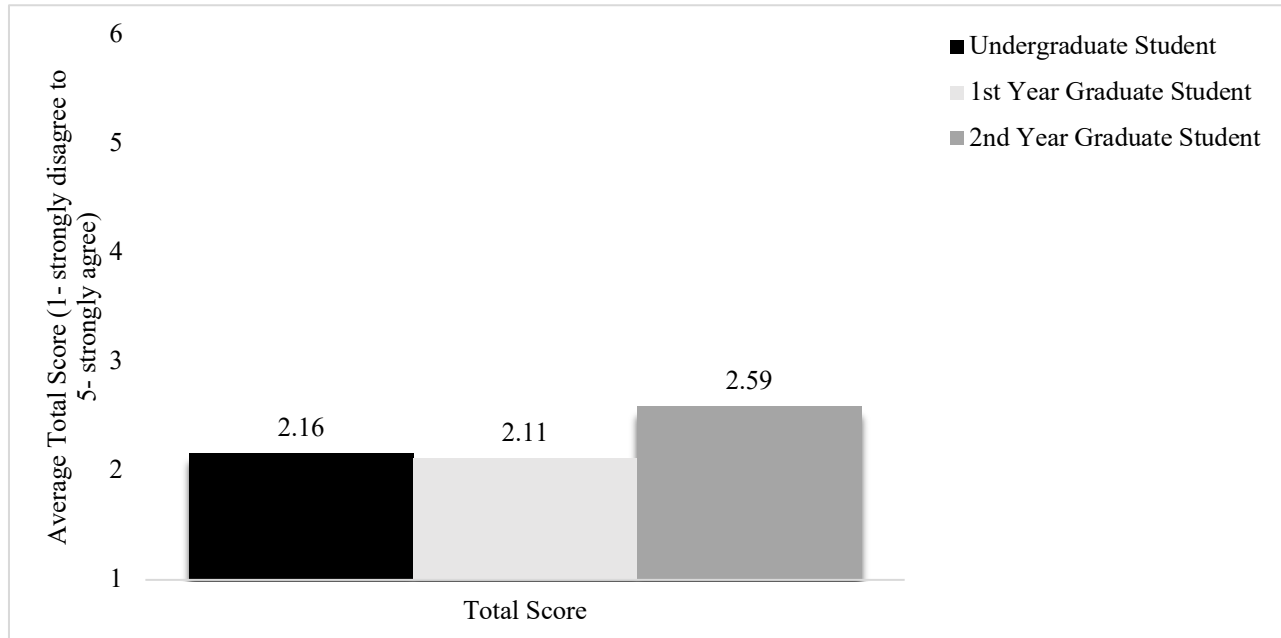


Figure 8.
CoBRAS Total Mean Results Comparison by Class Cohort Distinction of Student Respondents
Note. CoBRAS = Color Blind Racial Attitudes Scale.

Decomposition of these patterns by subscale depicted in Figure 9 reveals that, again, the largest difference in responses was seen in Racial Privilege, particularly for 2nd year master's students. Unlike other class cohorts who, on average, disagreed with statements dismissing Racial Privilege (< 3 of 5-point Liker scale; undergraduates: $M = 2.42$, $SD = 1.53$; 1st year master's: $M = 2.43$, $SD = 1.43$), the Mean response from 2nd year master's students was 3.18 ($SD = 1.52$), suggesting an lack of disagreement or agreement with statements dismiss Racial Privilege. Interestingly, while the undergraduate students did not exhibit the lowest level of overall color blindness (see Figure 8), they more strongly disagreed with color-blind statements involving Blatant Racial Issues than their peers ($M = 1.73$, $SD = 1.21$).

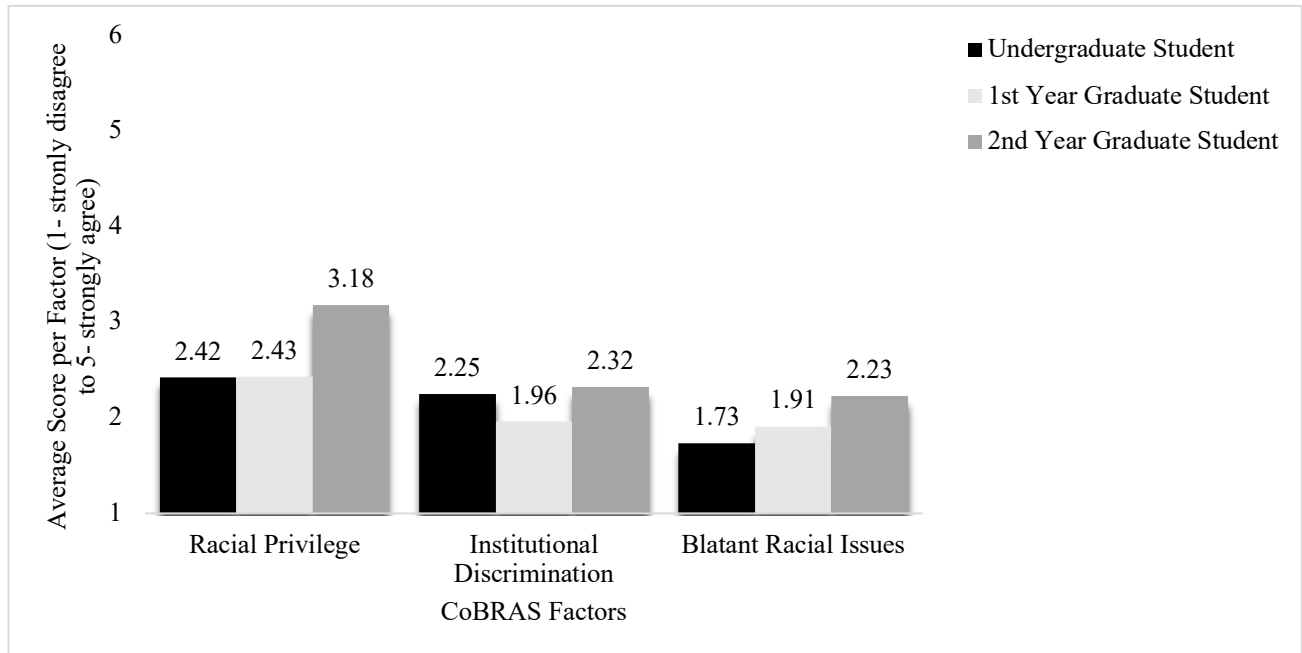


Figure 9.
CoBRAS Factors Mean Results Comparison by Class Cohort Distinction of Student Respondents
Note. CoBRAS = Color Blind Racial Attitudes Scale.

Unfortunately, comparison of data from this survey to the standardized population established when developing the CoBRAS was not possible due to technical oversight on the Likert-scale range during Qualtrics-based administration. Neville et al. (2000) used a 6-point Likert scale (1: strongly disagree to 6: strongly agree), whereas the current study incorporated a 5-point scale (1: strongly disagree to 5: strongly agree) during conversion to the Qualtrics survey format. Although the CoBRAS data could not be directly compared to these normative data, directional trends regarding awareness of color blindness by SLP students, albeit on a truncated 5-point Likert scale, were nevertheless obtained for the CoBRAS across each factor (Racial Privilege, Institutional Discrimination, Blatant Racial Issues), as well as comparative data between racial groups and class cohorts, but should be interpreted with this unfortunate caveat.

Acceptability of Racial Microaggressions Scale (ARMS)

As explained by Mekawi and Todd (2018), higher ARMS scores for each of its four microaggression subscales (e.g., Victim Blaming, Color Evasion, Power Evasion, Exoticizing) are thought to reflect increased implicit bias (i.e., an greater belief that it is acceptable to say such microaggressive statements to a person of racial/ethnic minority). To review, the Victim Blaming subscale is thought to reflect blaming the behavior and cultures of racial/ethnic minorities for racial/ethnic disparities. The Color Evasion subscale is thought to reflect the emphasis of sameness and the focus of not seeing racial color. The Power Evasion subscale is thought to reflect the denial that institutional racism exists and that there are racist power structures in place. Lastly, the Exoticizing subscale is thought to reflect statements which are glamorizing, objectifying, and/or romanticizing a person of racial or ethnic minority solely based on their race or ethnicity. The ARMS is scored on a 6-point Likert scale (e.g., 1: Totally Unacceptable to 6: Perfectly Acceptable) based on the perceived acceptability of each statement.

Overall, students found the statements provided on the ARMS to be generally unacceptable (<3 of a 6-point Likert scale; see Table 2), indicating a low-to-moderate level of implicit bias pertaining to microaggressions. Statements which were deemed the least acceptable pertained to Victim Blaming ($M = 1.74$, $SD = 1.37$). Examples of these statements include “African Americans would get more jobs if they dressed more professionally” and “Black people should stop using slavery as an excuse for their problems,” followed by Exoticizing statements (e.g., “Latinos are just so sexy” and “I just love Black women's butts”, $M = 2.00$, $SD = 1.37$), and then Power Evasion statements (e.g., “Everyone is treated the same by the legal system” and “Everyone has access to the same resources such as schools and hospitals”; $M = 2.21$, $SD = 1.64$). Statements considered to be most acceptable among SLP students were related to Color Evasion

(e.g., “There is only one race, the human race” and “People shouldn't see race anymore”; $M = 2.82$, $SD = 1.72$).

Table 3. ARMS Subscale Means and Standard Deviations by Total Student Responses

Students	Victim Blaming		Color Evasion		Power Evasion		Exoticizing	
	M	SD	M	SD	M	SD	M	SD
Total ($n = 59$)	1.74	1.37	2.82	1.72	2.21	1.64	2.00	1.37

Note. ARMS = Acceptability of Racial Microaggressions Scale.

ARMS: Results Variance

Overall, students who completed this survey expressed general disagreement with microaggressive statements (as measured by the ARMS) slightly more often than color blindness (as measured by the CoBRAS). Similar to the CoBRAS, 70% of responses provided by SLP students rated racial microaggressions to be unacceptable (i.e., respondent scored statements 1 or 2 on a 6-point Likert scale, with 1 labelled “Totally Unacceptable”; see Figure 10). However, and also similar to the CoBRAS, 30% of the responses provided by SLP students rated such statements as either acceptable (i.e., respondent scored statements 5 or 6 on 6-point Likert scale, with 6 labelled “Perfectly Acceptable”) or expressed a neutral opinion about the microaggressive statement (i.e., respondent scored statements as 3 or 4 on 6-point Likert scale, with 3 and 4 as unlabeled midpoints).

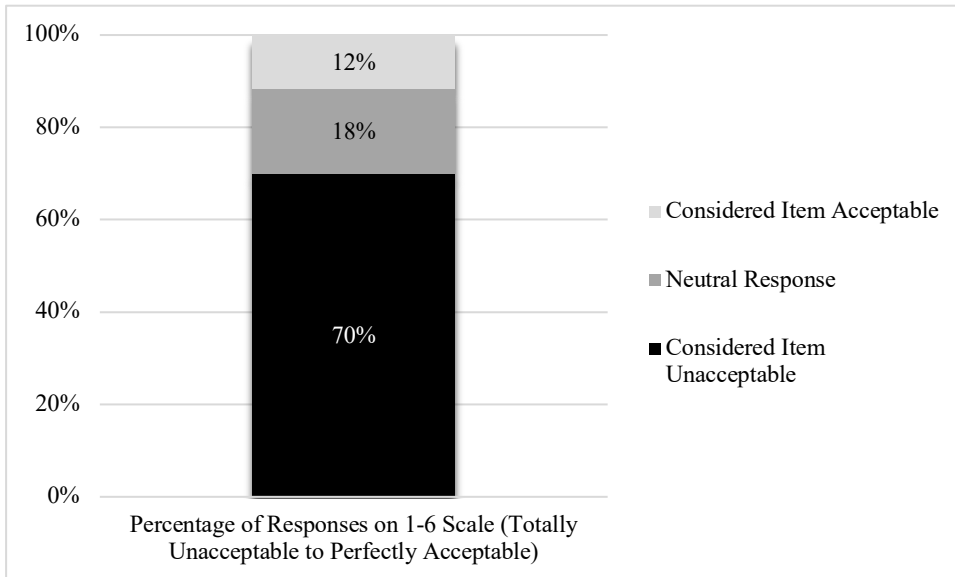


Figure 10.

ARMS Total Response Variance by Item Scores in Percentages

Note. ARMS = Acceptability of Racial Microaggressions Scale.

As depicted in Figure 11, responses from SLP students reflected a relatively robust rejection of microaggressions pertaining to Victim Blaming. An example of a Victim Blaming microaggression from the ARMS is “If Latinos spoke more English, they'd be more likely to get jobs.” Of the 531 item responses by students (9 statements x 59 respondents), there were 435 times that statements were rated as unacceptable (81.9% scored as 1-2). SLP students rated these statements as either neutral (59 responses, or 11.1%, scored 3-4) or acceptable (37 responses, or 6.9% scored 5-6) a on a combined 96 responses (18.1%). Rejection of Victim Blaming microaggressions serves as the most consistent rejection of implicit bias statements, within the ARMS or CoBRAS, among SLP students.

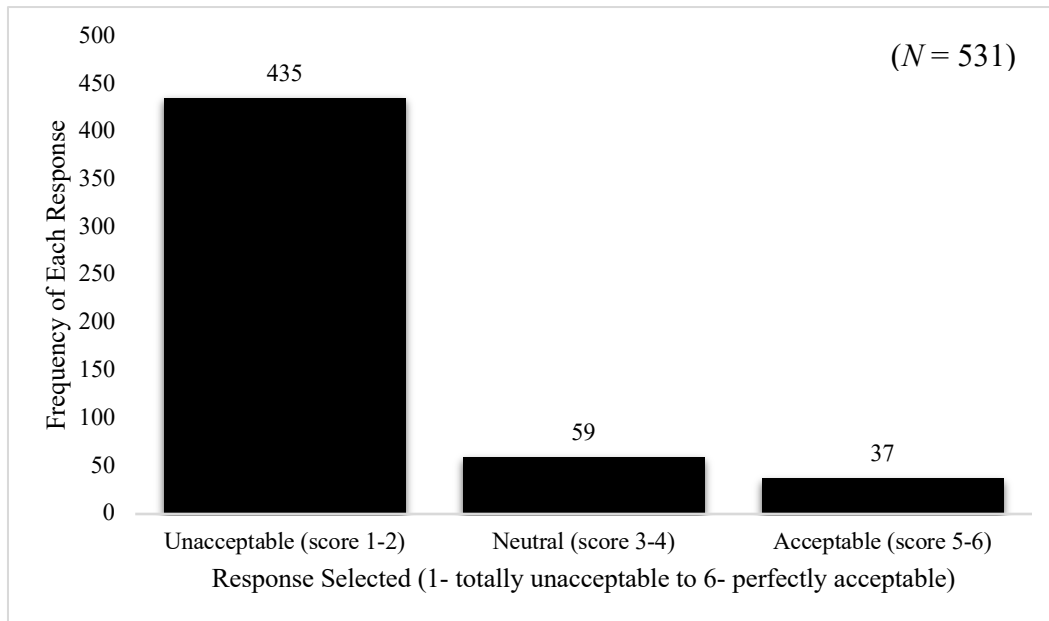


Figure 11.

Student Response Variance for Items in ARMS Subscale 1 (Victim Blaming)

Note. ARMS = Acceptability of Racial Microaggressions Scale.

Unlike Victim Blaming, the greatest inconsistency among responses from SLP students was found for microaggressions pertaining to Color Evasion (see Figure 12). An example of a Color Evasion microaggression from the ARMS is “Even if we look different, we are basically the same.” Of the 472 item responses (8 statements x 59 respondents), only 250 times were statements rated as unacceptable (52.9% scored as 1-2). SLP students rated these statements as either neutral (129 responses, or 27.3%, scored 3-4) or acceptable (97 responses, or 19.7% scored 5-6) on a combined 226 responses (47.8%). In sum, approximately half of the time, responses provided by SLP students rated microaggressive statements related to Color Evasion to be unacceptable, although the remaining half such statements were rated as either acceptable or clear agreement or disagreement about whether such microaggressive statements were acceptable was not expressed.

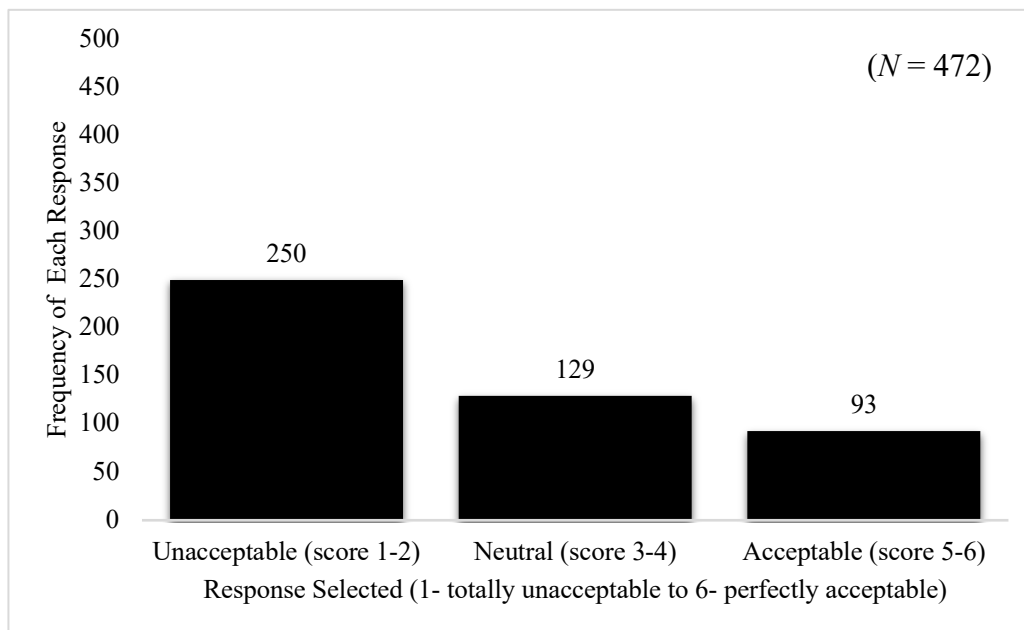


Figure 12.

Student Response Variance for Items in ARMS Subscale 2 (Color Evasion)

Note. ARMS = Acceptability of Racial Microaggressions Scale.

Compared to Color Evasion, Power Evasion microaggressions were rated more consistently, but not found to be unanimously, unacceptable by SLP students. An example of a Power Evasion microaggression from the ARMS is “Everyone in life goes through the same kinds of obstacles, regardless of their race.” Of the 531 item responses (9 statements x 59 respondents), there were 379 times students rated statements as unacceptable (71.3% scored as 1-2). SLP students rated these statements as either neutral (83 responses, or 15.6%, scored 3-4) or acceptable (69 responses, or 12.9% scored 5-6) a on a combined 152 responses (28.6%). This pattern suggests a relatively more consistent rejection of Power Evasion microaggressive statements by SLP students, with a small but non-trivial number of responses (approximately 1 in 4 students) viewing these statements acceptable or expressing no clear agreement or disagreement about the acceptability of these statements.

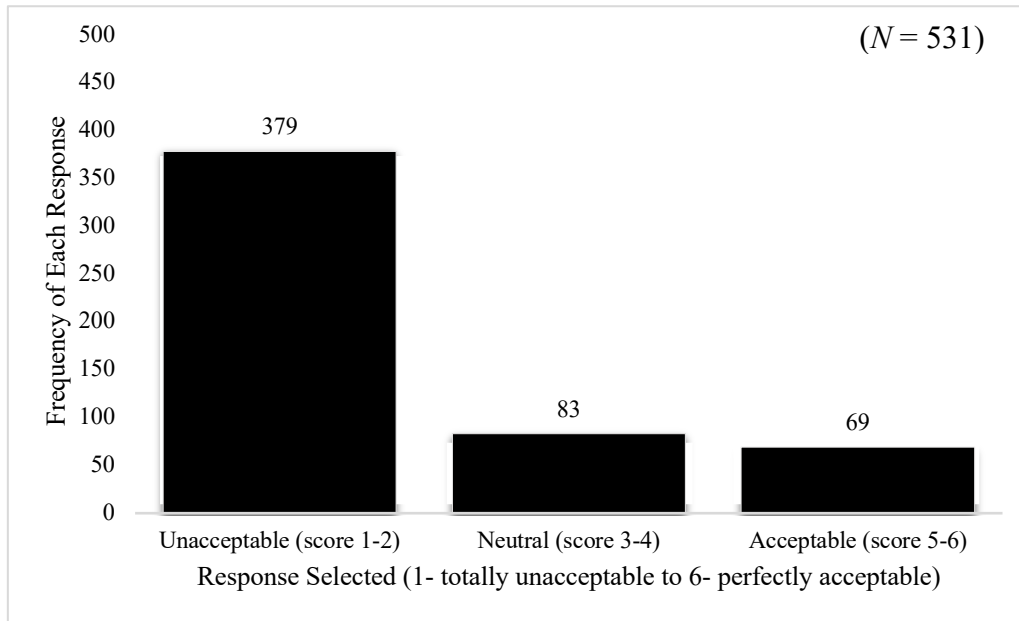


Figure 13.

Student Response Variance for Items in ARMS Subscale 3 (Power Evasion)

Note. ARMS = Acceptability of Racial Microaggressions Scale.

Finally, similar to Power Evasion, Exoticizing microaggressions were rated by SLP students as relatively, but not unanimously, unacceptable (see Figure 14). An example of an Exoticizing microaggression from the ARMS is “I just love Black women’s butts.” Of the 472 item responses (8 statements x 59 respondents), there were 342 times statements were rated as unacceptable (72.5% scored as 1-2). SLP students rated these statements as either neutral (94 responses, or 19.9%, scored 3-4) or acceptable (36 responses, or 7.6% scored 5-6) a on a combined 130 responses (27.5%). This pattern is almost identical to those of Power Evasion and suggests a relatively more consistent rejection of Exoticizing microaggressive statements by SLP students, with again, a small but non-trivial number of responses (approximately 1 in 4) viewing these statements acceptable or expressing no clear agreement or disagreement about the acceptability of these statements.

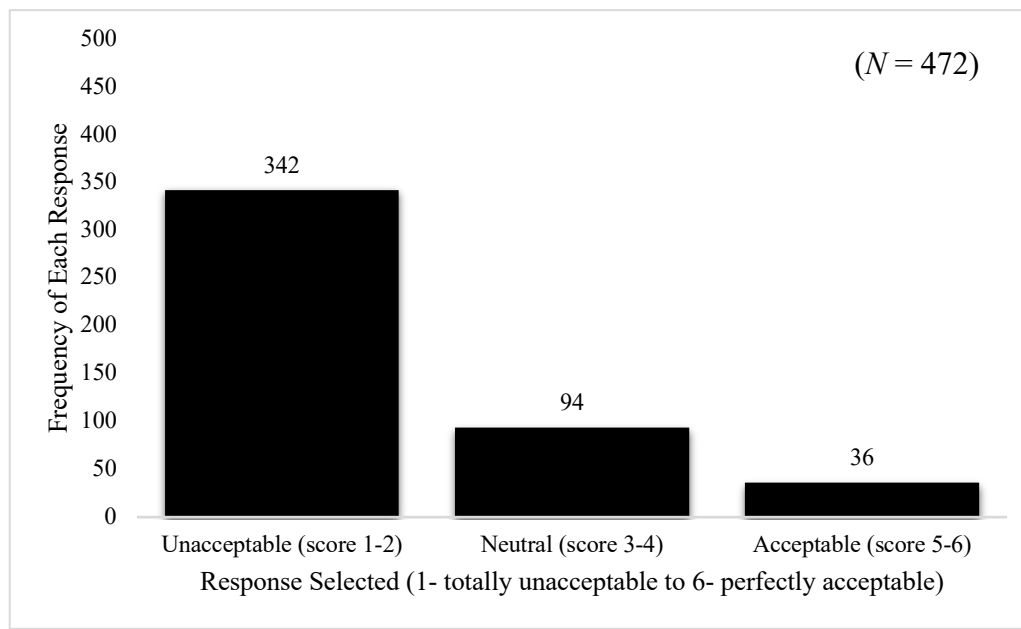


Figure 14.

Student Response Variance for Items in ARMS Subscale 4 (Exoticizing)

Note. ARMS = Acceptability of Racial Microaggressions Scale.

ARMS: Results by Group

Like the CoBRAS, the results for the ARMS were analyzed based on two demographic groups of the students: race (e.g., White, BIPOC) and class cohort distinction (e.g., undergraduate student, 1st year graduate student, and 2nd year graduate student). The ARMS was used to investigate attitudes towards racial microaggressions between White students ($n = 42$) and BIPOC students ($n = 12$), as well as between class cohort distinction (undergraduate: $n = 19$; 1st year master's: $n = 16$; 2nd year master's: $n = 24$) to gain insight into the current level of implicit bias amongst students.

Race. As depicted in Figure 15, both White and BIPOC students found the statements in the ARMS generally unacceptable to say to a BIPOC (mean scores < 3 of 6-point Likert scale, with 1 labeled “Totally Unacceptable” and 6 labeled “Perfectly Acceptable”). However, students who identified as White expressed a higher level of tolerance towards microaggressive statements than their BIPOC peers across all four subscales of the ARMS (see Figure 15). The

greatest disparity was seen for items reflecting Power Evasion (White $M = 2.33$, $SD = 1.68$; BIPOC $M = 1.38$, $SD = 0.82$), even though this subscale was not observed to have the highest endorsement by students overall (i.e., Color Evasion, White $M = 2.77$, $SD = 1.70$; BIPOC $M = 2.41$, $SD = 1.65$).

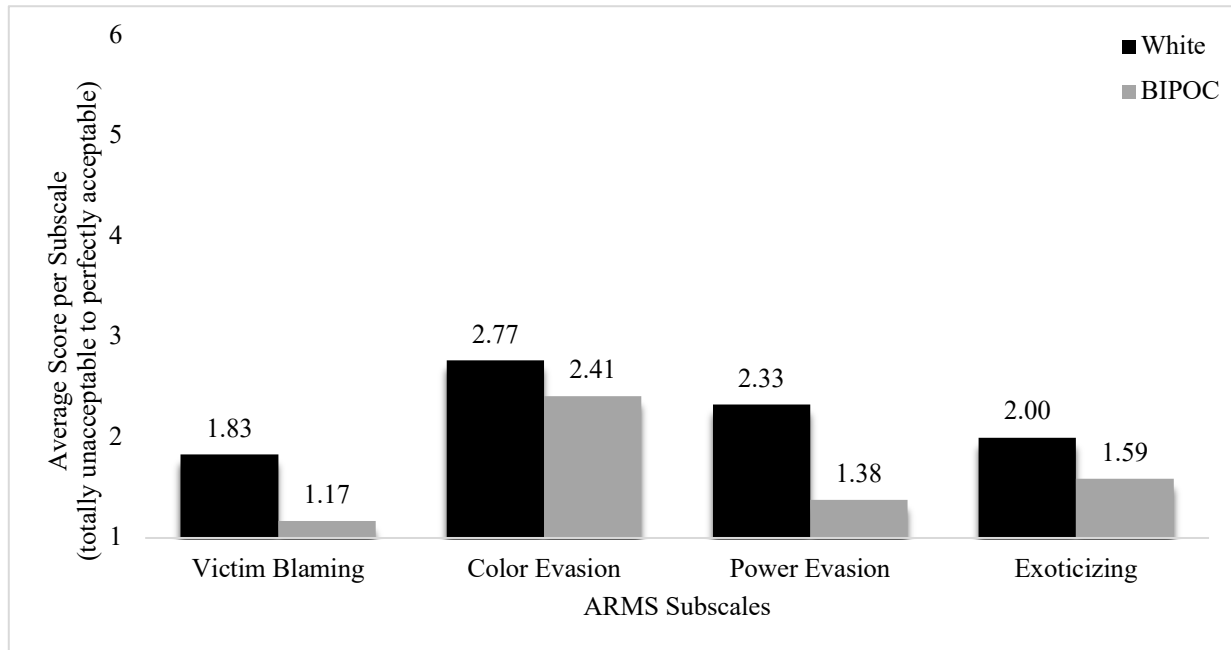


Figure 15.
ARMS Subscales Mean Results Comparison by Race of Student Respondents
Note. ARMS = Acceptability of Racial Microaggressions Scale.

Class Cohort. Analysis for class group included undergraduate students ($n = 19$) and master's students, either in the 1st year of their program ($n = 16$) or the 2nd year ($n = 24$). Analysis revealed that the 2nd year graduate students and undergraduate students consistently rated microaggressions as more acceptable as compared to their 1st year graduate student peers, although all ratings were low-to-moderate (>3 of 6-point Likert scale; 1 labeled "Totally Unacceptable"; see Figure 16). Undergraduate students expressed the highest endorsement of microaggressions pertaining to Color Evasion ($M = 3.04$, $SD = 1.79$). Second-year graduate students rated microaggressions pertaining to Power Evasion ($M = 2.39$, $SD = 1.74$) and

Exoticizing ($M = 2.07$, $SD = 1.49$) more acceptable than their undergraduate and 1st year graduate student peers.

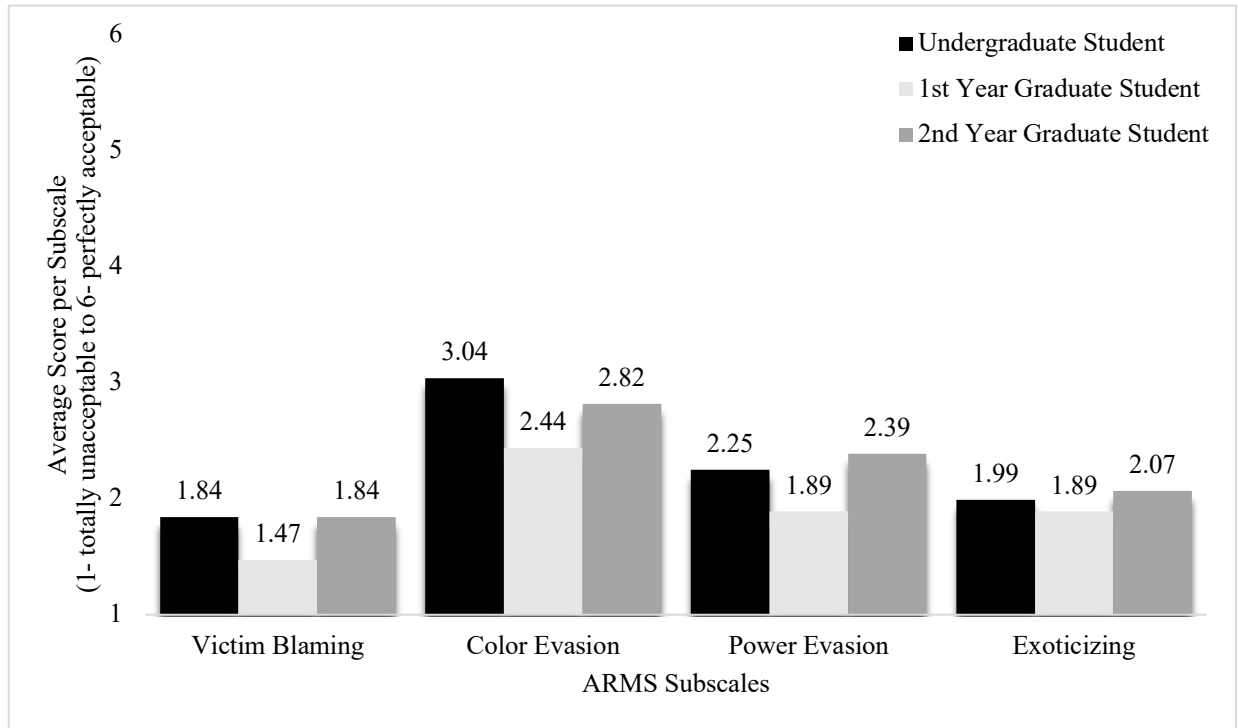


Figure 16.

ARMS Subscales Mean Results Comparison by Class Cohort Distinction of Student Respondents

Note. ARMS = Acceptability of Racial Microaggressions Scale.

ARMS: Comparison to Standardized Population

Unlike the CoBRAS, comparison of responses provided by SLP students to the original normative ARMS data was possible. As depicted in Figure 17, mean ratings found across ARMS subscales by SLP students, as summarized in Table 3, were similar to those reported by Mekawi and Todd (2018) during their initial, larger validation studies, although with overall lower acceptability ratings for each subscale. Mekawi and Todd found Victim Blaming to have the lowest acceptability rating ($M = 1.95$, $SD = 0.91$) followed by Exoticizing ($M = 2.84$, $SD = 1.05$) then Power Evasion ($M = 3.14$, $SD = 1.25$). Mekawi and Todd found Color Evasion to have the overall highest acceptability rating ($M = 4.06$, $SD = 1.31$). This was also true for the current

study ($M=2.82$, $SD=1.72$), albeit at a lower acceptability level than Mekawi and Todd's 2018 cohort. This suggests that SLP students, like the larger general population, find these statements to be more acceptable and perhaps more difficult to dismiss, as compared to items reflecting different aspects of microaggressions (i.e., Power Evasion, Exoticizing, Victim Blaming).

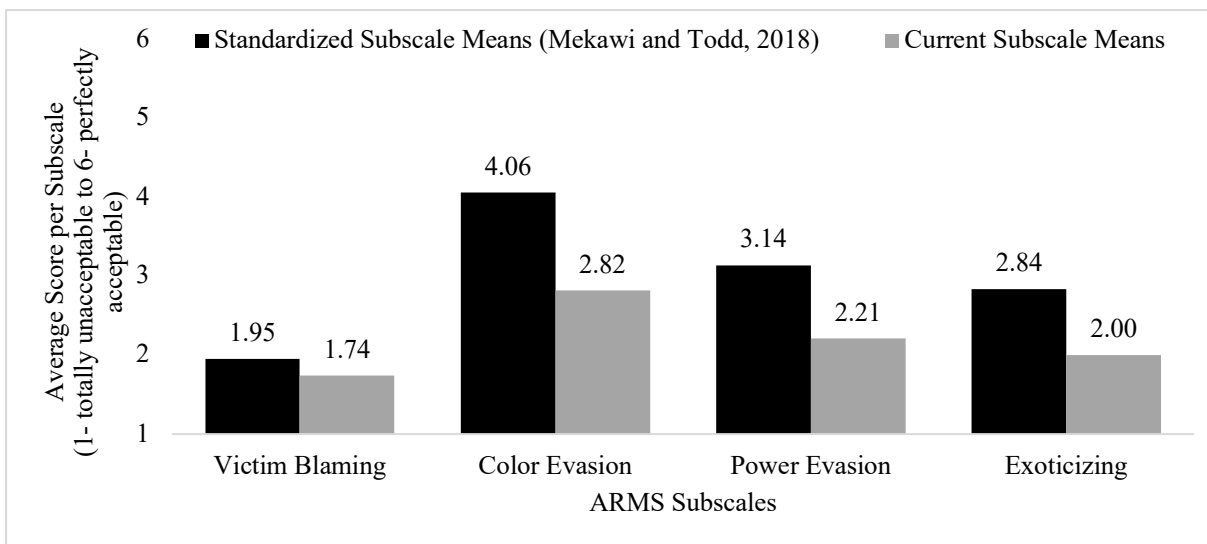


Figure 17.

ARMS Data Compared to the Standardized Population

Note. ARMS = Acceptability of Racial Microaggressions Scale.

Qualitative Trends from Optional Feedback Provided by Respondents

As noted, student respondents were encouraged to provide voluntary feedback at the end of the survey. Responses were provided by 10 students (17% total respondents) who expressed a wide range of attitudes toward the survey, from stating that the survey was well-presented and required introspection (e.g., “I think it was well thought out and the questions will require a lot of introspection in order to answer honestly. Can’t wait to see the results!”) to condemning the survey (e.g., “Stop asking me these questions. They are gaslighted and skewed towards minorities”). Multiple students expressed that they believe the responses based on the agreeableness or acceptability of a statement depends on the circumstance in which it is said (e.g., “Some [of these] questions gave pause because I was thinking of circumstances in which

the statement might be applicable to a very specific conversation” or took issue with the term “acceptable” (e.g., “Not good questions. Not well written or organized- especially situational questions...is it that these are acceptable statements to say or that we agree with what the statement is saying? Because I disagree with some statements, but I believe we can say whatever we wanna say”).

Discussion

Investigating SLP students' attitudes towards microaggressions and color-blind statements – common and measurable forms of implicit racial bias — is the first, incremental step toward providing more inclusive and culturally competent SLP academic programs and, ultimately, more inclusive and culturally competent SLPs. In this study, two well-validated measures were administered to capture two critical aspects of implicit bias: the Color-Blind Racial Attitudes Scale (CoBRAS; Neville et al., 2000) and the Acceptability of Racial Microaggressions Scale (ARMS; Mekawi & Todd, 2018). Each questionnaire were completed by 59 SLP students comprised predominantly of White, female respondents. Results indicate that a majority of these SLP students expressed moderate-to-low levels of implicit bias with statements that reflect color-blind beliefs. A majority of these SLP students also rated racially microaggressive statements to be unacceptable, again reflecting a similar level of implicit racial bias as the CoBRAS. However, there was notable variation in the level of acceptability of microaggressions and the agreement with color-blind statements, often reflected by approximately one-third of the item responses who did not find such statements objectionable or unacceptable. Responses also appeared to be mediated by race, as well as class cohort.

Research Question 1: What are the perceptions of current speech-language pathology (SLP) students in terms of microaggressions and color blindness?

The first research question investigated the perceptions of current SLP students towards microaggressions and color blindness. It was predicted that SLP students would exhibit levels of implicit bias pertaining to microaggressions and color blindness that were comparable to the general population. The CoBRAS and ARMS both revealed that students display moderate-to-low levels of implicit bias with color blindness and microaggressions. This is potentially

encouraging because, although there is still room for growth, a majority SLP students did not express high levels of implicit racial bias.

The lowest level of bias was seen on two subscales: the Institutional Discrimination subscale of the CoBRAS and the Victim Blaming of the ARMS. These two factors are similar in that both refer to systematic discrimination of BIPOC and the extent to which this occurs. This suggests that many SLP students may understand, at some level, that racism exists in institutional systems. Conceptual overlap also exists between the two subscales SLP students rated as most acceptable or unobjectionable: the Racial Privilege subscale of the CoBRAS and the Color Evasion subscale of the ARMS. These two factors are similar in that they both pertain to one's perceptions of one's own race relative to the challenges faced by individuals of other races. That is, both Racial Privilege and Color Evasion involve a denial of the experiences one has based solely on their race (e.g., White privilege and discrimination against BIPOC). This suggests that students may not fully understand the role race plays in their own life and others' lives. This coincides with the findings of Preis (2013) and the recommendation that professors explicitly teach students about White privilege.

Although the main findings of low-to-moderate bias amongst SLP students was encouraging, the SLP students' responses were not uniform. There was a noticeable pattern of polarization in the agreement or disagreement with statements provided on both the CoBRAS and ARMS. The greatest inconsistency amongst students on the ARMS was shown with microaggressions involving Color Evasion (see Figure 12). Items for this subscale were scored as acceptable 20% of the time and unacceptable only 53% of the time. This suggests that students potentially find these microaggressions less harmful to say to a BIPOC group member, or that students are perhaps unaware of the negative connotations that these statements hold. Color

Evasion microaggressions also yielded most “neutral” responses, instead of deeming the statements as acceptable or unacceptable. This reinforces the idea that these statements are not widely known as inappropriate to say to a person who is BIPOC and suggests that there may be a lack of understanding and awareness of the significance or impact of these microaggressions.

It is important to note that, although 70% of the responses provided by SLP students found the microaggressions included on the ARMS unacceptable, 30% of the time SLP students either responded neutrally to the microaggression or openly agreed that it was an acceptable statement. The same trend was seen for the CoBRAS. Approximately 33% of the responses provided by SLP students indicated that they either did not disagree or openly agreed with the statements. In fact, of the 59 respondents, three students consistently indicated that they believe all the racial microaggressions on the Victim Blaming and Exoticizing subscales were perfectly acceptable to say to a BIPOC group member, indicated by scores of 6 on a 6-point scale (“Totally Acceptable”). The same trend was seen for the Color Evasion and Power Evasion subscale statements, in which a subgroup of six students consistently marked they believe the statements are perfectly or generally acceptable to say to a BIPOC individual.

Although the sample size of the present study is relatively small, the trends outlined above indicated that there was notable disagreement within a predominantly White cohort ($n = 42$ out of 59 completed surveys) on what is or is not considered to be a racially biased statement or belief, or what is acceptable or not acceptable to say towards a BIPOC individual. Comparison of response patterns on the ARMS in the present study to that of Mekawi and Todd illustrates a broad similarity irrespective of sample size. This is potentially due to the likeness in the participant composition across studies. Both the present study and the original sample ($n =$

1,090) surveyed undergraduate students currently enrolled in a university, 18 years or older, and born in the United States.

Although the same general trends in data are observed across ARMS subscales, Mekawi and Todd's means for each subscale of the ARMS were higher than in the current study. This is possibly due to the larger and more diverse samples who participated in the initial studies performed by the authors. Another potential explanation for the differences in means between the current and initial studies is that Mekawi and Todd's data was collected in spring of 2015. Since 2015, the Black Lives Matter discussion has become more center-stage in the United States and speech-language pathology Diversity, Equity, and Inclusion (DEI) committees' educational materials, missions, and initiatives have become more heavily emphasized. These events may have positively influenced student responses in collected in 2021 for the present study, or at minimum, made student more aware of these topics. DEI initiatives were first addressed by ASHA in June 2020 in their webpage "Addressing Systemic Racism and Institutional Inequities in CSD [Communication Sciences and Disorders]". This webpage contains a frequently updated log of steps ASHA has taken to minimize racial discrimination within our field. The results from the current study, along with crucial steps taken by ASHA, may be viewed, optimistically, as a natural growth for the field of speech-language pathology due to these efforts, while also showing that there is still work to be done.

Research Question 2: Are there any significant differences in perceptions between the groups (White vs. BIPOC) being assessed?

The second research question examined whether significant differences existed in perceptions between racial groups (White vs. BIPOC) of SLP students. It is important to note, again, that the number of BIPOC respondents was quite low ($n = 12$, or 20% of 59 respondents).

Nevertheless, results from student responses on the CoBRAS and ARMS suggest that, on average, White students held higher levels of implicit racial bias based on their attitudes surrounding microaggressions and color blindness. In terms of the ARMS, the largest discrepancy between races in implicit bias responses was seen in the level of acceptability of statements involving Power Evasion microaggressions (White $M = 2.33$, BIPOC $M = 1.59$; see Figure 15). In terms of the CoBRAS, the largest discrepancy between races was for color-blind statements pertaining to Institutional Discrimination (White $M = 2.13$, BIPOC $M = 1.39$; see Figure 6). Combined, these patterns indicate that White students find implicit biased statements generally more acceptable more often than their BIPOC peers, although average ratings indicate moderate-to-low levels (>3 of 6-point Likert scale).

Exploratory Analyses – Class Cohort

In addition to analyzing results based on student race, the students' CoBRAS and ARMS responses were also evaluated based on their class cohort distinction (e.g., undergraduate student, 1st year graduate student, or 2nd year graduate student). The 1st year graduate students displayed the least amount of implicit racial bias overall for color-blind statements on the CoBRAS and racial microaggressions on all ARMS subscales. One possible factor that may have influenced the lower ratings provided by 1st year graduate students is the development of the departmental DEI committee at which the present study was completed. This DEI committee was established in 2020 and began outreach to current graduate students in 2021, which would have most direct impact on 1st year graduate students. Microaggressions pertaining to Color Evasion (as measured by the ARMS) were rated as most acceptable by all class cohorts, and statements involving dismissing Racial Privilege (as measured by the CoBRAS) were deemed least objectionable by SLP students of all class cohorts. This finding suggests that SLP students,

regardless of class status, may require further education on Racial Privilege, how this privilege can lead to microaggressions centered on Color Evasion, and the ways in which these statements are harmful to BIPOC persons.

Trends observed from the informal qualitative review of comments provided in the voluntary feedback textbox reflect a wide range of reactions to the statements of the ARMS and CoBRAS. The diversity in these responses mirrored the overall trends of the responses throughout both the CoBRAS and ARMS sections of the survey. Across the sample, students who responded exhibited strong attitudes towards the statements provided regarding color blindness and microaggressions on both ends of the spectrum—either disagreeing or agreeing with the provided items on the CoBRAS (85% of the time) and the ARMS (82% of the time), while a smaller group of students gave neutral responses on the CoBRAS (15% of the time) and the ARMS (18% of the time).

Limitations

There is minimal research surrounding implicit bias in the medical field and even fewer studies which examine implicit bias in students, particularly speech-language pathology students. This study takes an important the first step toward improving the field of speech-language pathology to foster a more inclusive community and create more culturally competent clinicians.

Several limitations should also be noted. Qualitative feedback from the one student pointed out a possible limitation with respect to the instructions provided within the ARMS. This student mentioned the potentially confusing nature of the instructions for determining if statements on the ARMS are acceptable to say by stating, “is it that these are acceptable statements to say or that we agree with what the statement is saying? Because I disagree with some statements, but I believe we can say whatever we wanna say.” When taken at face value,

this may have resulted in how this student, as well as others, may have scored the items included on the ARMS. It should be noted that the ARMS instructions on the Qualtrics survey were taken verbatim from Mekawi and Todd's initial study. Another limitation of the study is the relatively low response rate; only 18% of students completed the survey, even though 31% began it, indicating likely self-selection response bias. On a related note, there is no way to confirm that social desirability did not play some part in student responses. Finally, as noted, a major limitation of this study is the disproportionate number of White students and BIPOC students who completed the survey due to the racial make-up of the class cohorts recruited.

Practical Implications

Although data from this study are potentially encouraging, approximately one-third of the responses provided by SLP students suggest that they agreed, or did not disagree, with microaggressive statements or color-blind beliefs. This suggests that it is important to provide thorough education to SLP students on the impact of racially charged microaggressions and the damage these statements can do to our colleagues and clients. This education can potentially increase the awareness of color blindness and racial microaggressions to reduce the number of students whose attitudes align with implicit bias statements or who have a neutral opinion on these statements. The current level of awareness of implicit bias among SLP students indicated in this study suggests an incomplete knowledge base, and if not addressed, could continue the perpetuation of the health disparities that exist within our field. It is crucial that we continue this research to be thoroughly in compliance with ASHA's cultural competency standards by investigating effective training methods regarding implicit bias for SLP students. Such efforts will encourage us to become better clinicians to BIPOC clients and more respectful of BIPOC colleagues.

Conclusion

This present study surveyed implicit racial bias in speech-language pathology students using two well-validated scales: the CoBRAS and the ARMS. Results suggested that while 63% of the time, students did not endorse color-blind beliefs on the CoBRAS and 70% of the time, they did not support racial microaggressions on the ARMS, a notable one-third of responses from SLP students either endorsed these statements or held a neutral opinion about the statements. While all SLP students expressed low-to-moderate levels of implicit bias on both the CoBRAS and the ARMS, White students' responses indicated higher levels of bias compared to BIPOC peers. Although data indicating moderate-to-low levels of implicit bias found in this study are promising, responses were far from uniform, with as many as half of SLP students indicating neutral or active agreement with microaggressive or color-blind statements on specific subscales of the CoBRAS (Racial Privilege subscale) and the ARMS (Color Evasion subscale).

Appendix A. IRB Approval

Initial approval from Louisiana State University's Institutional Research Board was received on July 21, 2021, with approval to the study's amendments on October 11, 2021.



TO: Oetting, Janna B
LSUAM | Academic Affairs | Center for Academic Success

FROM: Alex Cohen
Chairman, Institutional Review Board

DATE: 27-Jul-2021

RE: IRBAM-21-0294

TITLE: Implicit Bias in Graduate-Level Speech- Language Pathology Students

SUBMISSION TYPE: Initial Application

Review Type: Expedited Review

Risk Factor: Minimal

Review Date: 26-Jul-2021

Status: Approved

Approval Date: 26-Jul-2021

Approval Expiration Date: 25-Jul-2022

Expedited Categories: 07

Requesting Waiver of Informed Consent: Yes

Re-review frequency: Annually

Number of subjects approved: 100

LSU Proposal Number:

By: Alex Cohen, Chairman

Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*

2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.**

** All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/research>*

Louisiana State University
131 David Boyd Hall
Baton Rouge, LA 70803

O 225-578-5833
F 225-578-5983
<http://www.lsu.edu/research>



TO: Janna B Oetting
LSUAM | Academic Affairs | Center for Academic Success

FROM: Alex Cohen
Chairman, Institutional Review Board

DATE: 12-Oct-2021

RE: IRBAM-21-0294

TITLE: Implicit Bias in Speech-Language Pathology Students

New Protocol/Amendment/Continuation: Amendment. Removing "Grad-Level" from the title (though the study is still geared toward grad-level SLP students, so the inclusion/exclusion criteria is not changing)

Brief Amendment Description: The study overall is still geared towards graduate-level students, but I may expand the study to survey undergraduate students, as well, in the future. Removing the interview portion of the project, thereby also eliminating the need for recordings. The project will be survey only.

Review Type: Expedited Review

Risk Factor: Minimal

Review Date: 11-Oct-2021

Status: Approved

Approval Date: 11-Oct-2021

Approval Expiration Date: 25-Jul-2022

Re-review frequency: (annual unless otherwise stated)

Number of subjects approved: 100

By: Alex Cohen, Chairman

Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc.**

** All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/research>*

Louisiana State University
131 David Boyd Hall
Baton Rouge, LA 70803

O 225-578-5833
F 225-578-5983
<http://www.lsu.edu/research>

Appendix B. Survey

Implicit Bias in SLP Students

Consent

The purpose of this study is to gain insight into implicit bias within graduate-level speech-language pathology programs by evaluating awareness and perceptions of colorblindness and microaggressions. This is an incremental step toward providing effective methods for reducing implicit bias. By clicking "I consent" below you are consenting to being a part of this survey study.

Select "I consent" below to proceed.

- ☐ I consent
- ☐ I do not consent

CoBRAS Instructions

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

CoBRAS 1


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

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide bar 1

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

CoBRAS 2

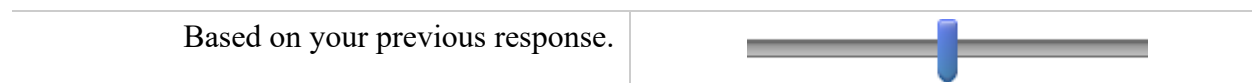
Race plays a major role in the type of social services (such as type of health care or day care) that people receive in the U.S.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide bar 2

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



CoBRAS 3

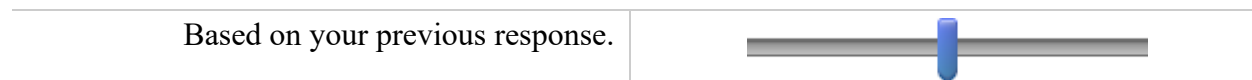
It is important that people begin to think of themselves as American and not African American, Mexican American or Italian American.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 3

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



CoBRAS 4

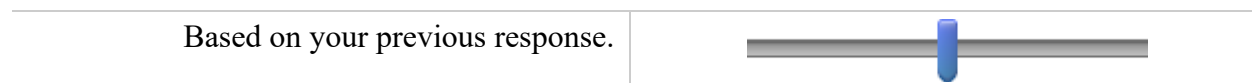
Due to racial discrimination, programs such as affirmative action are necessary to help create equality.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 4

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



CoBRAS 5

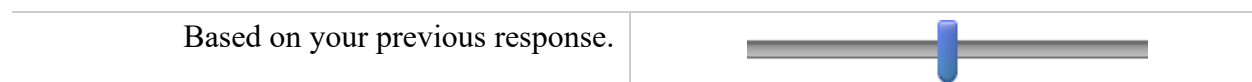
Racism is a major problem in the U.S.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 5

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



CoBRAS 6


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

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 6

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

CoBRAS 7


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

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 7

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	---

CoBRAS 8


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

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 8

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

CoBRAS 9

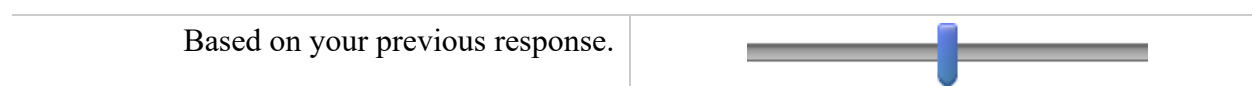
White people in the U.S. are discriminated against because of the color their skin.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 9

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



CoBRAS 10

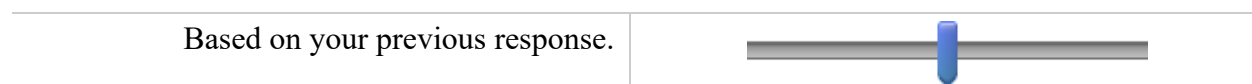
Talking about racial issues causes unnecessary tension.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 10

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



CoBRAS 11


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

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 11

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

CoBRAS 12


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

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 12

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	---

CoBRAS 13


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

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 13

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

CoBRAS 14

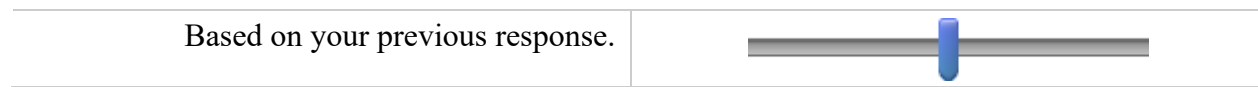
English should be the only official language in the U.S.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 14

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**CoBRAS 15**

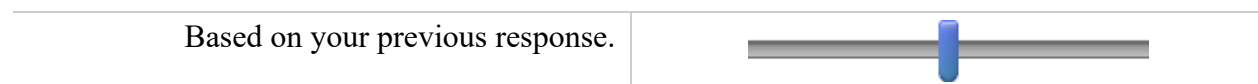
White people are more to blame for racial discrimination in the U.S. than racial and ethnic minorities.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 15

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**CoBRAS 16**


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

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 16

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

CoBRAS 17


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

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 17

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

CoBRAS 18


Racial and ethnic minorities in the U.S. have certain advantages because of the color of their skin.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 18

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

CoBRAS 19

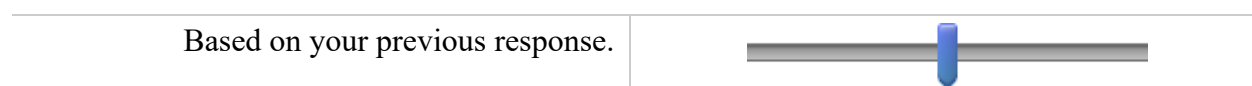
Racial problems in the U.S. are rare, isolated situations.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 19

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



CoBRAS 20

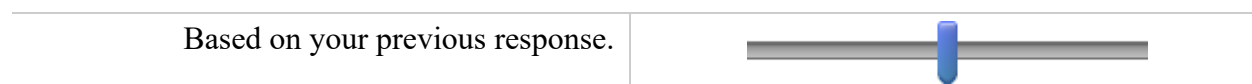
Race plays an important role in who gets sent to prison.

- ☐ 1- Strongly Disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5- Strongly Agree

CoBRAS Slide Bar 20

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS instructions

For the following items, imagine that you are talking with a racially diverse group of peers about various topics, including race and ethnicity. Rate how ACCEPTABLE you think it would be for a White group member to say the following to a racial/ethnic minority group member: 1 (totally unacceptable) - 6 (perfectly acceptable)

ARMS 1

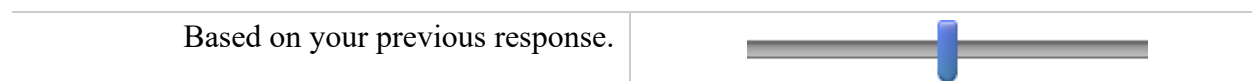
Rate the following statement: "Lots of people worked their way out of poverty, why can't Blacks and Latinos do the same?"

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 1

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 2

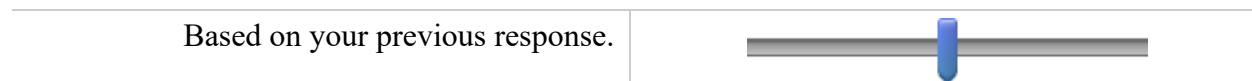
Rate the following statement: "African Americans would get more jobs if they dressed more professionally."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 2

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 3

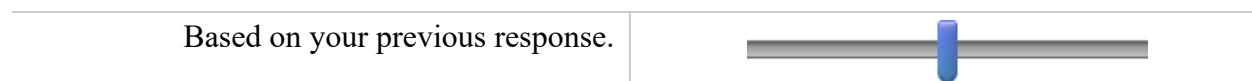
Rate the following statement: "If African Americans spoke less slang, they'd be more likely to get jobs."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 3

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 4

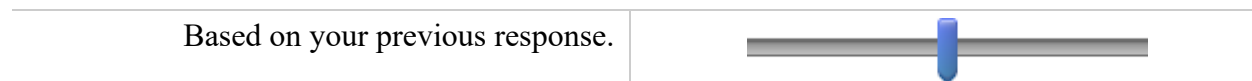
Rate the following statement: "There won't be racial progress until racial minorities stop relying on handouts from the government."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 4

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 5

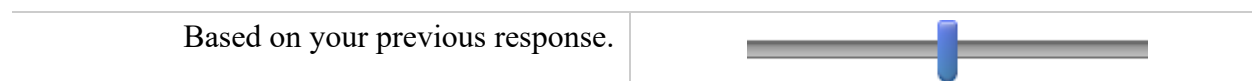
Rate the following statement: "Black people should stop using slavery as an excuse for their problems."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 5

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 6

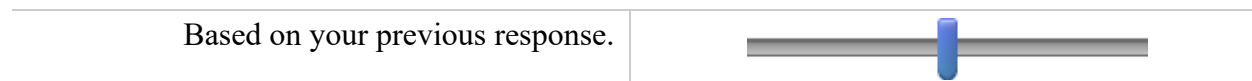
Rate the following statement: "Minorities are just too sensitive about racism."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 6

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 7

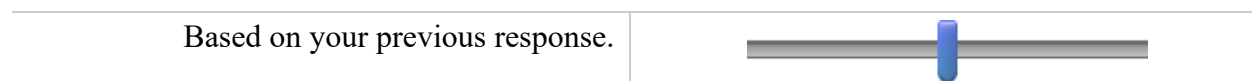
Rate the following statement: "Latinos receive lots of unearned benefits just for being minorities."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 7

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 8**

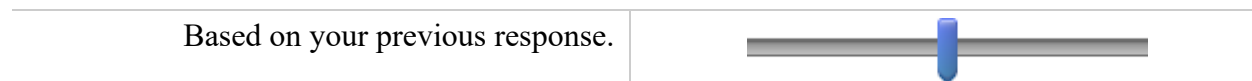
Rate the following statement: "People from your racial group get hired easily because companies need to meet racial quotas."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 8

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 9

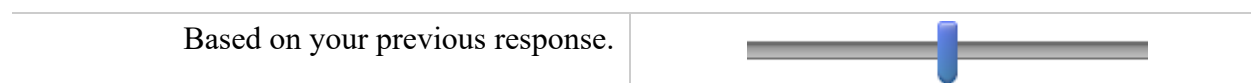
Rate the following statement: "If Latinos spoke more English, they'd be more likely to get jobs."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 9

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 10**

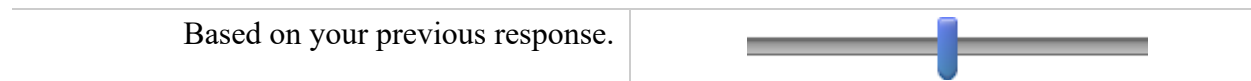
Rate the following statement: "I don't see your race, I see you as a person."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 10

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 11

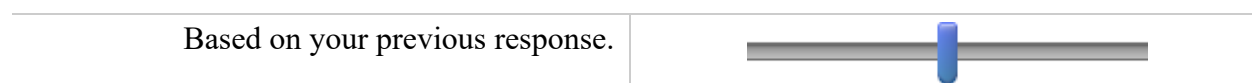
Rate the following statement: "I don't care if you're Black, Brown, Purple, Yellow, Green...I see all people as the same."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 11

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 12**

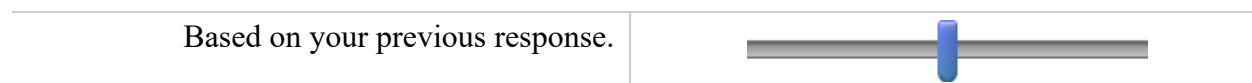
Rate the following statement: "There is only one race, the human race."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 12

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 13

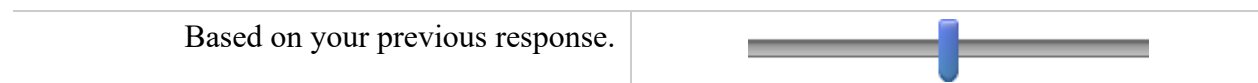
Rate the following statement: "People shouldn't see race anymore."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 13

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 14**

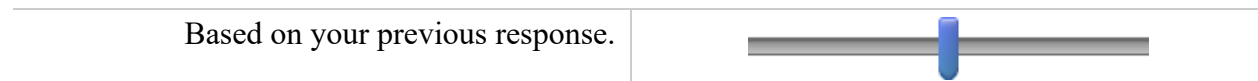
Rate the following statement: "Even if we look different, we are basically the same."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 14

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 15

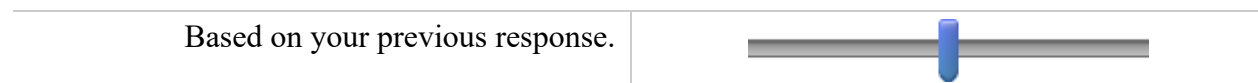
Rate the following statement: "I don't notice race."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 15

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 16**

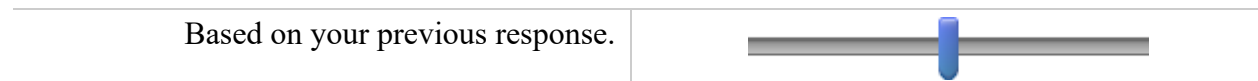
Rate the following statement: "We are all the same."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 16

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 17

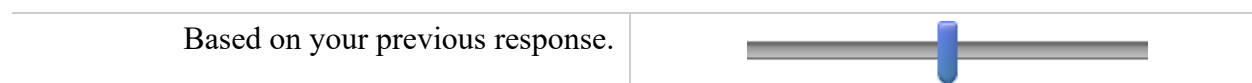
Rate the following statement: "People are just people, their race doesn't matter."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 17

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 18**

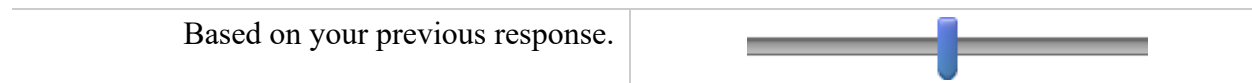
Rate the following statement: "Everyone is treated the same by the legal system."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 18

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 19

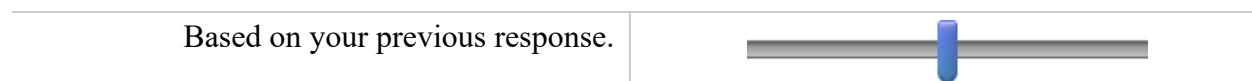
Rate the following statement: "Everyone has the same chance to succeed regardless of their race."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 19

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 20**

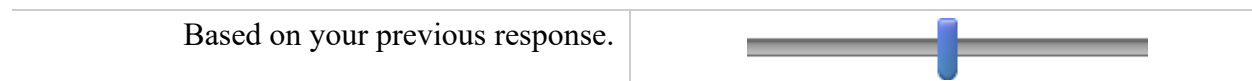
Rate the following statement: "Everyone gets a fair legal trial regardless of their race."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 20

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 21

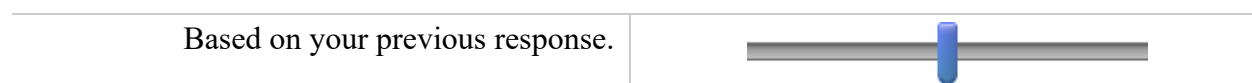
Rate the following statement: "Everyone has access to the same resources such as schools and hospitals."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 21

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 22**

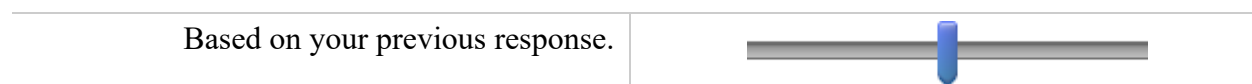
Rate the following statement: "Race doesn't play a role in who gets pulled over by the police."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 22

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100



ARMS 23

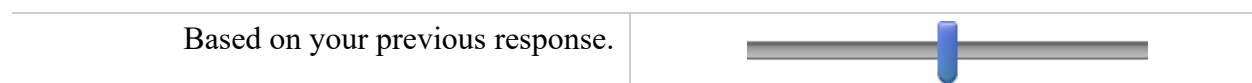
Rate the following statement: "Race doesn't matter for who gets sent to prison."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 23

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 24**

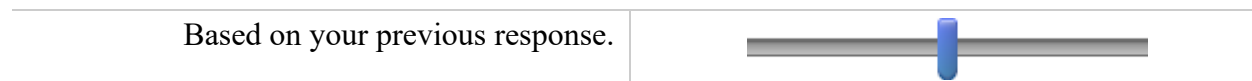
Rate the following statement: "Everyone has access to the same educational opportunities, regardless of race or ethnicity."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 24

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 25**


Rate the following statement: "When people get shot by the police, it is more about what they were doing rather than their race."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 25

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

ARMS 26


Rate the following statement: "Everyone in life goes through the same kinds of obstacles, regardless of their race."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 26

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

ARMS 27

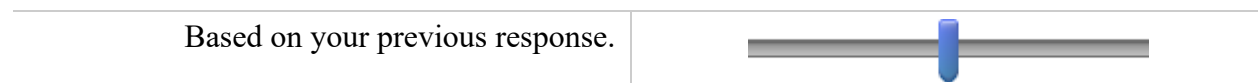
Rate the following statement: "Latinos are just so sexy."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 27

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 28**

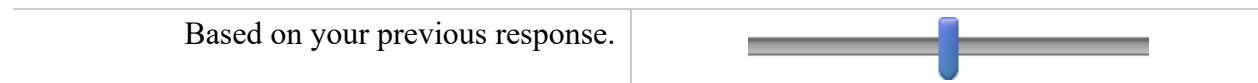
Rate the following statement: "Native Americans are so fierce."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 28

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**ARMS 29**


Rate the following statement: "I just love Black women's butts."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 29

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

ARMS 30


Rate the following statement: "Latino men are such passionate lovers."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 30

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

ARMS 31


Rate the following statement: "You are so exotic."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 31

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

ARMS 32


Rate the following statement: "You're so beautiful, you're like a geisha."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 32

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

ARMS 33


Rate the following statement: "You're so beautiful, you look like Pocahontas."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 33

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

Based on your previous response.	
----------------------------------	--

ARMS 34

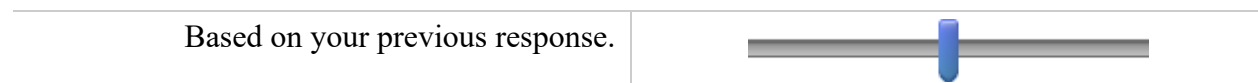
Rate the following statement: "Your skin color is so exotic."

- ☐ 1- Totally Unacceptable
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6- Perfectly Acceptable

ARMS Slide Bar 34

From 0-100, how strongly do you feel in your opinion?

0 10 20 30 40 50 60 70 80 90 100

**Demographics 1**

Please select your race/ethnicity. (Select all that apply)

- ☐ White
- ☐ Black or African American
- ☐ Hispanic or Latino
- ☐ Asian
- ☐ Native Hawaiian or Pacific Islander
- ☐ Other _____

Demographics 2

Please select your gender(s).

- ☐ Male
- ☐ Female
- ☐ Non-binary / third gender
- ☐ Prefer not to say

Demographics 3

Please select your age.

▼ 18 ... 60

Demographics 4

Please indicate your country of origin.

▼ United States ... Zimbabwe

Demographics 5

Please select your current graduate student distinction.

- ☐ Undergraduate student
- ☐ First year Master's student
- ☐ Second year Master's student
- ☐ Doctoral student

Demographics 6

Please select your anticipated graduation year.

- ☐ Fall 2021
- ☐ Spring 2022
- ☐ Fall 2022
- ☐ Spring 2023
- ☐ Fall 2023
- ☐ Spring 2024

Demographics 7

OPTIONAL: Please describe your political affiliation.

Acknowledgement

The purpose of this study is to gain insight into implicit bias within graduate-level Speech-Language Pathology programs and provide effective methods for reducing implicit bias. Statements included in this survey are taken from the ARMS (Mekawi & Todd, 2018) and CoBRAS (Neville, 2018) scales. LSU and the research team do not endorse any of the preceding statements or opinions.

- ☐ I acknowledge this statement.

Optional Feedback

OPTIONAL: Please provide feedback on your impression of the survey or any questions you may have.

References

- American Psychological Association. (1997). *Can—or should—America be color-blind? Psychological research reveals fallacies in a color-blind response to racism* [Pamphlet]. Washington, DC: Author.
- American Speech-Language-Hearing Association. (2020, June). *Addressing systemic racism and institutional inequities in CSD*. American Speech-Language-Hearing Association. Retrieved March 7, 2022, from <https://www.asha.org/about/diversity-equity-inclusion/>
- American Speech-Language-Hearing Association (ASHA). (2020). *ASHA's envisioned future: 2025*. ASHA. <https://www.asha.org/About/ASHAs-Envisioned-Future/>
- American Speech-Language-Hearing Association (ASHA). (2020). Strategic pathway to excellence map [PDF]. Retrieved on July 1, 2021 from <https://www.asha.org/siteassets/uploadedfiles/strategic-pathway-to-excellence-map.pdf>
- American Speech-Language-Hearing Association (ASHA). (2017). *Cultural competence*. The practice portal. https://www.asha.org/practice-portal/professional-issues/cultural-competence/#collapse_0
- American Speech-Language-Hearing Association (ASHA). (2021). CSD education survey: Communication sciences and disorders education trend data [PDF]. Retrieved on April 17, 2021 from <https://www.asha.org/siteassets/uploadedfiles/communication-sciences-and-disorders-education-trend-data.pdf>
- American Speech-Language-Hearing Association [ASHA]. (2022). *2021 Member and affiliate profile*. www.asha.org
- Clarke, C. (2020, July 2). *BIPOC: What does it mean and where does it come from?* CBS News. Retrieved February 19, 2022, from <https://www.cbsnews.com/news/bipoc-meaning-where-does-it-come-from-2020-04-02/>
- Clark, E. L., Easton, C., & Verdon, S. (2020). The impact of linguistic bias upon speech-language pathologists' attitudes towards non-standard dialects of english. *Clinical Linguistics & Phonetics*. <https://doi.org.libezp.lib.lsu.edu/10.1080/02699206.2020.1803405>

- Curtin, N., Stewart, A. J., & Ostrove, J. M. (2013). Fostering academic self-concept: Advisor support and sense of belonging among international and domestic graduate students. *American Educational Research Journal*, 50, 108–1137. doi:10.3102/0002831212446662
- Deal-Williams, V. (2002). Celebrating our differences. *The ASHA Leader*, 7(6).
<https://doi.org/10.1044/leader.AN.07062002.1>
- Deal-Williams, V. (2020, June 1). *Addressing disparities in the wake of injustice, violence, and covid-19*. Live Leader. Retrieved August 21, 2021, from
<https://leader.pubs.asha.org/do/10.1044/2020-0601-addressing-disparities-of-injustice/full/>
- Ebert, K. D. (2013). Perceptions of Racial Privilege in Prospective Speech-Language Pathologists and Audiologists. *Perspectives on Communication Disorders & Sciences in Culturally & Linguistically Diverse (CLD) Populations*, 20(2), 60–71.
- FitzGerald, C., & Hurst, S. (2017). Implicit bias in healthcare professionals: A systematic review. *BMC Medical Ethics*, 18.
- Hall, W. J., Chapman, M. V., Lee, K. M., Merino, Y. M., Thomas, T. W., Payne, B. K., Eng, E., Day, S. H., & Coyne-Beasley, T. (2015). Implicit Racial/Ethnic Bias Among Health Care Professionals and Its Influence on Health Care Outcomes: A Systematic Review. *American Journal of Public Health*, 105(12), e60–e76. <https://doi-org.libezp.lib.lsu.edu/10.2105/AJPH.2015.302903>
- Kimmons, M. (2017). ‘Tolerance’ is not enough. *The ASHA Leader*, Vol. 22(8).
<https://doi.org/10.1044/leader.FMP.22082017.8>
- Kohnert, K. (2013). One Insider’s Reflections on White Privilege, Race and their Professional Relevance. *Perspectives on Communication Disorders & Sciences in Culturally & Linguistically Diverse (CLD) Populations*, 20(2), 41–48.
- Maina, I. W., Belton, T. D., Ginzberg, S., Singh, A., & Johnson, T. J. (2018). A decade of studying implicit racial/ethnic bias in healthcare providers using the implicit association test. *Social Science & Medicine*, 199, 219–229. <https://doi-org.libezp.lib.lsu.edu/10.1016/j.socscimed.2017.05.009>

- Mekawi, Y., & Todd, N. R. (2018). Okay to say?: Initial validation of the Acceptability of Racial Microaggressions Scale. *Cultural Diversity and Ethnic Minority Psychology*, 24(3), 346–362. <https://doi-org.libezp.lib.lsu.edu/10.1037/cdp0000201.supp> (Supplemental)
- Merriam-Webster. (n.d.). Implicit bias. In *Merriam-Webster.com dictionary*. Retrieved June 18, 2021, from <https://www.merriam-webster.com/dictionary/implicit%20bia>
- Neville, H. A., Awad, G. H., Brooks, J. E., Flores, M. P., & Bluemel, J. (2013). Color-blind racial ideology: Theory, training, and measurement implications in psychology. *American Psychologist*, 68(6), 455–466. <https://doi.org/10.1037/a0033282>
- Neville, H. A., Lilly, R. L., Duran, G., Lee, R. M., & Browne, L. (2000). Construction and initial validation of the Color-Blind Racial Attitudes Scale (CoBRAS). *Journal of Counseling Psychology*, 47(1), 59–70. <https://doi-org.libezp.lib.lsu.edu/10.1037/0022-0167.47.1.59>
- Oliver, R., & Haig, Y. (2005). Teacher Perceptions of Student Speech: A Quantitative Study. *Australian Review of Applied Linguistics*, 28(2), 44–59.
- Preis, J. (2013). The Effects of Teaching About White Privilege in Speech-Language Pathology. *Perspectives on Communication Disorders & Sciences in Culturally & Linguistically Diverse (CLD) Populations*, 20(2), 72–83.
- Steed, R. (2014). Caucasian Allied Health Students' Attitudes Towards African Americans: Implications for Instruction and Research. *ABNF Journal*, 25(3), 80–85.
- Rodriguez, J. C. (2016). Our clients are diverse: Why aren't we? *The ASHA Leader*, 21(5). <https://doi.org/10.1044/leader.SSAY.21052016.40>
- Sue, D. W. (2010). *Microaggressions in everyday life: Race, gender, and sexual orientation*. Wiley.
- Tyner, Artika. R. (2019). Unconscious bias, implicit bias, and microaggression: What can we do about them. *American Bar Association*. https://www.americanbar.org/groups/gpsolo/publications/gp_solo/2019/july-august/unconscious-bias-implicit-bias-microaggressions-what-can-we-do-about-them/

Vita

Skyller DeMaris Castello, born in Baton Rouge, Louisiana, graduated from West Feliciana High School in St. Francisville, Louisiana before attending Louisiana State University (LSU) for her bachelor's degree in communication sciences and disorders. After working for a speech-language pathologist in her hometown, she decided to further her education at LSU by pursuing her master's degree in communication sciences and disorders. Skyller recently presented her research included in this thesis at the National Black Association for Speech-Language and Hearing (NBASLH) 2022 Convention in March 2022. Skyller plans to receive her master's degree from Louisiana State University in May 2022. Upon completion of her master's degree, she will begin working as a speech-language pathologist for her clinical fellowship year before earning her certificate of clinical competency.