Racial Colorblindness in Speech-Language Pathology Students

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Abstract

Purpose: Implicit racial biases have been documented across a variety of allied health professions and training programs. The purpose of this study was to examine implicit racial bias within speech-language pathology (SLP) students by evaluating their attitudes towards statements reflecting racial colorblindness.

Method: Fifty-nine students currently enrolled in an SLP program completed the Color-Blind Racial Attitudes Scale (CoBRAS; Neville et al., 2000) via an online Qualtrics survey, comprised of three subscales: Racial Privilege, Institutional Discrimination, and Blatant Racial Issues.

Results: Results suggested that although 67% do not endorse colorblind statements on the CoBRAS, 33% of the students either agreed with colorblind statements (18%) or indicated neither agreement nor disagreement with colorblind statements (15%). Colorblind statements related to Racial Privilege (e.g., *Everyone who works hard, no matter what race they are, has an equal chance to become rich.*) were rejected less frequently (55%) than statements related to Institutional Discrimination (68%; e.g., *Racial and ethnic minorities in the U.S. have certain advantages because of the color of their skin.)* or Blatant Racial Issues (79%; e.g., *Racial problems in the US are rare, isolated situations.).*

Conclusion: Voluntary self-examination of implicit racial bias within any pre-professional training program is a difficult, but important step towards addressing issues of systemic racism prior to entering the field. This study is the first to do so within speech-language pathology. Although data indicating relatively high rejection of colorblind statements found in this study are promising, students did not uniformly reject colorblind statements. Such response variation provides a foundation to further educate SLP students about implicit bias and its potential to impact one's cultural responsivity.

Keywords: colorblindness, race, speech-language pathology, students

Introduction

Implicit racial biases have been documented across a variety of allied health professions. Systematic reviews of implicit bias in healthcare professionals indicate bias against Black, Indigenous, People of Color (BIPOC)[1] during diagnosis, treatment recommendations, and other aspects of the medical care they received (e.g., FitzGerald & Hurst, 2017; Hall et al., 2015; Maina et al., 2017). Speech-language pathologists (SLPs) interact 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). Despite this mandate, minimal investigation of implicit biases within speech-language pathology have been conducted. Therefore, the purpose of this study was to gain insight into implicit bias within students currently enrolled in SLP programs by evaluating their perceptions and attitudes about one common form of implicit bias – racial colorblindness. Colorblind racism has been identified as pervasive issue in academia (Bonilla-Silva, 2022) and prevalent within the policies that govern speech-language pathology (Yu et al., 2021). This is particularly true for *minimization of racism* wherein the negative impact of racism is downplayed, and/or described as a historical phenomenon, which (a) permits individuals and institutions to avoid taking action that would

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[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.

address systemic racial inequities, and (b) serves as a barrier to adopting a lens of cultural

responsiveness within the workplace.

Implicit Bias in Health Care Professionals

Several systematic reviews conducted over the past decade highlight a pattern of explicit

as well as implicit bias against BIPOC within the medical field and allied health professions.

FitzGerald and Hurst (2017) reviewed 42 peer-reviewed studies investigating potential 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 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.

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. Similar implicit bias shown

throughout the medical field has been observed in 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. Steed 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 anti-Black prejudice.

Implicit Bias in Speech-Language Pathology

Minimal investigation of implicit bias within speech-language pathology has been

conducted. One way in which implicit bias has been examined is treatment of nonmainstream

dialects of English (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. Clark et al. modified the study to evaluate SLPs, rather than teachers, to explore what SLPs 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 dialectal variation.

Hendricks et al. (2021) evaluated the perception of African American English 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 held positive opinions of AAE but rank those who speak AAE, primarily African Americans, lower in three personal attribute categories: socio-intellectual, dynamism, and aesthetic. These findings indicate that training for future SLPs should be expanded to address negative attitudes toward dialect use, which reflect a systemic anti-Black linguistic racism and maintain a standard language ideology (Lippi-Green, 1994). In sum, although under-researched, it is reasonable to predict that the relatively implicit biases shown by Clark et al. (2020) and Hendricks et al. (2021) towards linguistic or accent biases in SLPs may lead to the associated patient-care consequences observed in similar allied medical fields (e.g., FitzGerald & Hurst, 2017; Hall et al., 2015).

Racial Disparities and Self-Examination in Speech-Language Pathology

According to ASHA's CSD Education Survey: Communication Sciences and Disorders Education Trend Data (2021), 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). Due to the current 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. A critical step towards providing thorough, culturally responsive speech-language pathology programs is to examine the perceptions of racial privilege and compare racial attitudes across races within the field. Ebert (2013) surveyed the awareness of White privilege among graduate-level SLP students from 11 programs across the United States. Responses indicated that there is a predominance of White racial majority individuals in graduate-level training programs and in professional roles, particularly within instructors or supervisors (at least 90% White). 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 survey 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 positive impact of teaching SLP students ($N = 20$) about White privilege during an undergraduate course entitled Cultural Diversity in Communication which focused on the importance of communication in a diverse society, specifically, "the role racial bias and perception of race have on intercultural communication" (p. XX). Preis defines White privilege as an unjustified advantaged earned entirely because of skin color, which results in racial obliviousness (e.g., not recognizing the influence of one's culture or race) and colorblindness (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 SLP students should begin with discussing White privilege. The author also mentions that the racial obliviousness or colorblindness seen in the SLP students may be due to minimal racial diversity within the profession.

Implicit Bias and Colorblindness

Implicit bias can be manifested as attitudes or behaviors that have negative consequences on a marginalized 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 colorblindness, microaggressions, and White privilege (Preis, 2013, Ebert, 2013). Colorblindness is considered 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. Colorblindness results in a disregard of racism by creating the notion that if a race does not matter, then racism does not matter. A meta-analysis of 83 studies conducted by Yi et al. (2023) found that specific aspects of colorblind ideology, such as color evasion and power evasion, were significantly linked to anti-Black prejudice, anti-social justice behaviors, and lower diversity openness and racial/ethnocultural empathy. The American Psychological Association (APA)

acknowledged the dangers of colorblind practice 25 years ago (*Can – or should-America be color-blind?;* APA 1997), and found colorblind racial ideology negatively impacting practicing clinicians as well as student trainees (e.g., Johnson & Jackson Willams, 2015; Neville et al., 2013) The APA (2021) recently published a resolution to actively, systematically examine and help to dismantle institutional racism in a range of professions (education, science, health care, work and economic opportunities, criminal and juvenile justice, early childhood development, government and public policy). The Council of Academic Programs in Communication Sciences and Disorders (CAPSCD, 2020) proposed a similar resolution to formally acknowledge, and enact change, to combat systemic and colorblind racism in speech-language pathology. ASHA's (2023) Strategic Plan also includes increasing diversity, equity, and inclusion within the profession. In support of both resolutions, similar to those of the APA, the need to acknowledge the existence of colorblind racism is considered a critical step towards dismantling longstanding systemic inequities.

Summary and rationale for study

Given the existence and negative impact of implicit bias within the medical field and allied health professions (e.g., FitzGerald & Hurst, 2017, Hall et al., 2015; Maina et al., 2017) the pronounced racial and ethnic disparities in the field of communication science and disorders (ASHA, 2020) and the concerns about pre-professional education for SLPs expressed by Preis (2013) and Ebert (2013; see also Kimmons, 2017 and Rodriguez, 2016), it is important to examine implicit bias within SLP programs. This examination should include the assessment of racial attitudes and awareness of implicit bias, such as colorblindness, among SLP students. Colorblindness within our field allows systemic racism to take root or flourish in such a disproportionately White workplace (e.g., a person who does not believe racism exists would not

feel the need to adopt culturally responsive practices). The aim of this study, therefore, is to analyze implicit racial bias in SLP students by administering a well-validated quantitative survey – the Color-Blind Racial Attitudes Scale (CoBRAS; Neville et al., 2000) – with respect to two specific research questions:

RQ1: What are the overall perceptions of speech-language pathology (SLP) students towards statements that reflect racial colorblindness?

RQ2: Does agreement with colorblind statements differ between SLP students based on the respondents' self-identified race (White versus BIPOC)?

Methods

Participants

This study was approved by a university Institutional Research Board (IRBAM-21-0294). Potential participants were recruited from SLP students currently enrolled in a Communication Sciences and Disorders program within a large public university in the Southern region of the United States ($N = 334$, including both undergraduate degree and master's degree-seeking graduate students). Both BIPOC and White students were recruited to participate to gain a comprehensive understanding of the level of implicit racial bias within SLP students. Although comparison of data from an equal number of students who identify as a member of each race is ideal, a disproportionate distribution of race was not unexpected and indicative of composition of speech-language pathology programs across the country.

Procedure

Students within the speech-language pathology program were invited to participate via email in November of 2021. Two follow-up email reminders were sent within two weeks of initial contact. Students consented to participating in the study by clicking a link to a Qualtrics

survey included in the recruitment email. Once opening the survey, students were presented with

a basic description of the study and 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 a second survey related to implicit bias that was included as part of a

separate study (Mekawi & Todd, 2018). After completing 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 other]),

(2) Please select your gender(s), (3) Please select your age, (4) Please indicate your country of

origin, (5) Please select your current 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) Please describe your political affiliation [optional]. 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 survey. Lastly, students were

encouraged but not required to provide feedback on the survey in a free-response text box. This

feedback was not required for completion of the survey.

Measure

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 colorblindness. 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 colorblind statements regarding each factor. The

CoBRAS consists of 20 statements which are each individually ranked on a Likert-scale based on their agreeableness. The survey was completed by selecting a response on a 5-point Likert-scale based on the respondent's personal agreement with each statement for the CoBRAS (e.g., 1: Strongly Disagree to 5: Strongly Agree)[2]. Factor 1, Racial Privilege, consists of seven items: statements 1, 2, 6, 8, 12, 15, 20 (e.g., Statement 1: *Everyone who works hard, no matter what race they are, has an equal chance to become rich*.). Factor 2, Institutional Discrimination, consists of seven items: statements 3, 4, 9, 13, 14, 16, 18 (e.g., Statement 14: *English should be the only official language in the US*.). Factor 3, Blatant Racial Issues, consists of six items: statements 5, 7, 10, 11,17, 19 (e.g., Statement 7: *Racism may have been a problem in the past, but it is not an important problem today*.). Scores are obtained for each of the CoBRAS factors, as well as a total score, with higher scores on the CoBRAS indicating greater levels of colorblindness.

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 tested whether the previously established factors were the best overall structure to use compared to competing models and to assess the validity of CoBRAS. During this study, a 20-item CoBRAS was used. Confirmatory factor analysis suggests the three-factor model of CoBRAS is the best model compared to other

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[2] During conversion of Likert-scales for online format, the original 6-point Likert scale (1: strongly agree, 6: strongly disagree) used by Neville et al. (2000) was inadvertently truncated to a 5-point Likert scale. Data should be interpreted with acknowledgment of this important methodological deviation.

competing models and was a good fit of the data according to the goodness-to-fit index. Study

three was used to evaluate the CoBRAS test-retest reliability; this study indicated the

Institutional Discrimination and Racial Privilege factors were acceptable (.80), while the Blatant

Racial Issues factor showed .34 and CoBRAS total showed .68 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 colorblind racial attitudes CoBRAS scores were

sensitive to an intervention pertaining to multicultural training.

Descriptive statistics of all five studies reported moderate levels of colorblind 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, Neville et al. (2000)

concluded that the CoBRAS has criterion-related, discriminant, construct, and concurrent

validity and is reliable.

Participants

Of the 334 students who were invited to complete the survey, 104 (31%) started the

survey, and 59 (18%) completed the survey. Of the 59 students who completed the survey, a

majority identified themselves as White (*n* = 42; 71%; see Table 1). Sixteen BIPOC students

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 multiracial (*n* = 1, 2%).

There were four students (7%) who identified as White and BIPOC (e.g., Hispanic or Latino,

Native Hawaiian, or Pacific Islander), and one student marked *Other* as their race and indicated

that they preferred not to say. 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 Self-Identified Race and Gender by Class Cohort

	Undergraduate	1st Year Graduate	2nd Year Graduate	Total
White	10	12	20	42
BIPOC	8	2	2	12
Multiracial	-	2	2	4
DNR	1	-	-	1
N	19	16	24	59
Female	16	14	24	54
Male	2	1	-	3
DNR	1	1	-	2

Note. Graduate-level students are enrolled in a speech-language pathology master's program. The Multiracial category refers to students who identified as both White and BIPOC (e.g., Hispanic or Latino, Native Hawaiian or Pacific Islander). DNR refers to students who chose not to report their race.

Results

Results were analyzed with respect to the two research questions. As described by Neville et al. (2000), higher CoBRAS scores are positively associated with an increased level of colorblindness (1: strongly disagreeing, 5: strongly agreeing), 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 opinions associated with an unawareness of pervasive racial discrimination in general.

RQ1: What are the overall perceptions of current speech-language pathology (SLP) students towards statements that reflect racial colorblindness?

On average, SLP students reported low-to-moderate beliefs in colorblind statements ($M =$ 2.17, $SD = 1.38$; see Table 2). A repeated measures ANOVA was conducted to assess differences between three CoBRAS subscales (Racial Privilege, Institutional Discrimination, Blatant Racial Issues). Greenhouse-Geisser correction was applied due to rejection of sphericity assumption for ANOVA. Findings indicated a significant main effect of subscale $F(1.80, 104.35) = 52.87$, $p <$ .001, $\eta_\rho^2 = .48$ (very large effect size). Post-hoc comparisons indicated that agreement with statements that reflect Racial Privilege (e.g., *Everyone who works hard, no matter what race they are, has an equal chance to become rich*.) were rated by students as significantly higher ($M =$ 2.58, $SE = .14$, $p < .001$) than statements that reflect Institutional Discrimination ($M = 2.17$, $SE =$ .12; e.g., *Immigrants should try to fit into the culture and adopt the values of the U.S.)* and Blatant Racial Issues ($M = 2.17$, $SE = .12$; e.g., *Racism may have been a problem in the past, but it is not an important problem today*.)

Table 2

CoBRAS Factor Means and Standard Deviations

|	Racial Privilege		Institutional Discrimination		Blatant Racial Issues		Overall Score	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
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.

The findings indicated that SLP students surveyed displayed an overall low-to-moderate agreement with colorblind statements. To provide a more comprehensive description of response patterns across participants, the total number of student responses was calculated based on overall disagreement with colorblind statement (scores of 1-2, with 1 = *Strongly Disagree*), agreement with colorblind statements (scores of 4-5, with 5 = *Strongly Agree*), or neither agreement nor disagreement (score of 3).

Figure 1 depicts the total variance in agreement with colorblind statements included on the CoBRAS questionnaire. A total of 1,180 opportunities to respond to colorblind statements were provided (59 students x 20 colorblind statements on the CoBRAS). Of these 1,180 responses, 789 (67%) indicated that students disagreed with colorblind statements. The remaining 391 (33%) responses indicated that students agreed with colorblind statements (173 of 1180 responses, 15%) or that students neither agreed nor disagreed with colorblind statements (218 of 1180 responses, 18%).

Figure 1

Student ratings of agreement with colorblind statements on CoBRAS and subscales (Racial Privilege, Institutional Discrimination, Blatant Racial Issues).
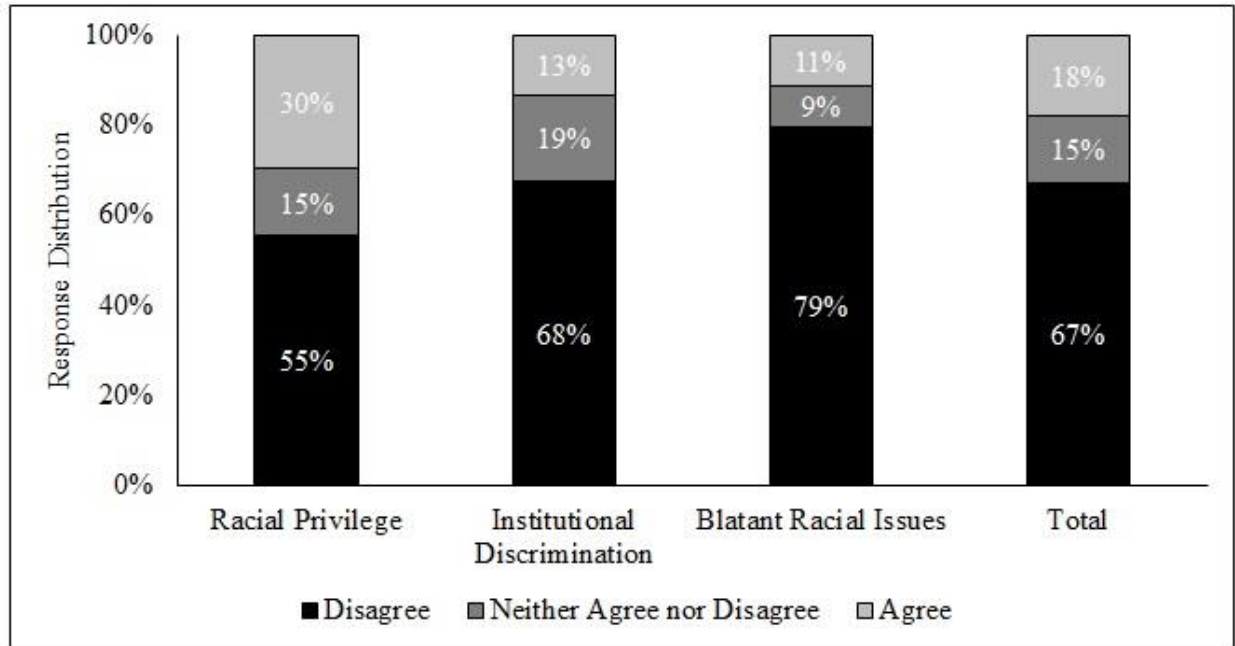
Note. 5-point scale (1 – Strongly Disagree, 5 – Strongly Agree). *Disagree*: score of 1 or 2;

Neither Agree nor Disagree: score of 3; *Agree*: score of 4 or 5. Percentages derived from 1180

total responses (59 respondents x 20 questions).

Figure 1 also depicts the total variance in responses to colorblind statements for each

CoBRAS subscale: Racial Privilege, Institutional Discrimination, and Blatant Racial Issues. Of

the 413 responses from the Racial Privilege subscale (59 students x 7 statements), 229 (55%)

indicated students' disagreement with colorblind statements related to Racial Privilege. The

remaining 184 (45%) responses indicated that students agreed with Racial Privilege statements

(123 of 413 responses, 30%) or that students neither agreed nor disagreed with Racial Privilege

statements (61 of 413 responses, 15%). Of the 413 responses from the Institutional

Discrimination subscale (59 students x 7 statements), 279 (68%) indicated students'

disagreement with colorblind statements related to Institutional Discrimination. The remaining

134 (32%) responses indicated that students agreed with Institutional Discrimination statements

(55 of 413 responses, 13%) or that students neither agreed nor disagreed with Institutional

Discrimination statements (79 of 413 responses, 19%). Of the 354 responses from the Blatant

Racial Issues subscale (59 students x 6 statements), 281 (79%) indicated students' disagreement

with colorblind statements related to Blatant Racial Issues. The remaining 73 (21%) responses

indicated that students agreed with Blatant Racial Issues statements (40 of 354 responses, 11%)

or that students neither agreed nor disagreed that Blatant Racial Issues statements (33 of 354

responses, 9%).

RQ2: Does agreement with colorblind statements differ between SLP students based on the respondents' self-identified race (White versus BIPOC)?

The results for the CoBRAS were assessed based on race (i.e., White, BIPOC) to evaluate

any potential between- and within-group differences in awareness of factors associated with

racial colorblindness. Student respondents who identified as Black or African American,

Hispanic or Latino, Asian, or Native Hawaiian or Pacific Islander 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 multiracial/multiethnic – both White and BIPOC (e.g., Hispanic or Latino or

Native Hawaiian or Pacific Islander) – were included in the BIPOC group categories, resulting in

$n = 16$ BIPOC respondents. The student who did not report their race was excluded from

analyses (total $N = 58$).

As depicted in Table 3, both White and BIPOC students expressed relatively low-to-

moderate levels of colorblindness, (< 3 on 5-point Likert scale; White: $M = 2.32$, $SD = .98$, $SE =$

.15; BIPOC: $M = 1.73$, $SD = .33$, $SE = .08$; 1: strongly disagree, 5: strongly agree). An

independent samples t-test was conducted to examine Total CoBRAS ratings between groups.

White students indicated significantly higher agreement with colorblind statements than BIPOC

students $t(55.51) = 3.45$, $p < .001$, $d = .69$ (moderate effect size).

Table 3

CoBRAS Factor Means and Standard Deviations by Race

	Racial Privilege		Institutional Discrimination		Blatant Racial Issues		Overall Score	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
White (*n* = 42)	2.79	1.08	2.17	.97	1.92	1.03	2.32	.98
BIPOC (*n* = 16)	1.93	.53	1.81	.48	1.33	.94	1.73	.33

Note. CoBRAS = Color-blind Racial Attitudes Scale.

A mixed model repeated measures ANOVA was conducted to examine ratings between

group (White, BIPOC) and subscale (Racial Privilege, Institutional Discrimination, Blatant

Racial Issues). Greenhouse-Geisser correction was applied due to a violation of the sphericity

assumption for ANOVA. Findings indicated a significant main effect of subscale $F(1.80, 100.71)$

$= 35.44$, $p < .001$, $\eta_\rho^2 = .39$ (very large effect size) and race $F(1, 56) = 5.95$, $p = .018$, $\eta_\rho^2 = .10$

(medium-to-large effect size) as well as a significant interaction between subscale and race

$F(1.80, 100.71) = 4.08$, $p = .023$, $\eta_\rho^2 = .07$ (medium effect size). Post-hoc comparisons indicated

that agreement with statements reflecting Racial Privilege and Blatant Racial Issues was

significantly higher for White students (Racial Privilege: $M = 2.79$, $SE = .15$, Blatant Racial

Issues: $M = 1.93$, $SE = .14$) than BIPOC students (Racial Privilege: $M = 1.93$, $SE = .24$, $p = .004$;

Blatant Racial Issues: $M = 1.33$, $SE = .23$, $p < .028$).

Within race comparisons indicated that White students agreed with statements reflecting

Blatant Racial Issues significantly less than both Institutional Discrimination ($M = 2.18$, $SE =$

.13; $p < .001$) and Racial Privilege ($p < .001$). White students also indicated significantly higher

agreement with statements reflecting Racial Privilege than Institutional Discrimination ($p <$

.005). By comparison, BIPOC students indicated significantly greater disagreement with Blatant

Racial Issues statements ($p < .001$) compared to statements related to Institutional Discrimination

($M = 1.81$, $SE = .22$; $p < .001$) and Racial Privilege ($p < .001$)

Like overall ratings in RQ1, the proportion of responses across participants was

calculated within each group (White: 840 responses [42 respondents x 20 items]; BIPOC: 320

responses [16 respondents x 20 items]). Classification categories were identical to RQ1 (scores

of 1-2 = Disagree; scores of 4-5 = Agree; scores of 3 = Neither Agree nor Disagree).

Results are depicted in Figure 2. Of the 840 responses from White respondents, 525

(63%) indicated disagreement with colorblind statements. The remaining 315 (37%) responses

indicated agreement with colorblind statements (181 of 840 responses, 21%) or neither

agreement nor disagreement with colorblind statements (134 of 840 responses, 16%). Of the 320

responses provided by BIPOC students, 260 (81%) indicated disagreement with colorblind

statements. The remaining 60 (18%) responses indicated agreement with colorblind statements

(26 of 320 responses, 8%) or neither agreement nor disagreement (34 of 320 responses, 10%).

Figure 2

Student ratings of agreement with colorblind statements on CoBRAS and subscales (Racial

Privilege, Institutional Discrimination, Blatant Racial Issues) by race (White, BIPOC).
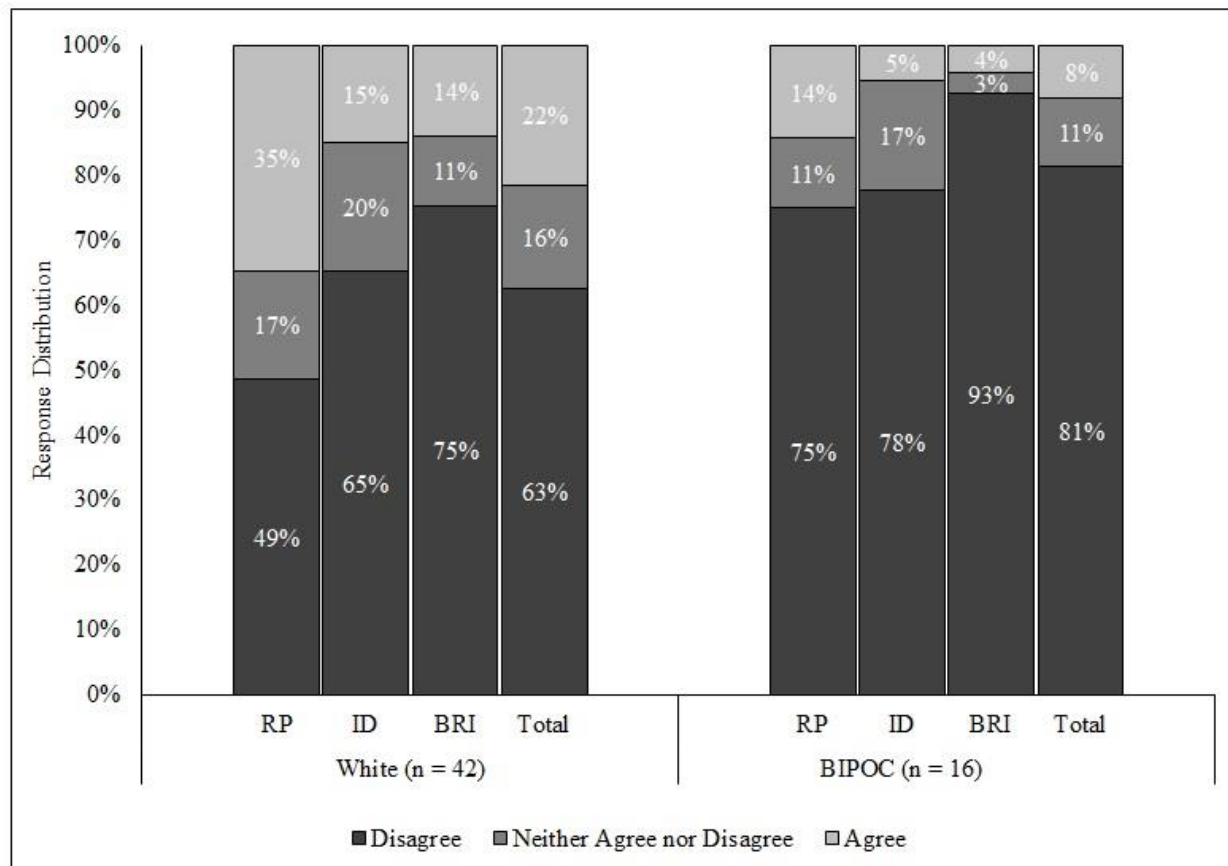
Note. 5-point scale (1 – Strongly Disagree, 5 – Strongly Agree). *Disagree*: score of 1 or 2;

Neither Agree nor Disagree: score of 3; *Agree*: score of 4 or 5. Percentages derived from 1160

total responses (58 respondents x 20 questions; White: n = 840, BIPOC: n = 320). RP = Racial

Privilege; ID = Institutional Discrimination; BRI = Blatant Racial Issues.

As shown in Figure 2, the greatest disparity of responses between groups were observed

for Racial Privilege and Blatant Racial Issues. Of the 294 statements from the Racial Privilege

subscale provided by White respondents, 143 (49%) indicated disagreement with Racial

Privilege statements, 102 (35%) indicated agreement with these statements and 49 (17%)

indicated neither agreement nor disagreement. Of the 112 statements from the Racial Privilege

subscale provided by BIPOC respondents, 84 (75%) indicated disagreement with these

statements, 16 (14%) indicated agreement with these statements, 12 (11%) indicated neither

agreement nor disagreement. Of the 252 statements from the Blatant Racial Issues subscale

provided by White respondents, 190 (75%) indicated disagreement with that Blatant Racial

Issues statements, 35 (14%) indicated agreement with these statements and 27 (11%) indicated

neither agreement nor disagreement. As a reminder, higher agreement for statements on the

Blatant Racial Issues subscale reflect greater colorblindness (e.g., Statement 19: *Racial problems*

in the U.S are rare, isolated situations.). Of the 96 statements from the Blatant Racial Issues

subscale provided by BIPOC respondents, 89 (93%) indicated disagreement, 4 (4%) indicated

agreement, and 3 (3%) indicated neither agreement nor disagreement.

Discussion

Investigating potential implicit racial bias in speech-language pathology students is an

incremental step toward providing more inclusive and culturally responsive speech-language

pathology programs. In this study, a well-validated measure of attitudes towards colorblind

remarks – the Color-Blind Racial Attitudes Scale (CoBRAS; Neville et al., 2000) – was

completed by 59 SLP students. Results indicated that at the time of the survey, SLP students

displayed overall low-to-moderate colorblind attitudes, as indicated by a majority of responses

(67%) indicating disagreement with colorblind statements. However, there was notable variation

in agreement with colorblind statements across subscales, particularly the Racial Privilege

subscale, and response variance was significantly meditated by respondents' self-identified race.

RQ1: What are the overall perceptions of speech-language pathology (SLP) students towards statements that reflect racial colorblindness?

The first research question investigated in this study asked about the perceptions of

current SLP students in terms of colorblindness. Responses to the CoBRAS revealed that SLP

students display low-to-moderate levels of implicit bias with respect to colorblindness. Majority

disagreement with colorblind statements is encouraging and suggests that, when presented a statement identified as racially colorblind by Neville et al. (2000), approximately 2 out of 3 SLP students in 2020 disagreed and identified these statements as unacceptable during personal and professional interactions.

Although the main findings of low-to-moderate bias amongst SLP students is encouraging, the responses were not uniform. Significant levels of disagreement were identified for statements related to Racial Privilege compared to other subscales. Students agreed with colorblind statements included on the Racial Privilege subscale 30% of the time and disagreed only 55% of the time. The statement with the highest average rating of the CoBRAS was part of the Racial Privilege subscale (Statement 6: *Race is very important in determining who is successful and who is not.*, $M = 4.06$ rating of 5). It is possible that respondents interpreted this question differently due to a non-specific definition of the term "race". Nevertheless, higher ratings on the Racial Privilege subscale suggests that SLP students may be more likely to agree with similar statements that deny or minimize the existence of racial privilege, or that students are less aware of the negative implications of these statements to BIPOC students.

RQ2: Does agreement with colorblind statements differ between SLP students based on the respondents' self-identified race (White versus BIPOC)?

The second research question posed asked whether there are any significant differences in perceptions between the groups (White vs. BIPOC) being assessed. It is important to note that the number of BIPOC respondents was low ($n = 16$, or 28% of 58 respondents [1 student did not identify race]). Nevertheless, results from student responses on the CoBRAS suggest that White students hold higher levels of implicit racial bias based on their attitudes toward colorblind comments. The largest, significant discrepancy was identified for statements pertaining to Racial

Privilege (White $M = 2.79$, BIPOC $M = 1.93$). Although average ratings for both groups did not exceed scale midpoint (3 – neither agree nor disagree with statements). This indicates that White students may agree with colorblind statements more often than their BIPOC peers.

It is also important to note that, although 63% of the time students disagreed with statements included on the CoBRAS, 37% of the time students either responded neutrally (indicated by a neutral score of 3) or agreed with the colorblind statements (indicated by 4-5; see Figure 1). Said another way, given the opportunity to reject colorblind statements, SLP students did not always identify the statements as harmful. As educators, this finding provides an opportunity for self-reflection of the messages we send (or forget to send) to students, either during our formal class lectures or informally as we converse with students outside of class or during clinical supervision interactions. This finding can also be used as a foundation from which to educate students in the future about implicit bias and potential blind spots in interactions with others. Specific statements from this survey, for example, could serve as an ideal focal point for active teaching activities within classrooms, wherein students role play (and reverse role play) field-specific scenarios in which colorblind statements may be likely to occur. By doing so, SLP students can be provided the opportunity to explore, rather than be instructed, why such statements may be ill-received by the opposite group (for detailed tutorial regarding active learning focusing on issues of cultural diversity in SLP classrooms, see O'Fallon & Garcia, 2023). Additional steps to successfully address colorblind racism within existing academic training programs, as described by Yu et al. (2021), include racial equity impact assessments (Annie E. Casey Foundation, 2014), wherein decisions that impact curriculum and training are guided by a series of equity-focused questions (e.g., Has the institution developed

specific values focused on anti-racism? Did stakeholders from all population groups who will be

impacted by the proposed action participate in the development of the proposed action?)._

Limitations

        Several limitations should be noted. First, only 18% of students completed the survey,

even though 31% began it, indicating likely self-selection response bias. Second, despite patterns

of response variability data in Figures 1 and 2 suggest otherwise, there is no way to confirm that

social desirability did not play some part in student responses that were provided. Response

variability, however, counters the researchers' initial concern that social desirability would

dominate student response. That is, it was possible that all respondents would present themselves

in the most favorable light, and in turn, respond unanimously with extreme disagreement to all

statements[3]. Although the presence of colorblindness within SLP students should not be

considered a positive outcome, it does provide a basis to begin, or continue, honest discourse

within pre-professional training programs. Third, as noted, comparison of data from this survey

to the standardized population reported by Neville et al. (2000) and subsequent studies using the

CoBRAS is not possible due to differences in response scale. Although responses patterns from

the present study cannot be directly compared to response patterns provided in the normative

data, the directional trends regarding awareness of colorblindness by SLP students can be

compared.

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[3] To address this potential concern from the outset, each question of the survey was accompanied by a 0-100 visual analog scale to allow respondents to rate how strongly they felt about their opinion. This was not a part of the original CoBRAS survey and were included by the researcher to provide response variance in anticipation that many, if not most, respondents would uniformly select the most socially appropriate response (i.e., *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 impacted response rate.

Finally, as expected, an unfortunate limitation of this study is the disproportionately low number BIPOC students who completed the survey. The small number of BIPOC respondents is not ideal and, indeed, a byproduct of the problem of racial disparity within our field (ASHA, 2020). To be clear, the CoBRAS was established using normative data collected from a large cohorts of predominately White university students (Neville et al., 2000). In that respect, the racial disparity of the present sample is not dissimilar from the normative sample. It is possible that greater or unexpected between-group differences, or lack thereof, would emerge upon collection of a greater number of BIPOC respondents and from more than one university sample. Future studies are certainly warranted to further investigate implicit biases from larger, more diverse samples.

Conclusion

This present study surveyed implicit bias in speech-language pathology students using a questionnaire measure of racial colorblindness. Results suggested that although 63% of students did not endorse colorblind beliefs, a notable one-third of SLP students either endorsed these statements or held a neutral opinion about these statements. BIPOC students displayed lower levels of implicit bias based on their scores of statements on the CoBRAS. Although data indicating low-to-moderate levels of implicit bias found in this study are promising, responses were not uniform, and further education can potentially increase SLP students' awareness of implicit bias and colorblindness.

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