Examining Implicit Biases of Pre-Service Educators Within a Professional Development Context

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Abstract

The opportunity gap, or conditions and barriers that impede the academic performance and school experience of minoritized students, may be exacerbated by educators' implicit biases. The aim of this qualitative study was to understand preservice educators' awareness of individual, structural, and systemic racism with regard to implicit bias. Our sample included 154 preservice educators, enrolled in an anti-bullying/harassment/discrimination training, which is required for any New York State (NYS) educator certification. Educators responded to questions about group generalizations, factors contributing to these biases, and how biases may affect their behavior toward students. Our content analysis revealed several themes, most notably that frequent biases existed toward Asian/Asian Americans, Black/African Americans, males, and people from socio-economically disadvantaged backgrounds. Although participant responses reflect an open-minded approach to discussing bias, many responses reflected no observable desire to change potentially biased interactions with students. Responses with racially held biases aligned with the tenets of critical race theory (CRT), particularly racism as permanent and racism as normalized. Implications for practice, with an emphasis on anti-bias training and professional development, are discussed.

Keywords Anti-bias training · Content analysis · Critical race theory · Educational policy · Implicit bias · Preservice educators

In the past decade, public school racially and ethnically minoritized student enrollments have increased while White student enrollments have decreased. From 2009 to 2018, Latino/a/x students increased from 22 to 27% and White students decreased from 54 to 47% (U.S. Department of Education [USDOE], 2021a). This demographic shift has continued; in Fall 2018, 47% of PreK to 12th grade students enrolled in public schools were White, 15.1% were Black, 27.2% were Latino/a/x, 5.7% were Asian or Pacific Islander, 1% American Indian/Alaska Native, and 4.1% were two or more races (USDOE, 2021a)

Importantly, in contrast to increased student diversity, 79% of public educators identify as White and 80% of school psychologists identify as White (Goforth et al., 2021;

USDOE, 2021b). Inequitable schools and classrooms are documented to persist for racial/ethnic minoritized students (Carter et al., 2017). Black and Latino/a/x students report poorer school safety, school connectedness, adult-student relationships, and fewer opportunities for meaningful participation than White students, and racial opportunity gaps in achievement are largest in schools with racial school climate gaps (La Salle et al., 2016; Schachner et al., 2016; Voight et al., 2015). The racial opportunity gap refers to unequal learning opportunities in education for minoritized students, such as fewer instructional and lower quality classroom resources, biased curricula, lowered teacher quality and expectations for students, and larger class sizes (Welner & Carter, 2013). Lack of culturally competent educational professionals can result in unwelcoming environments for students and their families (Puckett, 2020).

Culturally responsive teaching practices that use cultural knowledge, learned experiences, antiracist approaches, and critical views of whiteness can demonstrate critical care for students and their home lives, while countering injustices in the school environment, policy, and curriculum (Galloway et. al., 2019; Gay, 2000; Tevis et. al., 2022). Antiracist

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approaches require unlearning normative stereotypes and ideologies of others based on race, class, language, gender, ability, and sexuality, and developing a thorough understanding of how certain conditions became privileged (Galloway et. al., 2019). Whiteness has systemically been normalized, privileged, and cemented in American society and the educational system (Tevis et. al., 2022). Critical whiteness encourages the mostly white teaching profession to educate and understand the harmful systems of racism, whiteness and white supremacy, and how they create injustices for minoritized student populations (Tevis et. al., 2022).

Culturally responsive practices that prioritize antiracist approaches in education and critical whiteness are necessary for increasingly diverse student demographics within US public schools (Staats, 2016; Tevis et. al., 2022). There is a need for educators to develop culturally responsive awareness, knowledge, and skills, with one aspect including the opportunity to engage in reflection (Akiba, 2011) and explore and challenge beliefs about cultural diversity that are different from your own (Civitillo et al., 2018). Educators' awareness of their implicit biases and how these biases can impact their student interactions can be addressed through professional development (PD) (Meissel et al., 2016; Worrell, 2021).

Research Purpose and Framework

As research literature suggests that individuals who are unaware of their biases can act in ways that contradict their values (Staats, 2016), we argue that one of the biggest problems facing racially minoritized students are educators whose biases continue to reside outside their consciousness. Addressing implicit bias can be addressed through educator training and PD on school climate. In the context of New York State (NYS), where this study took place, the Dignity for All Students Act (DASA, 2010), for example, is intended to help educators provide a safe and supportive school environment. To attain certification, this act requires educators to participate in a 6-h training focused on eliminating discrimination, harassment, and bullying, as experienced by students, from public elementary and secondary school settings (New York State Education Department [NYSED], 2020b).

Despite the existence of this legislation, there is a paucity of research on DASA. While research does examine how educators used the training (McMillan, 2016) and the impact of the legislative components on school climate and bullying (Cosgrove & Nickerson, 2017; Riddell, 2018), it does not discuss the multicultural aspects and the examination of personal biases within the training, the focus of the current study. Furthermore, although researchers have called for the field of school psychology to advance equity in research and practice (Pham et al., 2021), critical race theory (CRT) rarely is utilized as a framework in school psychology research for examining issues related to bias and oppression (Sabnis & Proctor, 2022). Aligned with school psychology scholars (García-Vázquez et. al., 2020; Sabnis & Proctor, 2022; Sullivan et al., 2022) who call for challenging traditional research methodologies and practices, our study aims to apply CRT in a manner that will move practitioners toward more inclusive policies and practices. In doing so, the purpose of our research was to examine preservice educators' implicit biases, the formation of biases, and their impact in the context of a required professional development that aims to decrease bullying, harassment, and discrimination. School psychologists hold unique qualifications that enable them to provide both direct and indirect support to educators, schools, and districts, and promote system-level changes, learning, and growth (Apgar et. al., 2020).

Given the dearth of empirical research on personal biases within educational training and limited school psychology studies that use CRT and qualitative methodological approaches, this study is significant in its application of theory and method. In particular, the current study adds to our understanding of educator implicit biases and offers research-based recommendations about how to increase multicultural awareness, knowledge, and skills necessary for teaching diverse student populations and pushing educators to become agents of social change. The following sections outline the literature that framed our study and offer a brief overview of CRT and the specific tenets utilized to guide our content analysis.

Impact of Stereotypes and Implicit Biases Within Educational Contexts

Stereotypes play a role in the formation of implicit biases. Biases are often rooted in stereotypic and generalized views that, although providing a basis for how to interact with others, can oversimplify and prejudice understandings of individuals and/or groups. Stereotypes are used as the brain's natural way of categorizing and synthesizing new information (Staats, 2016), as thought processes can become overloaded without an efficient method for sorting stimuli (i.e., experiences, groups of people, objects). The brain can process up to 11 million pieces of information per second (Nørretranders, 1999; Staats, 2016), so this unconscious sorting and categorizing allows individuals to navigate the world more efficiently (Staats, 2016). Stereotypes are perpetuated through many sociocultural and political aspects like mass media (i.e., movies, advertisements, videogames, etc.) and culture (Auracher & Hirose, 2017; Kassin et al., 2011; Mou & Peng, n.d.). The movie industry has led to the persistence of gender, racial, and cultural stereotypes; for example, Latinx individuals are shown either as gang members or overtly sexualized (Kassin et al., 201). Stereotypes

are also perpetuated in US culture through cliché characters in literature and art. For example, video games often portray women as sexualized objects or being in need of rescue (Mou & Peng, n.d.).

Implicit bias (also referred to as unconscious bias) is a term that describes when an individual attributes particular characteristics, traits, or stereotypes to members of a particular group without their conscious knowledge (Banaji & Greenwald, 1995). These biases function without conscious awareness or intentional control (National Association of School Psychologists [NASP], 2017). Implicit biases can be positive or negative and may apply to race, ethnicity, gender, age, economic status, nationality, religious beliefs, physical attributes, political affiliations, and sexual orientation. Much of what is understood about implicit biases comes from knowledge and discussion from the Implicit Association Test (IAT), a tool developed to measure implicit bias awareness (Sukhera et. al., 2019). The IAT is an online measure that asks respondents to quickly sort target concepts into specific categories (Sukhera et. al., 2019). For example, the IAT may have a respondent classify someone as "good" or "bad" based on a series of generated names. The respondents' response time to the stimulus is calculated and then used as a prediction of the strength of the implicit associations between the categories (Sukhera et. al., 2019). The IAT, however, is harshly criticized as it does not take outside factors like victimization into account; thus, critics suggest it may not truly measure an individual's implicit biases (Sukhera et. al., 2019). There is need for further research on implicit biases, and how they can and should be measured (Sukhera et. al., 2019). Since individuals are not cognizant of their implicit biases, such biases often do not align with their stated beliefs and/or behaviors, although they can have a major impact on an individual's decision-making (Staats, 2016). Research has found that even when professionals have the education on their personal implicit biases and use conscious effort to overcome them, they can still perpetuate discriminatory practices against those with whom they work (Stone & Moskowitz, 2011). Since implicit biases are neither deliberate nor intentional, they can further the misalignment between values and behaviors (NASP, 2017).

Academic Expectations and Stereotype Threat

Before discussing professional development and the theoretical orientation of this study, it is crucial to first examine how stereotypes and biases can affect students within educational settings. Educators' implicits, rather than explicit biases, are found to relate to differences in students' achievement expectations (Denesson et al., 2022; van den Bergh et al., 2010). Additionally, educators' implicit biases can operate through confirmation bias, or the selective overvaluing of evidence that supports one's belief system, and

thus may shape teacher expectations of student achievement (Staats, 2016). For example, Parker et al. (2017) found that despite student successes, kindergarten teachers defaulted back to ingrained deficit beliefs about poor students of color, remaining unconvinced of the students' intellectual growth and ability. Importantly, gaps in achievement between students from different racial and ethnic groups are argued to be rooted within historical white supremacist views falsely claiming racial differences were immutable and due to innate genetic factors (Noguera, 2016). Such views are transferred to a range of educational structures and practices, including educational policy, which serve to reproduce white supremacy and educational inequality overall (Gillborn, 2005; Tevis et al., 2022). In a nationwide study, it was found that higher levels of teacher implicit bias and anti-Black/pro-White bias predicted larger disparities between racial groups in suspensions and student test scores (Chin et. al., 2022). White supremacy is not only embedded throughout the classroom (Haynes, 2017) but can also be seen in teacher preparation programs (Pough & Sun, 2021). For example, programs may limit or avoid discussions on race, racism, and white supremacy; this conflict avoidance contributes to the maintenance of discriminatory practices (Pough & Sun, 2021).

Also linked to implicit bias is stereotype threat or when an individual internalizes negative stereotypes about themselves based upon group associations. Coined by Steele and Aronson (1995) in their seminal study on Black students taking the Graduate Record Examination, research has found that stereotype threat, specifically as related to race and gender, can have a negative effect on student academic performance (Johnson-Ahorlu, 2013; Steele, 1992; Steele and Aronson, 1995). Black and Latinx youth experience more stereotype threat than their White peers in the context of math classes; furthermore, when students perceive their teachers as having a fixed mindset (e.g., valuing inherent mathematical ability), they experienced greater stereotype threat (Seo & Lee, 2021). These implicit biases and practices that permeate education prohibit growth and lead to persistent disparities, as described next.

Discipline Disproportionality and Opportunity Gap

Discipline disproportionality, or when certain groups of students receive harsher penalties or exclusionary punishment (i.e., expulsions and suspension) when compared to their White peers (Kinsler, 2011), heavily affects Black, Latino/a/x, and American Indian students (Gregory et al., 2010; USDOE, 2018). An educator's experiences and automatic unconscious associations can shape their interpretation of student infraction behaviors and may contribute to disciplinary disparities toward specific racial groups (Staats, 2016). In a study using eye tracking of early childhood

educators, Gilliam et al. (2016) found that when challenging behaviors were expected, educators tended to focus their gaze the most on Black students, particularly Black male students. This discipline gap emerges as early as prekindergarten and widens with grade level progression (Gopalan & Nelson, 2019). Disproportionality can increase due to vulnerable decision points (VDPs), or specific events or elements that exacerbate the likelihood of implicit biases affecting discipline decision-making (Newell, 2020; Smolkowski et. al., 2016). VDPs increase the likelihood of implicit bias affecting teachers' judgment and practices (Smolkowski et al., 2016). VDPs are not related to students' behavior but rather to the internal state of the teacher or decision-maker (Smolkowski et al., 2016). VDPs can include subjective student behavior (i.e., determining if the behavior was a violation), classification of incident severity, nature of student–teacher interactions, time of day, decision-maker fatigue, and/or race and gender differences (Smolkowski et. al., 2016).

The discipline gap and exclusionary discipline practices contribute to the school-to-prison pipeline or the disproportionate tendency for youth from minoritized backgrounds to come into contact with the incarceration system (Morris, 2016; Skiba et al., 2014). Research suggests that exclusionary discipline contributes to academic disengagement, lower academic achievement, and increased system pushout (Gopalan & Nelson, 2019; Kinsler, 2011; Morris, 2016; Sabnis & Proctor, 2022; Skiba et al., 2014). Federal data revealed that Black students represent on average 15% of public-school enrollment; however, Black students account for 31% of law enforcement referrals or were subjected to a school-related arrest (U.S. Department of Education Office for Civil Rights, 2018). Increasingly, Black adolescent girls also constitute one of the largest proportions of discipline sanctions (Gregory et al., 2010; Morris, 2016).

A final educational barrier facing minoritized students is the opportunity, or learning, gap. The opportunity gap occurs when a certain group of students are afforded more resources and opportunities to learn, translating to certain groups of students obtaining more positive academic outcomes. Research finds that students who do not perform well in elementary school are more likely to fall behind, and 25% of students, who do not read proficiently by the end of third grade, will not graduate on time (Fiester, 2013). Currently, this gap is most prominent among Black/African American and Latino/a/x students, and can manifest as lower grades and test scores, increased high school pushout, and decreased college attendance (Morris, 2016; Vanneman et al., 2009).

Eliminating Implicit Bias Through Training and Professional Development

Evidence suggests that educators significantly influence student learning outcomes (Worrell, 2021). The teacher-student relationship relates to better school attendance, engagement, higher achievement, and decreased disruptive behavior and dropout rates (Quin, 2017). As reviewed above, teachers' implicit biases can lead to different and harmful students' achievement expectations and their potential for growth (Parker et al., 2017; Staats, 2016; van den Bergh et al., 2010). In contrast, in classrooms where teachers show sensitivity (i.e., responsiveness to students' academic and social-emotional needs) and use analysis and inquiry instructional techniques (e.g., facilitate metacognition, problem-solving, higher-level thinking), Black students are less likely to be issued disciplinary referrals (Gregory et al., 2016). Therefore, educators should be provided with PD opportunities that focus on structural racism, how to facilitate social change, and bias awareness, particularly because racially based implicit biases can manifest as microaggressions against historically minoritized individuals and groups (Cherner et al., 2020), and can contribute to further disparities and inequities in educational, healthcare, and other contexts in society (Staats, 2016; Sukhera et al., 2019).

To reduce persistent racial gaps, educators need to undertake cultural conscious reform that includes addressing long-standing issues of race and power and increasing awareness of how implicit bias may impact differential treatment of students (Gregory et al., 2017). Cultural consciousness examines the covert and overt elements of an individual's culture looking beyond race and ethnicity (Kuster, 2004). A meta-analysis indicated that diversity training can result in positive change (Hedges' g of 0.38), with largest effects on cognitive learning and reactions to the training, and smaller effects on behavioral, attitudinal, and affective learning (Bezrukova et al., 2016). In a review of multicultural teacher training preparation, Castillo et al. (2018) found that providing opportunities for reflection and discussion about cultural diversity and having an experiential component (e.g., field experience, service learning) were particularly beneficial. Similarly, a recent study found evidence that teacher education programs that are grounded in social justice principles can result in a decrease of implicit bias (Stephens et al., 2022). There are some concerns that trainings that only promote awareness about biases can elicit negative attitudes (Burns et. al., 2017) and result in short-term vocabulary knowledge rather than long-term behavior changes (Forscher et. al., 2019). Multifaceted intervention approaches (e.g., replacing stereotypical responses with a non-biased response, detailing counter-stereotypes, obtaining specific information about members of a minoritized group to challenge group-based attributes, perspective

taking, and increasing opportunities for contact) have been shown to reduce implicit race bias (Devine et. al., 2012).

Theoretical Framework: Critical Race Theory

Critical race theory is rooted in critical legal studies and is utilized across the social sciences, including within the field of education (Delgado & Stefancic, 1993, 2001). CRT is a framing device used in research concerned with questions of oppression, inequality, and other social dilemmas (Daftary, 2020). CRT emphasizes the effects of race on one's social standing and in education, it is an approach to understanding how structural racism maintains inequality and in ways that lead to transformative change within policy, programming, and practice (Ladson-Billings, 1998). CRT is an appropriate framework for this study as it also can reveal how routine forms of discrimination emerge in the experiences of People of Color and how racism is normalized within the thinking of White educators. In our study, we use the term People of Color as a collective, inclusive, and unifying term across different racial groups that are not White (Race Forward, 2015). Using a CRT lens to identify and examine the sociocultural context of implicit biases allows for an analysis of the normalcy and saturation of implicit biases in current educational culture.

Though there are five core CRT tenets, this study only used three to examine the sociocultural context of individual biases. We utilized racism as permanent, racism as normal, and colorblindness given these tenets most closely aligned with CRT's notion that racism is a normal, permanent fixture of American life that appears natural to people in its culture due to its enmeshment in our social order (Ladson-Billings, 1998). In brief, racism as permanent identifies racism as endemic and asserts that racism permeates legal, political, and social structures in the USA (Daftary, 2020; Ladson-Billings, 1998). For example, this permanency can be found woven in with structural and systemic oppressive systems like the criminal justice system which disproportionally and repeatedly practice discriminatory policies against young Black men in the USA (Braveman et. al., 2022). This often begins in education, where the school-to-prison pipeline systematically affects boys of color (i.e., Black and Latinx) more than other students through the use of harsh discipline practices like suspension and expulsion often for behavioral problems more suited for counseling and support (Braveman et. al., 2022; Sabnis & Proctor, 2021). Therefore, CRT research in education centralizes around race and racism (Howard & Navarro, 2016). The next tenet, racism as normal, asserts that, in the USA, racism is a structured part of everyday life, not simply a function of a few individuals (Cabrera, 2018). For example, this can be seen in daily injustices like microaggressions to residential segregation that in turn limits economic and academic opportunities (Braveman et. al., 2022). The final tenet is colorblindness; it implies that treating racial issues as value neutral along with a failure to acknowledge and account for the complexities of race and ethnicity not only minimizes the salience of racialized backgrounds but can also erase cultural and racial identity altogether (Daftary, 2020; Delgado & Stefancic, 2001; Williams, 2011). Colorblindness can also reduce an individual's sensitivity to and opportunity to address racism (Plaut et. al., 2018). For example, research involving early-career educators found that those individuals with greater colorblind positions were not as willing to adapt teaching styles to the needs of their minoritized students (Hachfeld et. al., 2015). The damage racism that has inflicted and continues to inflict should be used for education on the complexities of race, ethnicity, and culture (Braveman et. al., 2022).

Methodology

Described in further detail in the following sections, we utilized qualitative content analysis to examine participant's open-ended written responses to the NYS DASA training. Specifically, we relied upon conventional, directed, and summative analysis techniques (Hsieh & Shannon, 2005). In doing so, we aimed to answer the following research question: Do preservice educators have an awareness of individual, structural, and systemic racism with regard to their implicit biases and its effect on their interactions with students?

As discussed by Hsieh and Shannon (2005), we utilized *conventional* content analysis with the aim of describing the specific phenomenon of implicit bias within preservice educator thinking. Thus, we began with inductive coding, which included multiple reads and deep immersion within the content to develop initial codes from the text itself. As we drew from CRT to provide structure to study framing and analysis, we also used *directed* content analysis. This meant developing a deductive coding scheme centered around CRT tenets allowing us to validate these tenets and guide our discussion of findings. Finally, we used aspects of *summative* analysis. Here, we identified and quantified certain words within the written responses with the aim of exploring usage and deriving meaning from word contextual use.

Although not engaging with research participants directly and given that the reliance on theory comes with inherent limitations and bias (Hsieh & Shannon, 2005), we aimed to be conscious of how our own identities and power dynamics exist within research processes, and thus were intentional with decisions concerning analytic thought, reflection, and research actions. Given the concerns raised regarding how white researchers engage in cross-group research (Young, 2003), we recognized the potential for team member bias in

study construction and implementation. Thus, throughout the study, and for specific aspects concerning theoretical design, and codebook creation and application, team members were in frequent contact with each other to discuss and check their own biases. Team members worked to challenge their individual and collective understandings of implicit biases, racism, and structural inequality, and how these topics are reflected in their research praxis. Cognizant that these topics can evoke historical trauma for Black and Brown scholars, the manuscript was purposefully constructed by scholars from various academic and identity backgrounds to increase the analytic and reflexive rigor of the research process.

The first six authors provide the following brief statements on their respective positionalities. Amanda C. Breese is a school psychology doctoral candidate who approached this research as a self-identified cisgender Black woman aware of her own unique personal experiences with implicit biases and racism. Amanda B. Nickerson is a professor of school psychology who self-identifies as a cisgender White woman who recognizes her privilege and engages in ongoing training and reflection to recognize bias and conduct anti-racist research. Melinda Lemke is a white, cisgender, queer woman who has a background in K-12 public education and gender violence prevention; cognizant of the complicity of white women in the neoliberal, colonialist project, this feminist scholar approaches race work as necessitating personal and political intentionality around how humans endeavor to unlearn and reimagine systems that restrict liberatory existence. Rebecca Mohr is a school psychology masters student who approached this study as a self-identified cisgender, white, Jewish woman. She recognizes her own lived experiences have shaped her lens on the research topics, and acknowledges the limitations of her personal understanding of racism, colorism, and overall cultural competence on her interpretation of results. Kamontá Heidelburg identifies as a Black or African American man committed to social justice, equity, and the liberation of Black people. Finally, Stephanie Fredrick identifies as a cisgender white woman. She is also an assistant professor of school psychology with a scientist-practitioner mindset, viewing social advocacy and social justice work as crucial to the role of a school psychologist, especially as it pertains to systems-level change within schools and education.

Participants

Participants included 154 preservice educators from across the USA enrolled in the 6-h training described below (NYSED, 2020a). Respondents participated in the training from July 2021 through October 2021. Since specific demographic breakdown for the sample was not collected, the following participant information is averaged across the four months of data collected. On average, most participants identified as women (71%). Participants generally identified as White (65%), Black/African American (5%), Asian (4%), or Native American (2%); about 24% of participants preferred to not disclose their racial identity. Most participants also identified as not Hispanic or Latino (77%).

Research Context: Professional Development Training and Measure

DASA (2010) has several requirements, including that schools do the following: develop policies prohibiting harassment, bullying, cyberbullying, and discrimination; maintain reporting requirements about incidents of harassment, bullying, or discrimination; employ an appointed school-level Dignity Act Coordinator; and hold training for students and educators to raise awareness of and sensitivity to discrimination and harassment based on protected classes, and to enable employees to prevent and respond to incidents (Dignity Act Taskforce, 2011; NYSED, 2020b). The program is required to be given by an NYSED approved provider with demonstrated specialized subject area knowledge or training (i.e., at least 5 years of experience), and follow a syllabus that covers topics such as understanding diverse contexts and examining bias (NYSED, 2013; NYSED 2020a; New York Comp n.d). Due to COVID-19, NYSED allowed the entire course to be offered online (NYSED 2020a) for the period of this study.

As discussed in the introduction, NYS additionally requires that individuals applying for any school certification complete a 6-h DASA (2010) training. This training includes an overview of the law, understanding how school climate impacts achievement and behavior, indicators and early warning signs of bullying, harassment, and discrimination, and school employee reporting requirements. The training also includes learning about diversity, multicultural environments, examining personal biases, developing sensitivity to experiences of specific student populations, and prevention and intervention strategies such as how to interact with families (NYSED, 2013).

Upon completion of the program, and the focus of this study, participants were asked to type responses to three open-ended reflective questions, which were submitted through an online portal. These questions included "1. What are the generalizations you harbor about groups that are different from you?, 2. What factors and experiences have contributed to the implicit biases that you have?, and 3. How might these implicit biases affect your behavior toward any groups of students?" (DASA, 2010).

Procedure and Data Analysis

A multiphase process was used to create a codebook (see Supplemental Materials). The first author used a sample of data to do inductive coding of the data using conventional

content analysis (Hsieh & Shannon, 2005). Inductive coding is the process of coding "ground up" where the initial content codes were derived using emergent coding (Elo & Kyngäs, 2007). Labels for codes were developed based on the most prominent themes that emerged from the first phase of analysis. These labels included codes such as race, gender, and socioeconomic status. During the second phase of analysis, the labels were organized and combined into six distinct categories or *macro codes*. These categories included physical properties, personal identifiers, CRT, awareness, bias content, and tone. Each macro code is comprised of a number of *micro codes.* For example, the macro code of "personal identifier" was comprised of micro codes that described the target of a participant's bias through gender, race, age, religions, sexual orientation, socioeconomics, etc. As related to the macro code of "bias content," a micro code, for example, included "fear of victimization/revictimization or discrimination," wherein the writer stated or implied fear or concern of potential victimization, revictimization, or discrimination. The micro code of "racism as permanent," under the macro code of "Critical Race Theory," included when the writer's biases demonstrated or suggested racism permeated legal, political, and social structures.

The third coding phase involved creating s*ub codes* for the micro codes that had a potential of various responses. For example, the micro code of "gender" consists of the four sub codes including female, male, transgender, and questioning. In the final phase of coding, deductive coding was used. Deductive coding is the process of developing codes "top down" wherein codes are derived using a priori methods (Elo & Kyngäs, 2007). CRT was the driving theory behind this phase of coding as an approach to better understand the contributing sociocultural factors of inequality and structural racism in educators' responses. The micro codes for CRT are the same as the three central tenets which include racism as permanent, racism as normal, and colorblindness.

The coding process involved two members of the research team; these team members were school psychology graduate students. Prior to the start of the coding process, each team member was trained on the existing codes, how to use a codebook, how to apply codes, and how to note if additional codes were needed. Team members were then given a sample of previously collected responses to code independently before meeting to review the applied codes. The DASA responses were randomly and evenly divided among team members with each member coding 77 responses. The team members coded the responses separately and independently, but met frequently to discuss any additional emergent codes.

Since there is no singular correct approach to determining reliability in qualitative research (McDonald et al., 2019), a random 10% of responses was selected to determine intercoder reliability (ICR). Each response was entered into Excel and randomized using the RAND feature. The first 15 randomized responses were sent to both team members to code independently and determine ICR, which demonstrates consistency in the applied codes. For example, if biases were race related, then they were coded using CRT, while biases unrelated to race were coded using one or more of the "Bias Content" macro codes. The program ReCal2 helped determine percent agreement and Krippendorff's alpha. ICR was determined to be of moderate agreement; 74.51% agreement, Krippendorff's $\alpha = 0.49$.

Results

The macro code "Personal Identifiers" was used most often during the coding process, suggesting an overwhelming presence of implicit biases in almost all educator responses. Participants were able to clearly identify the aspects of biases they held towards others including race (i.e., "Asian/Asian American" and "Black/African American"), gender (i.e., "Male,"), and socioeconomics (i.e., "Low Income"). In addition, seven micro codes related to implicit biases were found within a majority of preservice educators' responses. These codes were prevalent in a majority of responses to varying degrees and included bias content (i.e., "Fear of Revictimization, Victimization or Discrimination," "Lack of Exposure/Opportunity," and "Lived Experience"); awareness (i.e., "Not Aware"); and CRT (i.e., "Racism as Normal" and "Racism as Permanent"). Table 1 shows the frequency of the coded responses. The following sections present core themes, including evidence culled from educator responses.

Generalizations About Different Groups

All participants provided responses relevant to their generalizations about groups different from themselves. Five micro codes prominent in the responses were (listed alphabetically) "Asian/Asian American," "Area of Residence," "Black/African American," "Low Income," and "Male." The racial personal identifier micro codes of "Asian/Asian American" and "Black/African American" were the two most mentioned races in relation to other demographics and appeared in numerous responses. Two responses, for example, included "I assume that Black students will be lower achieving and less likely to learn because of their race" and "Immediate…frustration and disgust at Asian people in stores…." It should be noted that many of the biases about Asian-American students referred to their intelligence or mathematical abilities. Additionally, the personal identifier of "Male" was included in many responses overall and was mentioned most frequently in the context of fear and violence. For example, a respondent wrote, "I feel that men have a violent side to them…I would be cautious in disciplining a larger male student for fear it could lead to aggression."

Table 1 Frequency of micro and sub codes

Macro code	Micro code	Sub code	*f*	Percent frequency
Physical properties				
	Appearance		12	2.15
	Disability status		4	0.72
	Body modifications		1	0.18
	Number of people		8	1.43
Personal identifiers				
	Job or career		3	0.54
	Race	Asian/Asian American	19	3.41
		Black/African American	23	4.12
		Indian/Indian American	3	0.54
		Arabic	1	0.18
		Caucasian	12	2.15
		Latino/a/x	1	0.18
		Hispanic	5	0.90
		Other	12	2.15
	Gender	Male	40	7.17
		Female	7	1.25
		Transgender	0	0
		Questioning	1	0.18
	Age	Child	5	0.90
		Teen/adolescent	2	0.36
		YA/college student	2	0.36
		Middle age/old	2	0.36
	Religion	Muslim	3	0.54
		Jewish	1	0.18
		Other	1	0.18
	Sexual orientation	Straight	0	0
		Lesbian	1	0.18
		Gay	1	0.18
	SES	Unhoused	6	1.08
		Low income	42	7.53
		High income	3	0.54
	Immigration status		4	0.72
	Area of residence		14	2.51
	Primary language other than English		10	1.79
	Republican political affiliation		7	1.25
Bias content	Fear of re/victimization/discrimination		20	3.58
	False perceptions		8	1.43
	Lack of exposure/opportunity		17	3.05
	Lived experience		47	8.42
CRT	Colorblindness		10	1.79
	Counternarratives		1	0.18
	Racism as permanent		18	3.23
	Intersectionality		1	0.18
	Racism as normal		34	6.09

Table 1 (continued)

Macro code	Micro code	Sub code	f	Percent frequency
Awareness	Aware and active		33	5.91
	Aware and inactive		77	13.80
	Not aware		20	3.58
Tone	Respectful		9	1.61
	Hostile, aggressive		5	0.90

The micro codes of "Area of Residence" and "Low Income" frequently overlapped with a majority of responses written as "low-income area." The socioeconomic status of low income was mentioned in several responses. For example, a common theme included "those who come from a lower SES are dishonest or lazy" or a general disgust of those from a different economic background. In addition, some participants noted the intersection of "Area of Residence" and race in their bias. For example, one respondent wrote, "When driving through a neighborhood that has a heavy presence of African American individuals, I tend to assume that it is probably not safe and that there is a lot of crime."

Factors Contributing to Implicit Biases

A "Lived Experience" was the most prominent theme present in numerous responses. Respondents indicated that the contributing factor to their bias was from a prior lived experience, often from childhood and in school, home, or neighborhood contexts. For example, a respondent stated the following while explaining the factors leading to their bias toward African Americans: "…African American adolescents tend to be more physically aggressive or violent… the only two fights I witnessed in high school involved African Americans…" The micro codes "Fear of Revictimization, Victimization or Discrimination" and "Lack of Exposure or Opportunity" were the next most prominent codes seen in responses. For example, the following respondent cited a fear of victimization indicative of bias toward Muslims: "…when I see a Muslim I make sure that I have my phone within reach in case I need to call for help." Another respondent cited a lack of opportunity demonstrative of their bias toward people of various ethnic backgrounds: "I grew up in a primarily white suburban area and attended… [a] school that lacked student and educator diversity limiting [my] life experiences with individuals from diverse backgrounds."

CRT codes were applied to responses when participants described or identified sociocultural factors or experiences that heavily contributed to their implicit biases. Of the CRT micro codes, "Racism as Permanent" and "Racism as Normal" were the most prominent among responses. A respondent noted, "The factors and experiences that have contributed to this implicit bias include media exposure, personal experience, and family influence. My parents always looked down on Hispanic males… and referred to them as gangsters…" Additionally, the media influence was pervasive in responses about the permanence of racism. Written responses discussed how the news only depicts Black people and neighborhoods when reporting crime and dangerous environments. Reponses also stated that many TV shows portray individuals from different racial and ethnic backgrounds in narrow and stereotypical ways (e.g., Asian people as smart, inferiority of people who are Black and/or Latino/a/x). Of the responses coded "Racism as Normal," all respondents cited immediate family (e.g., father, mother, grandparent) as the contributing factor toward their bias. Respondents also indicated not becoming aware of these harmful and stereotyping comments and jokes until they were older. For example, one written response included "My nuclear family as well as extended family perpetuate harmful stereotypes both covertly and overtly- something I did not realize until I was leaving high school and entering college."

The CRT micro code "Colorblindness" was not as salient in participant responses as the other two CRT tenets, only appearing in ten responses. This micro code was applied to responses that suggested either the participant believed they treated everyone equally, or that the participant was taught to not recognize or talk about diversity. For example, one participant stated, "I grew up in a small, predominately white town where the norm was, 'we don't see color' and race wasn't a conversation that was commonly discussed." Other colorblind responses included variations of statements like, "I don't have any [generalizations] about groups of people, I feel like I treat everyone in a similar way no matter race, gender, religion etc."

Impact of Biases on Behavior

The final DASA question asked respondents to indicate how their stated biases affected their behavior toward different groups of students. Responses suggested that although

individuals were aware of their biases, they were inactive in changing their behaviors toward students. A respondent was considered inactive when what they wrote did not imply or state a difference in their awareness, actions, or behaviors; for example, "I dismiss the concerns or questions raised by my students of color." Others seemed to be vehement that they did not have biases because they realize that everyone is equal. On this point, one respondent wrote:

> These questions do not apply to me as I was taught from a young age to not judge someone on the color of their skin, how they look, or where they are from but rather on their character as a human being. We are all human and I do not harbor any generalizations or stereotypes about a certain group of people.

The micro code "Not Aware" was used in a limited number of responses which indicated no participant awareness of bias. A significant amount of participant responses suggested that the respondent was aware of their bias and actively aimed to change their behavior; these responses were coded as "Aware and Active." For example, one written comment included "I have, at this point in my life, realized my biases and I have learned and worked really hard to change them."

Discussion

Findings from this study contribute to the limited empirical research on personal biases within educational training. In particular, our study combined a qualitative content analysis approach with CRT to add to our understanding of educator implicit biases, as well as to address an important need in school psychology research, which has traditionally relied on positivist paradigms of research (Sabnis & Proctor, 2022). Of the preservice educators who indicated biases toward a group different from them, the majority of biases held concerned Asian/Asian Americans, Black/African Americans, males, and those from a lower SES background. Of the preservice educators with stated implicit biases, the majority of them indicated no awareness of their bias or no actions of changing their behaviors. Although some responses implied an open mind concerning discussing ones' bias, suggesting a willingness to progress beyond a required training, multiple racially held biases also existed. These include CRT tenets of racism as permanent and normal, racism permeates social structures, and racism is integrated into everyday life. The CRT tenet of colorblindness was frequently found in responses that implied a lack of discussion or knowledge about race and other aspects of diversity. Many participants stated that they did not begin to evaluate and challenge their thoughts and beliefs about others until they were directly exposed to diversity. Finally, non-racial biases were most

frequently reported with past lived experiences or a lack of interaction opportunities with other groups. Our findings increase our awareness of preservice educator bias in ways that allow us to offer recommendations around the need for culturally and linguistically responsive training and PD. In addition, the study provides research evidence concerning the analytic and reflective skills preservice teachers need to foster an inclusive and equitable classroom environment.

Content of Implicit Biases

Respondents demonstrated bias toward Black/African American individuals, and when doing so, it was in relation to lower academic achievement, laziness, and violence or crime. Given the persistent opportunity gaps for students of color in our education system (La Salle et al., 2016; Voight et al., 2015), it is concerning that educators entering the field hold these biases which may further perpetuate this inequality (Staats, 2016). Furthermore, when we identified bias against the description of someone presenting as "Male," it often overlapped with race. This overlap intersectionality, or the interconnectedness of two or more social categories (Daftary, 2020), is a critical tenet of CRT. In this example, the categories of gender and race work together in creating further oppression/bias towards male People of Color. Educators who hold such bias may unintentionally or intentionally contribute to disproportionate opportunities and learning outcomes for Black and other historically underserved students. Moreover, educators with such biases mis/uninformed interpretations of behavior exhibited by Black students may result in discipline disproportionality. Fear of violence can compound such interpretations, exacerbate disproportionality, and contribute to the school-to-prison pipeline (Gregory et al., 2010).

Second, respondents demonstrated biases toward Asian/Asian American students. Often, these biases were stereotypes around Asians being smart and having superior intelligence, especially in mathematics. Although these biases did not directly reflect anti-Asian hate, these biases are deeply rooted in the model minority myth or the overgeneralization that Asian Americans universally achieve success in education and occupational realms (Yi et al., 2020). This stereotype continues to mold conversations about Asians/Asian Americans in relation to race, immigration, and white supremacy (Truong et al., 2021). Respondents also stated that they may dismiss the academic questions or concerns of their Asian students simply because they assumed that they would not have any educational difficulties, or otherwise fit what has been described as the model minority. Similar to previous research that discusses how educators need to move beyond stereotypical understandings of Asian/Asian American as model minorities, and/or "delinquents" (Lee, 2001), we identify this implicit bias as not only hindering the

aspects of academic, social, and emotional learning, but contributing to harmful generalizations about the Asian/Asian American student community (Li et al., 2020).

Third, we identified bias in responses toward individuals from low socioeconomic background. Similar to race, our research supports landmark research that found educators have preconceived notions about financially insecure and working-class student populations, that when enacted not only has problematic implications for classroom learning, but how students are tracked and thus socialized for workplace positions beyond school (Anyon, 1980). Educators with these biases also may unintentionally enforce a deficit-oriented perspective or the belief that disadvantaged groups' problems are internal and inherently biological (Vorkapić & LoCasale-Crouch, 2020), which has dire implications for students both within and outside of the school setting.

CRT Tenets in Relation to Implicit Biases and Anti-Bias Professional Development

The most prevalent tenets of CRT identified in responses included racism as permanent and racism as normal. This suggests that the media and familial influence are significant contributors to racist and biased messages people receive in their lives — and to this end, to address structural inequality these aspects need to be taken into account. Since people's life experiences cannot be negated or undone, our findings suggest that preservice and experienced educators would benefit from PD, continuing education, and trainings on biases, diversity, and multiculturalism taught through a CRT lens. Our findings also suggest that the specific DASA PD training may not be effective at increasing pre-service and experiences educators' awareness of their implicit biases and how their biases can harm minoritized student populations since the majority of responses indicated either no awareness or awareness without change at the conclusion of the training. An increase in self-awareness and an acknowledgment of one's positionality and past are key introductory steps. Educators, including school psychologists, need to be attuned to their implicit biases and how they are displayed in their practices and policies in schools (Ruhl, 2020). Examining one's self-awareness pertaining to racism and bias and the culturally biased assumptions held within themselves and the educational system are essential components for building one's cultural competence to better support students (Miranda, 2014).

A critical approach to education allows for a thorough examination of school policies, practices, and educator positionality in ways that might begin to address factors that reproduce inequality including the continued segregation of schools, school funding inequities, and colorblind approaches, academic, and social-emotional curricula (NASP, 2021; Ladson-Billings, 1998). These ongoing

opportunities would work to dismantle, both in policy and practice, learned, taught, observed, or perceived biases that maintain educational barriers facing historically minoritized and underserved students. Findings from this study indicate that although pre-service educators held implicit biases, many discounted the impact that these biases may have on their behavior toward students. Therefore, PD should include ongoing opportunities to challenge stereotypes and biases using interventions such as replacing stereotypical responses and obtaining specific information about members of a minoritized group to challenge group-based attributes to reduce implicit race bias (Devine et. al., 2012).

In addition to increasing self and cultural awareness, anti-bias training and PDs help educators learn specific interventions and practices to serve students better. For instance, recognizing VDPs is one strategy school psychologists and other educators can utilize to help teachers move from a colorblind mindset to a developing cultural competency. For example, situations when teachers have to decide if a subjective student behavior warrants an exclusionary discipline (i.e., suspension or expulsion) can be strongly impacted by VDPs. School psychologists can disaggregate discipline data and use this information to consult with high referring teachers about their decision-making practices (Blake et al., 2016), which may include helping them recognize VDPs. In addition, it is important for school psychologists and educators to fully understand when and why they are most likely to make evaluation and assessment decisions due to their biases, and use specific strategies to reduce that bias to make accurate decisions (Newell, 2020).

Implications for Practice

Findings from our study suggest that implicit biases are developed and reinforced within a broader context (e.g., familial influences, media, and larger society) of which educators have some awareness, although there is ample opportunity and readiness to become more culturally competent. Being a culturally competent educator is crucial for engaging in actionable equitable practices that effectively foster the positive development and academic success of students in schools (Miranda, 2014; Puckett, 2020). Although being culturally competent is essential for equitable schools, building cultural competence is a developmental process for the individual and the system (Miranda, 2014). Developing cultural competence begins with cultural awareness, and cultural awareness arises with self-awareness (Puckett, 2020).

Our findings suggest that just increasing an individual's self-awareness to their implicit biases is merely an introductory step to developing culturally responsive practices and beliefs. Therefore, anti-bias trainings and PDs that center cultural awareness and teaching, implicit bias, problem-solving approaches to discipline, and inclusion of students, families,

and communities' voices in schools (Johnson et al., 2018) are vital for educators' cultural competency development. Such training allows teachers and other educators to self-reflect on their policies and practices to foster awareness of harmful biases and practices, knowledge of others' cultures, and actions required to support equitable outcomes in schools (Miranda, 2014). For example, understanding the persistent racial trauma Black students and families experience from regularly occurring and major incidents of discrimination, as well as microaggressions (Williams et al., 2018), and how inequitable practices and policies continue to impede Black students can be explored during anti-bias trainings and PD. To support the most marginalized population of students in schools, educators and school psychologists have to examine the culturally biased assumptions held within themselves and the education system by participating in PDs and trainings designed to address issues of racism and bias.

Beyond PD, educators, including school psychologists, can improve their multicultural competence through intergroup contact or meaningful engagement with persons whose identities are different from their own (Staats, 2016). Central to multicultural preparation and reducing implicit racial bias is increasing opportunities for contact (Devine et al., 2012) and having experiential components such as field experiences (Castillo et al., 2018). Additionally, educators and school psychologists can turn the knowledge gained from anti-bias trainings and PDs into action that leads to positive behavior changes, effectively addressing the systemic barriers hindering students. School psychologists tend to take on leadership roles that can be beneficial to system-level education and development (Apgar et. al., 2020). School psychologists' strong research backgrounds allow them to understand research, evaluate programs, implement change, and continue to advocate for ethical and culturally responsive practices (Apgar et. al., 2020). Lastly, educators and school psychologists should take accountability for their role in upholding oppressive barriers (i.e., opportunity gap, the school-to-prison pipeline, discipline disproportionality) found in the educational system and learn strategies to minimize bias to promote equitable outcomes for students in schools.

Limitations and Future Research Directions

There are some limitations of the current study. Since responses were anonymous, we lack corresponding respondent demographic data. In addition, the study was limited by textual content tied to required state training, and as opposed to in-depth qualitative interviews and field work. We also acknowledge that respondent written reflections might be outside their conscious awareness of bias. As previously mentioned, much of the research on implicit bias has used methodology such as the IAT to measure the strength of associations between concepts (e.g., Black people, Asian people) and

evaluations or stereotypes (e.g., good, bad, violent; Greenwald et al., 1998). Although the IAT is highly controversial due to a reliability score of 0.5, it is a highly popular assessment for measuring biases as most individuals display an unwillingness to report their true personal feels and thoughts (Nguyen, 2019). Another limitation is that we did not assess the effectiveness or impact of the various aspects of the PD on changes in implicit bias of the pre-service educators.

Further research should use CRT as a framework for researching biases of pre-service educators and the impact that anti-bias PD may have. Research related to professional multicultural competency building suggests further investigation is needed on the integration of cultural humility into the development of multicultural skills (Jones & Lee, 2021). Cultural humility is a lifelong process of personal reflection and inquiry involving self-awareness of personal and cultural biases and awareness of cultural issues significant to others (Yeager & Bauer-Wu, 2013). Expanding this research will provide further support for the use of CRT as a multifaceted approach to PD, training, and education to inhibit educational barriers affecting marginalized student groups.

Declarations

Ethical Approval This research study was conducted retrospectively from data obtained during a mandated Dignity for All Students Act (DASA) training. The IRB of The University at Buffalo determined that our study did not need ethical approval.

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