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Implicit Gender Bias in the Classroom: Memories from K-12 Education

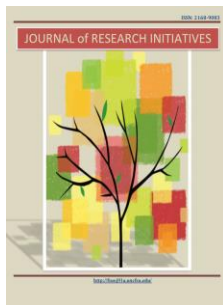
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Keywords

Implicit bias, teacher education, diversity, hidden curriculum



Implicit Gender Bias in the Classroom: Memories from K-12 Education

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Abstract

Implicit biases affect everyone in society, including within the K-12 education system. This study investigated what memories of implicit gender bias preservice teachers (PSTs) recalled from their K-12 education. These memories may be connected to the PSTs' embedded implicit biases and indicate the long-term impact of teachers' biases on students. A total of 141 undergraduate PSTs from two universities were surveyed regarding gender expectations and recognition of LGBTQ+ people. Results indicated an inconsistency between espoused beliefs and practices within the classrooms. Because schools often reflect society's norms and perpetuate them through implicit bias, understanding what biases are currently accepted and reinforced in schools allows teacher education programs to unpack these specific biases with their preservice teachers to promote greater equality and ultimately reduce sexism in our society.

Keywords: Implicit bias, teacher education, diversity, hidden curriculum

Introduction

Implicit or unconscious biases are the assumptions and expectations one holds without necessarily being cognizant of them. They stem from automatically associating certain identities with specific characteristics, even when not accurate (McGinnis, 2017). For example, implicit biases may be held about race, religion, sexual orientation, ability, age, or other categories that separate people into "us" and "them" categories. Despite being unaware of these biases, people act on these beliefs "and thus can, and often do, engage in discriminatory behaviors without conscious intent" (Pritlove et al., 2019, p. 502). Interestingly, people often have implicit biases about the groups they belong to, even if they consciously know they are incorrect (Spencer et al., 1999).

Gullo, Capatosto, and Staats (2018) write, "implicit bias ... may or may not reflect our actual attitudes" (p.3). Recognizing that our conscious thoughts may differ from our unconscious biases is exceptionally important: most teachers do not consciously act based on sexism, racism, heteronormativity, classism, or other "—isms," but the impacts of the *implicit* biases occur, often without realization. Some implicit biases might have minimal impact (e.g., favoring names that are easier to pronounce). In contrast, others can have profound impacts (e.g., choosing which students to be tested for gifted programs).

Teachers' implicit biases often appear in their classrooms' hidden curriculum. While the hidden curriculum is defined in a variety of ways, the main aspects include that it is unwritten, not explicitly defined, and consists of the policies, physical, cultural, and psychological conditions of the environment as well as the attitudes of the personnel, such as teachers and administrators within a building (Blosser, 2019; Çubukçu, 2012). Although outside the written curriculum, the hidden curriculum strongly influences students' experiences, opportunities, development, and understanding of personal and global perspectives (Carlana, 2019; Çubukçu, 2012; Farrell & McHugh, 2020). Research (e.g., Bourdieu, 1990; Öztok, 2020) suggests that through this hidden curriculum, students are socialized into a culture, including the reproduction of inequalities and disadvantages. These inequalities, including those mentioned earlier "—isms," may directly oppose what the school districts and teachers believe should be taught.

Implicit biases, as shown in the hidden curriculum, may include examples teachers provide, pictures within books, responses to questions or statements, or classroom management practices. For example, teachers may make comments that indicate assumptions that children live with two heterosexual, married adults or refer to single-parent homes as "broken homes"; children pick up on these expectations and internalize them, reflecting on their situations. These biases, which often include what women and men are expected to do and be as adults, may affect students for life (Acosta & Callahan, 2019; Dunham et al., 2016; Farrell & McHugh, 2020). For example, when boys are told directly or indirectly not to cry or show emotion, this bias can be internalized and appear as toxic masculinity later in life (Clemens, 2017; Clemens, 2018). Likewise, when teachers communicate that science and math are more masculine, interested females may abandon their interest in those disciplines and perform more poorly

(Carlana, 2019; Farrell & McHugh, 2020). It is important to note that teachers often are unaware of these impacts.

Furthermore, even when teachers do not personally communicate these biases, the biases may be systemically integrated into schools. For example, having only female elementary teachers, especially when the principal is male, may suggest an inequality in power between genders and lead to young children “associat[ing] the male gender with greater power and more prestigious occupations” (Dunham et al., 2016, p. 782). Similarly, when the curriculum is heteronormative (e.g., all ninth graders reading *Romeo & Juliet*), “heterosexual love, sex and marriage are centrally positioned” (Blackburn & Smith, 2010), and infer that LGBTQ is unmentionable and distasteful. Even when teachers believe they are being fair and using a rubric, teachers' implicit biases can lead to rating students negatively due to gender, race, and assumed ability, even when achievements are equal (Parrekh et al., 2021). These systemic biases are absorbed by students, impacting their view of society and self.

Because people spend so much of their young lives attending school, the implicit biases they are exposed to may have significant, lasting impacts on them as they become adults. Students may internalize the expectations and biases without realizing it – and may carry them forward to continue reproducing inequities in society, especially if they are PK-12 teachers. It is essential to recognize that one of these biases is the male-female binary expectation, often assumed as is the traditional nuclear family.

Research consistently indicates that implicit gender biases can impact how teachers interact with students, the types of activities they encourage for male and female students, and ultimately what career paths they may choose (Guilberg et al., 2018; Matheis et al., 2020). Happily, implicit biases can be identified, changed, and developed as a significant cultural competency for preservice teachers in teacher education programs (Graham et al., 2022).

This study aims to ascertain what memories preservice teachers recall experiencing during their K-12 years that may have demonstrated implicit biases. Seeking this information serves two primary purposes. First, recalling memories from those formative years may indicate a connection to participants' embedded implicit biases. Second, by asking participants to recall their memories and connect them to their personal biases, it is reasonable to assert that teachers' implicit biases have a persistent and long-term impact on students. This assertion is consistent

with previous research on the impact of gender bias on student success, both socially and academically (Matheis et al., 2020).

Methods

Participants

This study included 141 participants from two public universities, $n=73$ and $n=68$, respectively. One university is a small, regional campus with approximately 1,400 students total, which is located 30 miles east of a large metropolitan area. The other university is a public institution of higher education with approximately 8,500 students and is located 60 miles north of the same metropolitan area. Both universities mainly serve traditional-aged undergraduate students, and both have low religious, ethnic, and racial diversity. The populations of both campuses are mainly white, with a substantial majority of white faculty, too, including both authors of this paper. Specifically, self-identified minority student populations are 10% and 14% of the respective schools; within the education programs, the self-identified minority populations are considerably lower. We did not ask students to self-identify as the infrequency of teachers of color needs to be higher to identify specific students within both programs.

Education majors at two universities completed a 15-question survey. At one university, students taking education courses or attending an education club meeting were asked to take the survey, yielding 73 responses or approximately 72% of the students enrolled in education. At the second university, students enrolled in education courses were asked to complete the survey, yielding 68 responses or approximately 30% of students in the education program.

Of the participating students, 21 were first-year students, 72 were sophomores, 32 were juniors, nine were seniors, and seven were "super seniors." Nearly 88% self-identified as female, with only 16 as male and one as non-binary. Over 80% of students self-identified as early childhood preservice teachers, 17% self-identified as secondary preservice teachers, and 8.5% self-identified as PK-12 (e.g., Spanish Education, Art Education); the remainder included double majors in early childhood and special education, K-12 majors (e.g., Spanish Education), or early childhood and middle-level grades. Only 3.5% self-identified as non-traditional students aged 24 or older. Last, half the students stated they had completed a course on diversity or multicultural education; 39% stated that they had not, and the remaining 11% stated they needed clarification. The demographic information requested followed the survey questions so

as not to subconsciously impact participants' responses per the findings of Steele and Aronson (1995).

We chose to focus on the self-identified gender and age of participants as the demographics most influential on their responses. The remembered experiences of how people were treated based on gender would be remembered differently. Further, experiences from a dozen years ago may differ from current experiences; laws about same-sex marriages are an obvious example. Thus, in analyzing the data, we wanted to parse out the generational differences that could be seen as much as was feasible.

Instruments

Survey

Based on stereotypes that lead to implicit gender biases, we developed a survey focusing on gender- and sexual-orientation-based biases that occur in K-12 schools. Specifically, the survey concentrated on expectations for males and females, acceptance of emotionality in males and females, expected parents' roles in child raising and household tasks, family structure, and inclusion and recognition of LGBTQ people. The participants responded to various statements on a five-point scale, specifically labeled "never," "rarely," "sometimes," "often," and "always." We randomly ordered the statements so as not to force consistency from the students. Likewise, we wrote statements in both positive and negative language so that the desired answer could be either "never" or "always." Participants could also answer "I do not remember" and could explain at the end of the survey if there were any statements they wanted to clarify. The data was gathered via a google doc, allowing the collected data to be completely anonymous.

We investigated the differences between male and female responses but recognized that the limited number of male responses (n=16) made those numbers statistically unreliable. Likewise, with such a large portion of the participants being sophomores (n=72), investigating differences among years in college was also statistically unsound.

Due to the nature of the data, we opted to look at raw data rather than averages: the data is more revealing when we look at the number of people who said "never" or "rarely" rather than taking an average of the responses. We considered the data from each university and aggregated the data to see general trends across the colleges, assessing differences from the universities despite the sameness of participants' age and major; however, the data was

consistent between universities. Additionally, we investigated the number of people who said that they "did not recall" the occurrence (or non-occurrence) of an issue; we considered what questions had high numbers of those responses and reflected on why those specific questions brought back few memories. We then grouped and analyzed areas of bias (e.g., acceptance of emotionality) to find patterns.

Focus Group

To delve deeper and gain qualitative insights into the data, we asked anyone willing to discuss their answers to share their name and email with us separately. Upon being contacted, eight offered to be in the focus group, but only six students could make time to participate. At the appointed time and day, only four showed up via Zoom. This included two students who identified as male, one who identified as female, and one who identified as gender queer. Two were elementary-focused, and two were secondary-focused. Likewise, two were from one university and two from the other. One was a non-traditional student.

In the focus group, we shared findings to gauge participants' reactions and to confirm that the statements expressed were understood correctly. We also wanted to gauge participants' "go-to" thoughts, explaining that implicit biases occurred "even when you know better." For example, we shared with them that males and females are treated very differently when they get hurt. We then asked whether this finding resonated with their experiences or if the questions regarding this issue could have been misinterpreted. Other issues raised included participants' personal experiences with same-sex couples being allowed to go to prom and homecoming and their school experiences regarding the expectations of "moms and dads" in bake sales, getting picked up, and general involvement in students' lives. The final question posed involved finding jobs and expectations, including expectations of women working with children and issues of science/math. After sharing the findings, focus group participants were encouraged to delve into their own experiences and reflect on their perceptions and perspectives, often conversing directly with each other.

Findings

The results indicate strong responses to each question, indicating that students' memories of what was said were easily recalled. It is important to note that what is remembered may not be accurate, but implicit bias is based on internalized memories and experiences; therefore, the

students' responses indicate what they recall occurring and their overall feelings from their K-12 experiences. Additionally, we included comments from our focus group students as they pertain to each group of questions. Although only a small subset, their insights helped to clarify and broaden our understanding of the issues.

Roles of Women and Men

Five survey statements (questions one, seven, ten, and thirteen, fifteen) focused on the role of women and men in society. (See Table 1). Specifically, the statements investigated what biases K-12 students heard that they recalled regarding how men and women are "supposed to" act in society as adults. For example, the first question stated, "I have had educators who commented that all women will grow up to have children." The age-old diatribe that women are "supposed to" have children is often shown in books and even in passing comments like, "When you grow up and are a mom...". The participant responses showed that their experiences were split; only 2.9% were "always" told this, 15.8% shared they often heard this while 29.5% said they rarely heard it, and 12.9% said they never heard it. Of the ten students (7.2%) who did not recall, only one was female. The four participants in the focus group all concurred that growing up, they "understood" that women were expected to have children and families. However, men were held to different expectations.

Table 1: Responses to statements on Survey (given in percentages)

Statement Given on Survey	Always	Often	Sometimes	Never	Rarely	I don't recall	Responses
1. I have had educators who make comments indicating that all women will grow up to have children.	2.9	15.8	31.6	29.5	12.9	7.2	139
2. If a male cried for any reason, he mocked as being "girly" or wimpy.	13.5	27.0	39.0	11.3	5.0	4.3	141
3. I have had educators who talk about the background of authors who are part of the LGBTQ community	2.1	5.7	24.8	22.7	31.2	13.5	141
4. If a parent was called to pick up you or a friend from school due to injury, the mom was called first even if both parents worked.	52.6	32.6	5.2	1.5	0.7	0.7	135
5. Books that were read to us (or were assigned to us) showed non-traditional families (e.g., multi-generational living in one home, single parents, parents of same gender)	1.4	14.2	25.5	39.0	14.9	5.0	141
6. In sex ed classes, same sex relationships were mentioned even if they were not the focus	3.6	6.6	14.6	19.7	38.7	16.7	137
7. Educators encouraged females to pursue math, science, engineering, and technology classes and fields.	7.9	27.1	40.0	15.0	3.6	6.4	140
8. If a male got hurt in gym class or on a sports team, he was told to "man up" or otherwise ignore the pain	6.4	33.6	36.4	12.9	5.0	5.7	140
9. If a female got hurt in gym class or on a sports team, she told to "man up" or otherwise ignore the pain	0.0	7.1	29.1	41.4	14.9	7.8	141
10. Examples in classes of doctors and engineers were male while examples of nurses and secretaries were female (including in photos)	12.1	50.3	28.4	56.7	0.0	3.5	141
11. For bake sales or other food-related events in school, educators said to "ask your mom" rather than "ask a parent"	9.2	41.1	23.4	9.2	5.7	11.3	141
12. When veterans or the military was mentioned, the focus was on males only (e.g., "Our brave young men" or "our boys in uniform").	15.6	36.2	25.5	12.8	1.4	8.5	141
13. Male educators in my elementary school were principals or taught upper grades (fourth, fifth or sixth) if they were teachers in the building.	24.1	44.7	17.7	6.4	4.3	2.8	141
14. Prom and homecoming were for heterosexual (one male, one female) couples only; gay couples were discouraged from attending (or at least from dancing together)	6.5	13.0	8.0	17.4	43.5	11.6	138
15. Male teams and female teams at my school got equal and equitable time on the field, courts, and gym, especially regarding similar sports (e.g., men's soccer and women's soccer, baseball and softball, etc.)	23.5	20.0	13.6	17.9	10.7	14.3	140
*Percentages are rounded to the nearest tenth percent.							

The participants' responses also indicated that they received mixed messages regarding gender expectations in jobs. Over 50% of the participants recalled "always (15.6%) or "often" (36.2%) that "[w]hen veterans or the military was mentioned, the focus was on males only (e.g., 'Our brave young men' or 'our boys in uniform')." Only 1.4% said that they never heard that, and

12.8% said they rarely heard that.. The assumption that a career in the military is for males can influence student decisions because they have been taught that that option may be limited based on one's gender.

Likewise, options for employment expectations were exemplified by the conflicting results related to the statements "Educators encouraged females to pursue math, science, engineering, and technology classes and fields" and "Examples in classes of doctors and engineers were male while examples of nurses and secretaries were female (including in photos)." The participants recalled that educators always (7.8%), often (27%), or sometimes (39.7%) encouraged females to pursue STEM-related fields; however, students also recalled that educators always (12.1%), often (50.4%), or sometimes (28.4%) gave examples of males as the doctors and engineers and women in "pink-collar" professions like nursing or clerical. Of interest is that while 3.5% of students did not recall the examples given in school, not a single student chose "never" as their option for this latter question. Thus, what students were told and shown did not match and were oddly disproportionate.

In the focus group, participants also recognized the depth of their biases about women. For example, one student commented that when the role "teacher" or "nurse" arises, the association is female; however, when the roles of "doctor" or "principal" arise, the association is male. The participant added that they had not even realized they were defaulting to those stereotypes, stating, "Well, actually, I did not even realize that until now that I am thinking about it." Another participant confessed to falling into this pattern unwittingly the previous week when discussing the lack of mathematics learning in Sparta. He said, "And I looked at this girl, and I am like, 'How does that sound? You do not even have to go to math class.' She is like, 'I love math class' However, I did it without thinking I was calling on a girl.... Furthermore, I think that was because that is where my mind goes immediately." All four stated they "knew better" yet still behaved in a manner that perpetuated their unconscious biases.

Role of Moms

To investigate expectations in gender roles regarding parents more deeply, two additional statements (numbers four and eleven in Table 1) were included. The first question focused on who was expected to pick up a child in the middle of the day, even if both parents worked. This question hints at the expectation of which parent is expected to "drop everything"

and provide childcare. Again, an overwhelming response of participants shared that this "always" (50.4%) or "often" (31.2%) time was the case; "never" was the response by less than 1% of the participants. Asking a mom rather than a parent regarding a bake sale was the second question within this subset, as it suggests who might be responsible for baking/cooking and school-related childcare. Although not quite as striking as the results above, over 50% said that "ask your mom" was always (9.2%) or often (41.1%) how teachers presented information in the classroom; nearly 15% said that this rarely (9.2%) or never (5.7%) happened.

This quantitative data was further supported by the responses of the focus group, who echoed these findings, stating, "It's always like the female of a parent or grandparent unit. I'm thinking about it, and I never realized it before." Another participant added that although his grandfather was the "most available" person, his name was not on the emergency contact list; only the mother and grandmother were. Another shared that when they were sick at school, mom and grandma were called; dad was not even listed as one of the two emergency contacts despite the participant living in a traditional family situation. Finally, another participant reflected, "I think it's just natural to think. Your mother cares for you and stuff like that -- to do more of the soft involvements, I guess, in a child's life. So, I would typically think more of the mom before the father."

Expectations of Males vs. Females Regarding Emotions

Three questions (numbers two, eight, and nine) focused on expressing emotions for males and females. Specifically, the questions investigated whether males were "allowed" to show emotions. For example, question two stated, "if a male cried for any reason, he was mocked as being 'girly' or wimpy." Nearly 40% responded with always (13.5%) and often (27%), with an additional 39% stating "sometimes." Only 5% said that this never happened. To further compare responses to male and female pain and emotions, two questions listed sequentially asked about getting hurt in gym class or sports: where students are told to "man up" or ignore the pain. Participants recalled that males were told this at least sometimes 76.4% of the time; incredibly, 6.4% said that this was always the case. In contrast, this expectation was given to females only 36.2%; not a single participant marked that this "always" happened for females. One participant added the comment at the end, "It was uncommon for a male to

express that they were injured, and if they were, they played down the severity of the injury," indicating that males at that school internalized the expectation to play down pain.

While the focus group participants initially shared that they would "not treat students differently" but instead ask, "You okay?" or "Is it an emergency?" the conversation quickly showed differences in treatment. For example, one male shared that he would "be afraid to check to see if they are okay just because [he was] afraid that [he] would bring attention to them – that they would be laughed at." Another participant shared, "I am quicker to say 'Okay, they are okay with a male-presenting [student] than with a female because, you know, men are always kind of like, 'you fall, get back up' – kind of societal expectations."

Expectations of playing through pain or injuries are common in sports but may not be equal. Relatedly, which teams are given priority time on courts, or the field can indicate the perceived importance of the team/sport. Question 15 stated that male and female teams received equal and equitable time on fields, courts, and gyms. While 10.6% said "never", 23.4% said always. Interestingly, 14.2% responded that they did not recall; the high response of not recalling could indicate that participants were not involved in sports and that it was not a problem and, therefore, not discussed. One student added, "As for sports, I had never participated, but I recall male-centered sports being advertised more. For example, we have yet to have a pep rally for women's teams. The only 'boosting' women got were for cheerleading."

Discussions of LGBTQ

In addition to the assumptions and biases about gender are the assumptions and biases about sexuality. Often in schools, a heteronormative bias exists in which LGBTQ people and situations are not recognized. Three statements (numbers three, six, and fourteen) focused on the inclusion, acceptance, and recognition of LGBTQ within schools. Statement three focused on including LGBTQ authors (e.g., Oscar Wilde, Walt Whitman, Virginia Woolf, E. M. Forster) in their classes. Over 50% of the participants responded with never (31.2%) and rarely (22.7%). An additional 13.5% did not recall whether they had discussed the backgrounds of these authors; one participant added the comment, "If answered I don't recall, I believe it would border on the topic not being addressed at all." While less than 8% of the students responded "always" (2.1%) or often (5.7%), 24.8% said that it was discussed sometimes. In the focus group, one participant shared that they were a member of the LGBTQ community and recalls

talking about Truman Capote's same-sex relationships because "it was a major part of the story. He had a relationship with one of the people he was interviewing."

Another course where sexuality would most likely be discussed is sex education in schools. However, 37.6% of the respondents shared that same-sex relationships were never mentioned; 19.1% said rarely. In addition, a significant portion of the participants, 16.3%, responded that they did not recall. One participant commented on the survey, "My school never went over a sex ed course. We had a health class, and it was in 5th grade. That was it. To talk about the change in bodies. They never disclosed the male with male and female with female likings or anything." In the focus group, the non-traditional participant commented that his health teacher talking about reproduction "touched on the idea of the same sex," saying, "the most homophobic thing you can imagine.... I am pretty sure the school board would have gotten a noose" if a teacher had talked about same-sex relations; he recognized this was over a decade ago but did not know if things had changed in that "farm town."

The final question in this section focused on whether school dances (e.g., homecoming and prom) were for heterosexual couples, discouraging LGBTQ couples from attending or dancing. In contrast to the prior questions, nearly 60% said this was never (42.6%) or rarely (17%) an issue at their school. Over 11% did not recall, which may mean that it was not an issue or did not affect them; therefore, they were unaware. Two participants commented on this question. One stated, "For the dances, I know I have seen LGBTQ couples, but I do not recall if they faced discrimination." Another noted, "At my school, they originally weren't allowed to bring same-sex couples, but after a few students complained the rule was quickly changed." These responses indicate a growing acceptance and change regarding LGBTQ acceptance in social situations, even if not in the formal curriculum, as noted above.

Non-Traditional Families Overall

Normalizing the families that students live with means recognizing single-parent families, combined families, multi-generational families, and same-sex parents. When participants recalled the books that were read or assigned, they recalled that they were never (14.9%) or rarely (39%) shown non-traditional families. Just over 25% shared that they were sometimes shown non-traditional families, but only 1.4% of the respondents said they were always shown a variety of families. Nearly 15% could not recall.

In the focus group, participants discussed the desire to normalize all students' experiences. As one participant stated, "students that see themselves are okay with themselves." They also reflected that children do not choose the curriculum but that the curriculum "tells you how it is supposed to be... and they will tell you that there is a box you are supposed to fit in."

Discussion

Because the implicit biases that children experience stay with them as they grow and develop, it is important to gain insight into what biases are being perpetuated in schools. Because implicit biases are so firmly and unconsciously held, knowing what preservice teachers were exposed to provides insight into what they may bring into their classrooms. This knowledge allows teacher educators to begin breaking the cycle of perpetuating gender stereotypes and stop reproducing inequalities within societies by emphasizing learning opportunities that develop cultural competence (Graham et al., 2022).

Our findings indicate that certain gender stereotypes are perpetuated in the schools, which was not unexpected based on prior research (e.g., Carlana, 2019; Farrell & McHugh, 2020). Our results from specific questions were especially notable due to the overwhelming number of "always" or "never" responses. For example, even when both parents worked, mothers were overwhelmingly the person called, indicating the bias that despite work, mothers were viewed as the person responsible for their children. Other responses stood out due to the contrast between male and female expectations on the same issue. For example, males were told to "man up" in the gym while females were not, and males were also mocked if they cried. In addition, the military, an excellent option for males and females, was promoted as a male-based operation much of the time. These biased expectations can lead to toxic masculinity and reinforce male and female stereotypes.

Inconsistencies within issues show that teachers' espoused beliefs and practiced beliefs may not match. For example, responses showed that respondents recalled teachers encouraging females to pursue STEM-related fields; however, an even more significant majority indicated that the examples (including photos) of doctors and engineers were male, while females were still shown as nurses and secretaries. Another inconsistency existed within LGBTQ biases: most respondents indicated that prom and homecoming were welcoming to everyone but also indicated the lack of discussion about LGBTQ issues in sex education classes.

Conclusion

Implicit biases are the automatic, unconscious biases that are said and acted upon even when people "know better." Everyone has implicit biases, but teachers' biases spread within a system, having a greater impact than many others. Teachers may need to be aware of their implicit biases and the messages their K-12 students are hearing. For example, teachers may be aware of inequality and think they are being "fair" or contributing to social justice, not realizing that they are contributing to the inequitable systems of sexism and heteronormativity. To many, their phrases and expectations may seem "normal." Further, it is essential to remember that the participants' responses are what they recall occurring; what occurred is unknown, but what they recall may influence their own biases.

To remedy the situation, educators must be mindful of their language usage. This includes gender expectations and family structures. For example, instead of saying "Boys and Girls" and using blue and pink, non-gendered terms like "class," "folks," or "students" could be used. Terms like "parent" or "family" rather than "mom and dad" indicate that students may live with only one parent of any gender. Any parent could be their child's caretaker, baker, or driver.

Likewise, educators must be mindful that students of all genders should be allowed to express emotions when frustrated, hurt, or upset. Helping students to recognize and accept their emotions is mentally healthy and may prevent cycles of toxic masculinity or self-sabotage. Additionally, educators need to be discerning among the resources they select, and the messages sent via those resources. This includes books, photos, and verbal examples in class. Examples of people within professions need to show a wide array of genders and races to communicate unequivocally that professions (e.g., doctors, nurses) and opportunities (e.g., military) are not limited to certain groups. Similarly, examples showing diverse family structures and couples should be integrated into the explicit and hidden curriculum.

Teacher education programs can and should contribute significantly to this awareness level by recognizing preservice students' backgrounds. Also, with careful, intentional development of coursework, field experiences, and co-curricular opportunities that empower the recognition of implicit biases, preservice teachers will develop the professional competencies to combat those biases to benefit their future students.

Moving forward, research on gender bias opens the door to exploring the intersectionality of gender and other characteristics in which preservice teachers may possess implicit biases. For example, students of color, LGBTQ+, socio-economic status, and linguistic diversity are areas in which preservice teachers must recognize and defeat implicit biases that can prohibit students from thriving socially and academically in their classrooms.

Schools often reflect and drive society's norms and perpetuate them through implicit bias. Understanding what biases are currently accepted and reinforced allows teacher education programs to unpack these specific biases with their preservice teachers to promote greater equality and reduce sexism in our society. Furthermore, through self-awareness, future teachers will be able to identify their biases and address them in ways that will positively impact all aspects of the school curriculum and, ultimately, each student in their classroom.

References

- Blackburn, M. V. & Smith, J. J. (2010). Moving beyond the inclusion of LGBT-themed literature in English language arts classrooms: Interrogating heteronormativity and exploring intersectionality. *Journal of Adolescent and Adult Literacy* 53(8). 625–634.
- Blosser, A. H. (2019). *Faith, diversity, and education: An ethnography of a conservative Christian school*. Routledge.
- Bourdieu, P. & Passeron, J. C. (1990). *Reproduction in education, society, and culture*. Sage Publishing.
- Carlana, M. (2019). Implicit stereotypes: evidence from teachers' gender bias. *The Quarterly Journal of Economics* 134(3). 1163–1224.
- Clemens, C. (2017). What we mean when we say “toxic masculinity”. *Teaching Tolerance Magazine*. <https://www.tolerance.org/magazine/what-we-mean-when-we-say-toxic-masculinity>
- Clemens, C. (2018). Toxic masculinity is bad for everyone: Why teachers must disrupt gender norms every day. *Teaching Tolerance Magazine*. <https://www.tolerance.org/magazine/toxic-masculinity-is-bad-for-everyone-why-teachers-must-disrupt-gender-norms-every-day>
- Çubukçu, Z. (2012). The effect of hidden curriculum on character education process of primary school students. *Educational Sciences: Theory & Practice* 12(2), 1526–1534.
- Dunham, Y., Baron, A. S., & Banaji, M. R. (2016). The development of implicit gender attitudes. *Developmental Science* 19(5), 781-789.
- Farrell, L. & McHugh, L. (2020). Exploring the relationship between implicit and explicit gender-STEM bias and behavior among STEM students using the Implicit Relational Assessment Procedure. *Journal of Contextual Behavioral Science* 15, 142–152.
- Graham, M. C., Jacobson, K., DeRosia, N., Cheng, K. C., & Smith, M. (2022). "That Shocked Me": Physiological Arousal when Confronting Implicit Gender/STEM Biases. *International Journal of Gender, Science and Technology*, 14(2), 149–168.
- Gullberg, A., Andersson, K., Danielsson, A., Scantlebury, K., & Hussénus, A. (2018). Preservice teachers' views of the child—Reproducing or challenging gender stereotypes in science in preschool. *Research in Science Education*, 48(4), 691-715.

- Gullo, G. L., Capatosto, K. & Staats, C. (2019). *Implicit bias in schools: A practitioner's guide*. Routledge.
- Matheis, S., Keller, L. K., Kronborg, L., Schmitt, M., & Preckel, F. (2020). Do stereotypes strike twice? Giftedness and gender stereotypes in preservice teachers' beliefs about student characteristics in Australia. *Asia-Pacific Journal of Teacher Education*, 48(2), 213-232.
- McGinnis, CM. (2017). *Effects of Implicit Bias on Teachers' Expectations of Student Relationships* (unpublished thesis). University of Nebraska—Lincoln, Lincoln, Nebraska.
- Öztok, M. (2020). *The hidden curriculum of online learning: Understanding social justice through critical pedagogy*. Routledge.
- Parrekh, G., Brown, R. S. & Zheng, S. (2021). Learning skills, system equity, and implicit bias within Ontario, Canada. *Educational Policy* 35(3), 395-421.
- Pritlove, C., Juando-Prats, C., Ala-Iepilampi, & Parsons, J. A. (2019). The good, the bad, and the ugly of implicit bias. *Lancet* 393 (10171), 502–504.
- Spencer, S. J., Steele, C. M., Quinn, D. M. (1999). Stereotype threat and women's math performance. *Journal of Experimental Psychology* 35, 4–28.
- Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology*, 69(5), 797–811.
- Boud, D., Cohen, R., & Sampson, J. (1999). Peer learning and assessment. *Assessment & Evaluation in Higher Education* 24(4), 413–426.