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Implicit Bias Education for Future Health Leaders: Curriculum Strategies and Reflections

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ABSTRACT

This study examined undergraduate healthcare students' reflections after completing the Harvard Implicit Association Test (IAT) as part of a health marketing course. While most students exhibited implicit biases, they also expressed a commitment to equitable treatment. Students recognized that, although implicit bias does not imply intentional discrimination, it can subtly influence behavior. Many reported surprise or disagreements with their results, revealing internal tension when unconscious biases conflicted with their self-perception. The assignment, paired with a lecture and classroom discussion, fostered self-awareness and underscored the importance of incorporating implicit bias education into healthcare training. A supportive, nonjudgmental learning environment is essential for honest reflection and open dialogue. These findings highlight the value of structured implicit bias education in preparing inclusive, culturally competent healthcare professionals committed to advancing health equity and reducing disparities.

INTRODUCTION

Implicit bias—often referred to as unconscious bias—refers to attitudes or stereotypes that influence a person's understanding, actions, and decisions unintentionally and automatically (Sabin, 2022). These biases have a significant influence on healthcare and can have long-term effects on clinical decision-making, ultimately contributing to healthcare disparities.

Increasing students' awareness of implicit bias is an essential step in developing cultural competence and preparing the next generations of professionals to serve diverse communities ethically and equitably. Healthcare professionals often demonstrate implicit biases toward individuals from marginalized backgrounds, particularly those from lower socioeconomic statuses. These biases influence clinical judgments and may lead to inequitable treatment decisions, thereby reinforcing systemic barriers to care. When equity is minimized through biased decisions, the goal to reduce unjust access to quality care is diminished for groups of people often most impacted by implicit bias, and yet have the most barriers to overcome towards equitable healthcare. Academic programs in health professional fields must prioritize education around both implicit and explicit bias. Preparing students with this knowledge enhances their capacity for ethical practice and contributes to reducing disparities in healthcare delivery (Carrilero et al., 2023).

Faculty plays a pivotal role in this process and must be proactive in addressing bias within the academic environment, as this will help students critically examine their own beliefs and behaviors as they exit the classroom and enter new spaces as healthcare professionals. Moreover, institutions of higher learning have a responsibility to create inclusive classroom environments that support diversity, encourage open dialogue, and cultivate cultural humility. By promoting these values, not only does it enhance students' levels of preparedness for future professional roles, but it also helps establish trust within the diverse populations they will serve.

Much of the literature on implicit bias focuses on race, ethnicity, gender, and religion. However, individuals with disabilities are frequently overlooked in these discussions despite facing significant disparities in both healthcare access and treatment. Research has shown that patients with disabilities are more often subject to dismissive provider attitudes, receive delayed diagnoses, and are less likely to undergo necessary evaluations (Iezzoni et al., 2021). These inequities persist despite legal protections such as the Americans with Disabilities Act. This dilemma is reinforced through recent studies, such as a national survey of U.S. physicians that revealed many perceive patients with disabilities as having worse health outcomes, further underscoring the need for systemic change (Iezzoni et al., 2021).

Given the importance of self-awareness in addressing bias, implicit bias assessments can serve as valuable educational tools. One widely used instrument is the Implicit Association Test (IAT), developed by Greenwald, McGhee, and Schwartz in 1998. Created to investigate implicit intergroup attitudes, the IAT has since expanded to include a wide range of social categories: race, gender, age, religion, disability, and body weight. The test operates on the premise that individuals more quickly associate concepts that align with their implicit beliefs, thereby revealing unconscious preferences or stereotypes (Greenwald et al., 1998).

The current study aims to explore the implicit biases of undergraduate students enrolled in a Health Marketing course using the IAT. By examining student responses and reflections, the study seeks to deepen understanding of how future health professionals perceive and respond to implicit biases.

METHOD

This study employed a qualitative, exploratory design within the context of classroom-based pedagogical research. Data were drawn from student reflections following an implicit bias assignment in an undergraduate Health Marketing course. As part of the assignment, students (N = 19) selected and completed a Harvard Implicit Association Test (IAT) category aligned with their interests. They then submitted written reflections discussing their test choice, results, level of surprise, and agreement with the findings. Eighteen students completed the assignment via the Canvas platform. The instructor provided individualized feedback, and a follow-up class session included a guided discussion of the IAT experience and implicit bias concepts.

RESULTS

Completion of the IAT was a part of a class assignment. All students enrolled in an undergraduate Health Marketing course received the assignment instructions (Appendix A). All students were allowed to select an IAT of their choice. A total of 18 of the 19 students completed the assignment. Of the 18 students, 17 were female and one was male. All students self-identified as Black or African American. The test selections were as follows: race/skin tone, age, weapons, weight, sexuality, president, healthy food, gender-bias, and transgender. See Figure 1 for additional details.
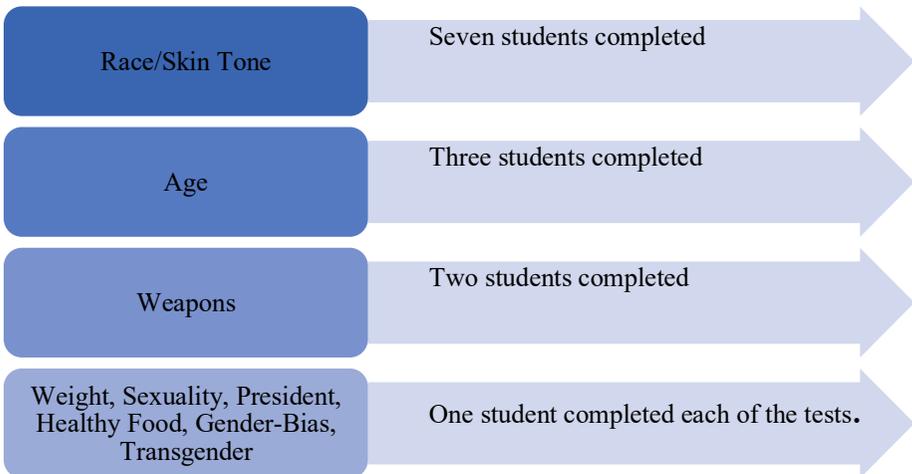
Race/Skin Tone	Seven students completed
Age	Three students completed
Weapons	Two students completed
Weight, Sexuality, President, Healthy Food, Gender-Bias, Transgender	One student completed each of the tests.

Figure 1: IAT selections

Among the 18 students who submitted responses, eight indicated that they were surprised by their results, while nine reported no surprise. One student did not respond to the specific prompt regarding their reaction. Of the eight students who expressed surprise, two reported that they agreed with the results. In contrast, six expressed disagreements, suggesting the majority of these students found a disconnect between their expectations and the outcome. In contrast, among the nine students who were not surprised by their

results, seven indicated agreement, and two expressed disagreement. This pattern between those who did or did not express surprise at their IAT results suggests that students who anticipated their outcomes were more likely to perceive the results as accurate. In contrast, those who were surprised were more inclined to question the test's validity.

DISCUSSION

This study highlighted that many students demonstrated implicit preferences. Despite these biases, students generally engaged in meaningful self-reflection and expressed a commitment to equitable treatment for all individuals. Their reflections emphasize one critical point: while implicit preference does not equate to intentional discrimination, they may still influence behavior in subtle ways. Among students who expressed surprise at their IAT results, the majority also disagreed with the findings, highlighting the internal tension that can arise when individuals confront unconscious preferences that conflict with their self-perception. Many students acknowledged the importance of becoming more aware of their implicit biases and emphasized the need to be intentional and reflective in their future interactions. This awareness is a critical first step in developing inclusive leadership and fostering organizational cultures that actively work to reduce inequity.

Historically, research on implicit bias has mainly focused on race and gender. Still, recent findings have expanded to include other marginalized populations, such as individuals with disabilities, those living with obesity, and people from lower socioeconomic backgrounds who often face disparities in healthcare settings (Job et al., 2022). This recent expansion in research has revealed nuances within these understudied populations that can help better address the unintentional discrimination they face in the healthcare system.

Promoting self-awareness through tools such as the Implicit Association Test (IAT) can help students uncover unconscious attitudes and critically reflect on how these biases may influence patient care. For students in the health professions, structured, ongoing training in recognizing and managing bias is essential for addressing health inequities and improving clinical outcomes. The module on implicit bias facilitated open and constructive dialogue about the nature of bias, the concept of implicit bias, and practical strategies for bias mitigation. Faculty transparency played a key role in fostering a safe, nonjudgmental learning environment that encouraged honest discussions among students. Students mustn't feel blamed or shamed for their implicit preferences; instead, these insights should be used as a foundation for critical reflection and professional growth.

Fostering a safe, open classroom environment is crucial to this process. When students feel supported in exploring and discussing their biases, they are more likely to engage in honest reflection and personal growth. Notably, all participants in this study acknowledged the relevance of implicit bias in healthcare, underscoring the need for its integration into their curriculum as future healthcare professionals. Embedding such content throughout health education programs is vital for advancing health equity and ensuring culturally competent, patient-centered care (van Ryn et al., 2015).

LIMITATIONS

The results should be interpreted within the specific context in which the activity was conducted. Completion of the Implicit Association Test (IAT) was part of a homework assignment and involved both self-selection of the test and self-reported reflective responses. This methodology introduces several limitations. First, students may have chosen an IAT topic with which they felt more comfortable or that was more closely aligned with their existing beliefs, thereby reducing the potential for cognitive dissonance. Alternatively, some may have selected a test at random, without deliberate consideration of its relevance. Although the latter stands out as the ideal option, as it most reduces any skew in results from students choosing a topic they personally connect with, the individual choice provided to each student does not guarantee that outcome. Furthermore, the reflective responses may have been influenced by students' perceptions of what would be considered socially or academically acceptable, rather than representing their genuine reactions. This possibility raises concerns about social desirability bias, which may have impacted the authenticity of the reflections and, consequently, the interpretation of the results.

CONCLUSION

While the Implicit Association Test (IAT) offers a helpful starting point for exploring unconscious attitudes, it is only one component in the broader effort to address systemic discrimination and bias. Raising awareness is a foundational step toward recognizing and managing individual biases, especially within institutional frameworks that may perpetuate inequitable practices. In the context of the Health Marketing course, the inclusion of an implicit bias module introduced students to a concept that, for many, was entirely new. A significant portion of the class reported being unfamiliar with the term "implicit bias" before the assignment.

The assignment's outcomes underscore the need for continued education and dialogue on implicit bias in higher education. Integrating structured bias training into college curricula—particularly in fields related to health and public service—is essential for preparing students to engage ethically and inclusively in their professional roles. Such training not only enhances individual self-awareness but also contributes to the broader goal of cultivating equitable, culturally responsive institutions.

APPENDIX A: ASSIGNMENT PROMPT

Please click the following link to access the Implicit Association Test (IAT):

https://implicit.harvard.edu/implicit/takeatest.html

1. Select "Take a Test"
2. Read the information and then scroll to the bottom and click "I wish to proceed."
3. Select and complete the following IAT based on your last name:
    a. Last name ends in A-M: Select the "Disability" IAT
    b. Last name ends in N-Z: Select the "Weight" IAT
4. Review the results
5. In 1-2 paragraphs, answer the following questions (in complete sentences).
    Please do not include the questions in your document.

    1. What were your results
    2. Do you agree with the results? Why or Why Not?
    3. Do you or anyone in your family (or close circle or friends) identify with the group that you had the most 'preference'?
    4. What are your thoughts on the results?
    5. Upon reflecting, do you feel this will make you more aware of implicit biases that may exist?
    6. How can negative implicit biases impact care?

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In the preparation of this manuscript, we utilized Artificial Intelligence (AI) tools for content creation in the following capacity:

- ☐ *None*
- ☐ *Some sections, with minimal or no editing*
- ☐ *Some sections, with extensive editing*
- X *Entire work, with minimal or no editing*
- ☐ *Entire work, with extensive editing*

This article incorporates content generated by Artificial Intelligence (AI) tools. Grammarly, including its AI-powered tool, was used solely for spelling and grammar checks. The use of AI tools complied with ethical standards and academic integrity guidelines. The final content has been thoroughly reviewed and edited to ensure accuracy, relevance, and adherence to academic standards.

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