ASSESSING THE VARIOUS LEVELS OF IMPLICIT WEIGHT BIAS TOWARD PATIENTS AMONG ANESTHESIA PROVIDERS

by

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ABSTRACT

SHANITA DOMINIQUE GEORGE. Assessing the Various Levels of Implicit Weight Bias Toward Patients Among Anesthesia Providers. (Under the direction of DR. DAVID LANGFORD)

Social disparities and implicit bias have been identified as potential issues that can be detrimental to patient care. Research has shown that implicit bias hinders rapport between patient and provider, leading to patients becoming resistant to medical advice and treatment protocols. Therefore, existing levels of implicit bias create a need for healthcare systems to recognize and understand the levels of implicit bias among providers and the ramifications that implicit bias could induce. This quality improvement doctoral project aimed to assess and establish a baseline level of existing weight bias among anesthesia providers in urban health system facilities. The author utilized the Harvard Implicit Association (IAT) Weight test as an assessment tool to garner a baseline level of implicit bias among anesthesia providers. There was a total of 46 individuals who participated in this project, the majority worked at a regional tertiary care hospital. The IAT results disclosed anesthesia providers to have a slight-moderate preference for thinner people compared to heavier people.

Keywords: Implicit bias in healthcare, Implicit Association Test, bias, obesity, obesity stigma, weight bias, overweight bias, effects of weight bias in healthcare.

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

ANOVA   Analysis of Variance

BMI   Body Mass Index

CRNA   Certified Registered Nurse Anesthetist

fMRI   functional Magnetic Resonance Imaging

HCP   Healthcare Provider

IAT   Implicit Association Test

IRB   Institutional Review Board

SRNA   Student Registered Nurse Anesthetist

PDSA   Plan, Do, Study, Act

WHO   World Health Organization

INTRODUCTION/BACKGROUND

Defining the Problem

McQuade et al. (2021) defined implicit bias as "the attitudes or stereotypes that affect understanding, actions, and decisions unconsciously" (pg. 1). Bias is universal and can be positive or negative. Negative implicit bias is of particular concern among healthcare providers as it can perpetuate health disparities in vulnerable populations. Multiple studies have shown that implicit bias exists in healthcare providers. Bias can relate to various factors, such as gender, race, sexual orientation, and weight. Weight bias was cited as the fourth most common form of discrimination among US adults (Alberga et al. 2019).

Weight bias refers to pervasive negative weight-related attitudes or beliefs, expressed as stereotypes, prejudice, and even open discrimination toward individuals because they are obese (Cohen & Shikora, 2020, p.1623). Tomiyama et al. (2018) found a sample of 2284 physicians who showed strong explicit and implicit 'anti-fat' bias in their study. Alberga et al. (2019) stated, "Weight bias and stigma, known as negative, prejudicial, or stereotypical beliefs and attitudes toward individuals based on their size, have been identified as a barrier to patients seeking health care services" (pg. 1). Weight stigma poses a threat to a patient's health and has been prospectively related to heightened mortality and other chronic diseases and conditions. Additionally, discrepancies in the use of healthcare services by individuals living with obesity have been reported in prior research (Alberga et al., 2019).

Literature Review

A review of the literature on Implicit Bias in Healthcare was conducted using Cochrane, CINAHL Complete, PubMed, and Google Scholar databases for manuscripts published between January 2000 and February 2022. The search criteria included: '*Implicit bias in healthcare and weight bias.*' The terms searched targeted peer-reviewed academic journals pertinent to implicit bias among health care providers. Hundreds of journal articles resulted across the four sites; this project utilized sixteen weight-biased articles. The articles were chosen based on the selected keywords noted in the abstract and present-day literature. Articles excluded were those that discussed racial bias, explicit bias, or any other form of bias.

The most used screening tool to define obesity in healthcare is the body mass index (BMI). A person with a BMI greater than or equal to 30 is classified as obese. The World Health Organization (WHO) has cited that the worldwide prevalence of obesity tripled between 1975 and 2016 (World Health Organization, 2021). Despite this global prevalence of obesity, an estimated 42.5% of the US adult population is considered obese (Centers for Disease Control and Prevention, 2021). Projections have suggested that almost 80% of adults in Western nations will be overweight or living with obesity by 2030 (Phelan et al., 2015). Obesity poses numerous health complications, including cardiovascular disease, type II diabetes mellitus, and various cancers (Lawrence et al., 2021). Individuals identified to be obese are often subjects of bias, shaming, and poor treatment within healthcare (Phelan et al., 2015).

Weight bias is reported in physicians, nurses, dieticians, physiotherapists, psychologists, nutritionists, and exercise professionals (Lawrence et al., 2021). Weight bias includes the negative connotations that people living with obesity are lazy, incompetent, and unwilling to improve their health. In a concept analysis of overweight bias among healthcare professionals

(HCPs), Hyer & Conner (2020) mentioned that "Individual characteristics such as gender, age, and personal BMI played a role in overweight bias among HCPs. Specifically reporting male HCPs displaying more negative attitudes and prejudice than females (p.397)." In addition, Hyer & Conner (2020) found that the personal BMI of the HCPs was a predictor variable that could influence HCP practice patterns. This led to a study finding that physicians with a BMI greater than 30kg/m2 were less likely to document obesity in a patient's chart, suggesting a bias toward patients with obesity among physicians who are also obese. In comparison, another study revealed that medical students with a higher BMI reported fewer negative attitudes toward patients with obesity (p.397).

People living with obesity who experience weight bias from HCPs are less engaged in healthcare services, consequently delaying, or forgoing medical intervention (Lawrence et al., 2021). Additionally, subjects scrutinized because of their weight have reported increased depression and psychological distress levels and decreased patient satisfaction scores (Hyer & Conner, 2020). More importantly, research has indicated that weight bias among HCP alters the client-provider relationship and impedes providing equitable, high-quality care. For instance, Phelan et al. (2015) denoted that negative obesity attitudes shift the client-provider relationship in the following ways:

A. Primary care providers engage in less patient-centered communications with patients they perceive will not likely adhere to treatment or self-care recommendations,

B. Have less respect for the obese patient, which undermines positive affective communication and information giving,

C. Shortened time allocated to educating obese patients about their health,

D. Weight bias in HCPs can produce reluctance to discuss the topic of weight management with obese patients.

Conclusively, weight bias among HCPs leads to poorer health outcomes for the patient.

Several significant gaps exist in the literature on weight bias and health care. Although several studies found high levels of explicit bias in HCPs, there is a need for more research on weight stigma using measures of implicit bias (Phelan et al., 2015). Research is also lacking on the impact of biased attitudes on different aspects of medical encounters, including decision-making and communication. Healthcare professionals' weight-biased attitudes can hurt the client-provider relationship and care provision; however, studies have found mixed results about the extent and nature of bias (Lawrence et al., 2021). Lastly, most studies examined weight bias in nurses and physicians, with little emphasis on weight bias in allied health fields (Lawrence et al., 2021). More research must be done to develop a reliable tool for measuring various biases tailored to healthcare professionals and settings.

Healthcare systems/organizations are responsible for widely implementing intervention strategies to reduce bias in the clinical setting. HCPs who are conscious of their bias can increase their sensitivity to the needs of specific patients, thus improving the quality of care. Multiple strategies exist to increase provider empathy-building awareness while reducing bias. Perspective-taking exercises and motivational interviewing are two approaches that were deemed plausible in improving providers' attitudes toward stigmatized groups (Phelan et al., 2015). Providers equipped with resources to recognize the various genetic, environmental, biological, psychological, and social contributors to weight create a welcoming and less threatening environment. Promoting awareness of implicit bias allows individuals to examine their personal biases. Research demonstrates that reflective practice is an inconclusive strategy to decrease bias

even when the clinician is aware of their preferences (Lawrence et al., 2021). Instead, systems such as bias training, cultural safety checklists, and previously outlined plans unique to specialty and provider can help maintain consistent care. Although weight is an essential factor in how patients respond to anesthesia and having surgery, no studies were found that were unique to weight bias in anesthesia providers.

Project Explanation

The Anesthesia Quality & Safety Committee at an urban southeastern healthcare system has identified implicit bias as a problem within its anesthesia provider community. This project was part of a larger project exploring implicit biases among anesthesia providers in three areas: weight, race, and age. The specific focus of this project was on establishing a baseline level of implicit weight bias among current student registered nurse anesthetists (SRNAs), certified registered nurse anesthetists (CRNAs), and anesthesiologists to gain insight into the current practice environment. The level of weight bias in SRNAs will be compared to more experienced anesthesia providers. This knowledge can also aid in creating a foundation for educators to increase awareness and foster an early understanding of the CRNA's role in addressing racial and ethnic disparities in anesthetic care, as described by the American Association of Nurse Anesthesiology (American Association of Nurse Anesthesiology, 2021).

The healthcare system uses a team care model in providing anesthesia care, requiring the anesthesiologist and CRNA to work in conjunction. The anesthesiologists are often the person leading the team; therefore, it is imperative to collaborate with them to facilitate a unified approach to reduce bias toward patients. Establishing a baseline of implicit bias among these providers will help improve health, elevate hope, and advance healing for all (Atrium Health,

2021). Currently, many interventions target the anesthesia community to emphasize inclusive care.

Stakeholders

Moran (2017) states, "Stakeholders are those individuals or groups who touch the project somehow or have an interest in the project outcome. These individuals can affect or could be affected by the project's outcome (p. 135)." This project's stakeholders are patients, patients' families, anesthesia providers, the healthcare system, and the larger community. Paula Gomez is a practicing CRNA and identified as a positive influence stakeholder who championed the project throughout the anesthesia department. The author presented this topic on November 16, 2021, at the Diversity, Inclusivity & Health Equity meeting. At the meeting, the author formed relations and gained insight from individuals who work within the healthcare system and are also interested and passionate about health equity.

Project Goals

This doctoral project is a quality improvement project that aims to assess and establish baseline levels of weight bias among anesthesia providers in specified healthcare facilities in a large urban health care system located in the Southeastern US. The following PICO question guided this project: Among three types of anesthesia providers, to what degree do they hold implicit bias toward a patient's weight?

METHODOLOGY

Methods

The Harvard Implicit Association Test offered by Project Implicit is a descriptive survey that the project used to collect data and establish a baseline of implicit bias among anesthesia providers. Project Implicit is a non-profit organization and international collaboration of researchers interested in implicit social cognition (Project Implicit, n. d.). It is a resource that enables individuals to understand their implicit biases better and reflect on how those biases influence our beliefs, actions, decisions, and attitudes. Participants were invited to select an IAT from a list of health and social attitudes topics, including, but not limited to, age, race, religion, gender and employment, sexual orientation, drug and alcohol consumption, mental health, and many more.

The participants were drawn from a sample of anesthesia providers at a large urban health system in the Southeastern US. An email was sent instructing the participants to complete the race, age, and weight sections of the online Implicit Association Tests (IAT) as part of a more extensive study (Project Implicit, n. d.). The instructions included step-by-step pictorial directions for accessing the website and where to return the surveys.

Before obtaining consent, participants were informed about the anonymity and confidentiality of the survey, detailing its use and asking for their commitment to finish the survey. In addition, demographic information (gender, level, years of experience, and prior completion of an IAT) was collected. The entire process occurred in 3 distinct stages- first, an invitation with a link to the IAT and instructions containing what test to choose and how to report test scores anonymously was sent out to the selected anesthesia personnel. Second,

participants were instructed to either deliver their test results to a designated drop box or upload them to an anonymous online file after completion. The data collection period lasted six weeks between August 29, 2022, and October 8, 2022. Participants were sent reminders via email every two weeks to increase participation during the data collection period. Lastly, the project transitioned into its final stage of statistically analyzing the data. After the project, an additional educational pamphlet on implicit bias was distributed to the anesthesia department. This pamphlet aimed to incorporate recent literature on implicit bias and highlight the project's findings.

This project collected data using the Harvard Implicit Association Test offered by Project Implicit (Project Implicit, n. d.). Project Implicit is a non-profit organization and international collaboration of researchers interested in implicit social cognition (Project Implicit, n. d.). Harvard University's Implicit Association Test (IAT) is a part of Project Implicit. It is a resource that enables individuals to understand their implicit biases better and reflect on how those biases influence our beliefs, actions, decisions, and attitudes. Participants are invited to select an IAT from a list of health and social attitudes topics, including, but not limited to, age, race, religion, gender and employment, sexual orientation, drug and alcohol consumption, mental health, and many more.

Conceptual Theoretical Framework

The Plan, Do, Study, Act (PDSA) model is used to guide interventions and continually evaluate outcomes to achieve the desired goals for this project (Agency for Healthcare Research and Quality, 2020). This framework encourages continual change assessment and allows

necessary modifications before starting the cycle again. Initial PDSA cycles are typically

implored to examine change implementation on a small scale (Perla et al., 2013). The planning

phase included gathering research on implicit bias and how it could affect patient and provider

interaction. This phase also included researching a tool (IAT) to best assess providers for any

implicit bias. Once the analysis was collected, feedback on the project results was distributed to

the anesthesia department through a pamphlet. The "act" phase of the PDSA model included

providing feedback to the anesthesia department.

 The PDSA cycle is a quality improvement model designed to be continuously adjusted;

therefore, the author believes this model matches the goals of this project.

Tools

 Greenwald, McGhee, and Schwartz proposed the IAT in 1998 to measure individual

differences in implicit social cognition (Schimmack, 2021). In the years to follow, this test

gained popularity in psychology and sociology, garnering over 4000 featured citations

(Schimmack, 2021). "IAT evaluates the relative strength of a person's mentally-held automatic

associations of two opposing attributes (e.g., positive and negative)" (Chevance et al., 2017, p.

72). In this computer-based test, the researchers score one's implicit attitude by how fast they

respond and associate an image with an instructed letter or word. For instance, in the IAT on

weight, one is asked to quickly use the letters "E" or "I" to classify words as positive or negative.

Then, an image emerges on the screen; the participant is rated by how fast or slow they respond

correctly to categorize the two objects. The developers of the IAT explain the results as having

an implicit preference, e.g., "flowers compared to insects is if you responded faster when

Flowers + Good/ Insects + Bad are paired together compared to when Insects + Good / Flowers + Bad are paired together." (Project Implicit, ----n.d.).

The implicit association test provides users with results ranging from a strong, moderate, or slight preference to no preference when testing between subjects. These categories are associated with a D score, a scaled estimate of the difference in mean reaction times in stereotype-congruent and -incongruent matching tasks (Greenwald et al., 2003, p. 201). According to the Harvard Implicit Association website, the D score has a possible range of -2 to +2, broken into points for 'slight' (.15), 'moderate' (.35), and 'strong' (.65) association.

Numerous studies have assessed this test's reliability and validity, with many findings approving or debunking its authenticity. In an article to refute the reliability of the IAT test, one criticism is that trying to explain behavior based on the results of the IAT is problematic because the test relies on an arbitrary metric (Blanton et al., 2009; Marcelin et al., 2019). On the other hand, Greenwald et al. (2009) conducted a study investigating the reliability of IAT. They found that even when participants were asked to alter the test by slowing their response time deliberately, only the self-report questionnaires were skewed, while the IAT results were not. This further indicated that the sensitivity of IAT measures to automatically activated associations is resistant to faking (Greenwald et al., 2009).

Therefore, the IAT is the only measurable test for implicit bias that uses response latency (Staats, 2014). This delay in response highlights the implicit associations the test-taker holds. An educational series by the *Kirwan Institute for the study of Race and Ethnicity* highlights how implicit bias has been measured throughout the years (Staats, 2014)—for example, by utilizing functional Magnetic Resonance Imaging (fMRI) to assess bodily and neurological reactions to stimuli. According to the *Kirwan Institute for the study of Race and Ethnicity,* the "fMRI focused

on the amygdala that responds to fear and threat to emulate race-related mental process" (Staats, 2014, pg.18). Other means of determining implicit bias relied on other means such as facial electromyography and cardiovascular and hemodynamic changes. Researchers believe this delay in response is a useful way of measuring implicit bias compared to other methods mentioned (Staats, 2014). The author selected to use the IAT as an assessment tool to assess for implicit bias in this specific population because of its convivence and easy accessibility.

Setting

The anesthesia providers surveyed for this project are employed by a large urban integrated, nonprofit health system serving patients at 40 hospitals and more than 1,4000 care locations (Atrium Health, 2022). However, the setting for this project specifically focused on the four facilities that serve a large Metropolitan area. The sites included one large tertiary medical center, one suburban hospital, one community hospital, and a One Day Surgery center.

Participants

This project focused solely on anesthesia providers, sampling from employed CRNAs, anesthesiologists, and SRNAs. The SRNAs are students in an anesthesia program who are conducting their clinical rotations at one or more of the target sites. The inclusion criteria include those identified as active anesthesia providers within the Healthcare system, while the exclusion criteria for this project consist of -anesthesia providers who were not practicing at one of the target sites.

Approximately 410 active anesthesia providers practiced within the health care system in this Metropolitan Region during the project. Of those anesthesia providers, 60 identified as

MDAs, 318 as CRNAs, and 32 as SRNAs. The contact information of these specific providers was grouped in an email list that identified the providers at the four sample sites. The email list was used to distribute the link to all 410 anesthesia providers. The link contained the Harvard IAT test link, instructions on taking the correct assessment, and ways to anonymously report the results. In addition, demographic information, such as educational background, years of experience in the current role, and race, was collected from participants.

Data Collection

The data collection period began on August 29, 2022 and lasted six weeks. The closing date for data collection was October 8, 2022. During that time, email reminders were sent bi-weekly to remind the participants about the open survey. The drop boxes at each site were emptied periodically during this time. At the same time, the online file was checked daily for new results. At the survey's closing, the sample size was 46 participants of the 410 active anesthesia providers. See Figure one for project timeline and milestones.

Analysis Approach

The author used descriptive statistics (means, standard deviations, and p-values) to characterize the sample. Density curves were computed for each group to show the distribution of values in this dataset. Analysis of variance (ANOVA) was calculated to compare the group differences across age groups and titles for implicit weight bias among anesthesia providers. An ANOVA was also used to compare the mean across the different age and title groups.

Figure 1 Timeline
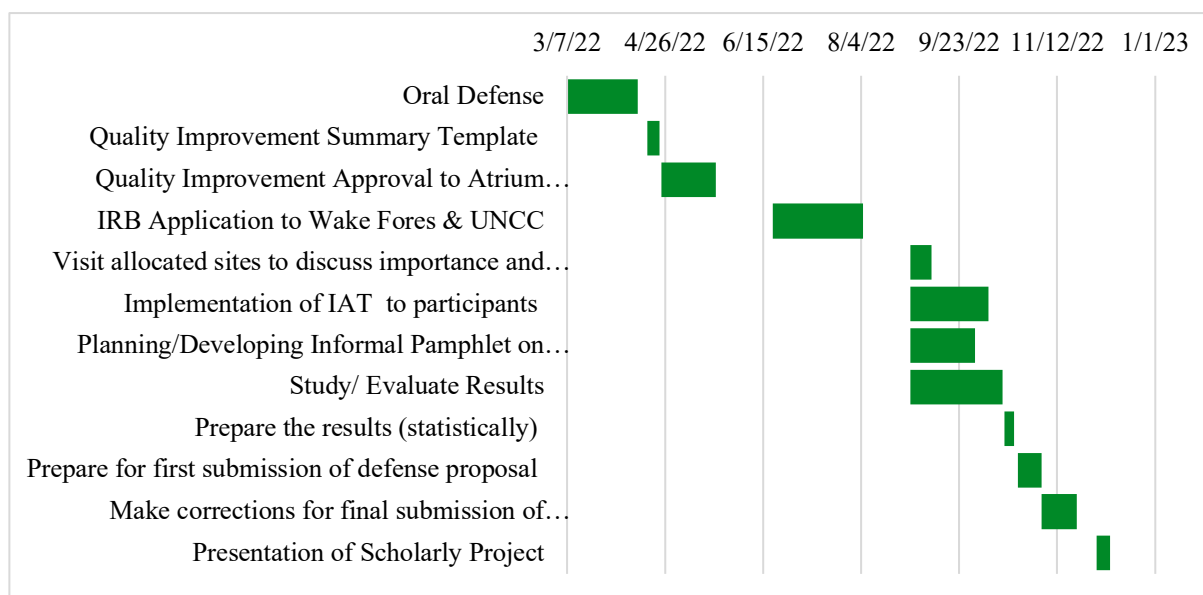
This project was submitted to the Healthcare System and the University Institutional Review Boards. It was reviewed as a quality improvement project that required no further review. The IRB letters are in Appendix A and B.

RESULTS

Participant Demographics

A total of 46 individuals participated in this project. The majority identified as White (n = 31), with three identified as Black, one as multi-race, and one as Hispanic. Most worked at the regional tertiary care hospital (n = 35). Twenty-six were CRNA, 18 were SRNA, and 2 were anesthesiologists. However, out of those 46 participants, only 33 questionnaires were eligible for data analysis due to a lack of full completion.

Data Analysis

Table 1. Implicit Weight Biases

	Weight (Bias against heavier people) mean/standard deviation
Overall	0.23 ± 0.25
Age groups	**$p=.877$**
20-29 years ($n = 14$)	0.22 ± 0.28
30-39 years ($n = 11$)	0.23 ± 0.21
40 or above ($n = 8$)	0.24 ± 0.29
Title	**$p=.919$**
CRNA ($n = 19$)	0.23 ± 0.24
SRNA ($n = 14$)	0.22 ± 0.28

Table 1 displays the mean ratings of implicit biases for weight. The implicit bias scale ranges from -0.35 to 0.65, with a positive score indicating a bias against individuals who are heavier vs. thinner. The first row ('Overall') displayed the mean and standard deviation for weight bias. As mentioned in the earlier section, the Implicit Harvard Association Test D score has a possible range of -2 to +2, broken into points for 'slight' (.15), 'moderate' (.35), and 'strong' (.65) association. Therefore, the analysis of the IAT demonstrated that anesthesia providers preferred thinner patients over heavier patients. The mean scores indicated a middle point between slight (0.15) and moderate (0.35) preference for thinner patients. Using a p-alpha level of 0.05, the author can say with 95% confidence that there was no statistical significance that shows a difference in weight bias between SRNAs and CRNAs (p= .919).

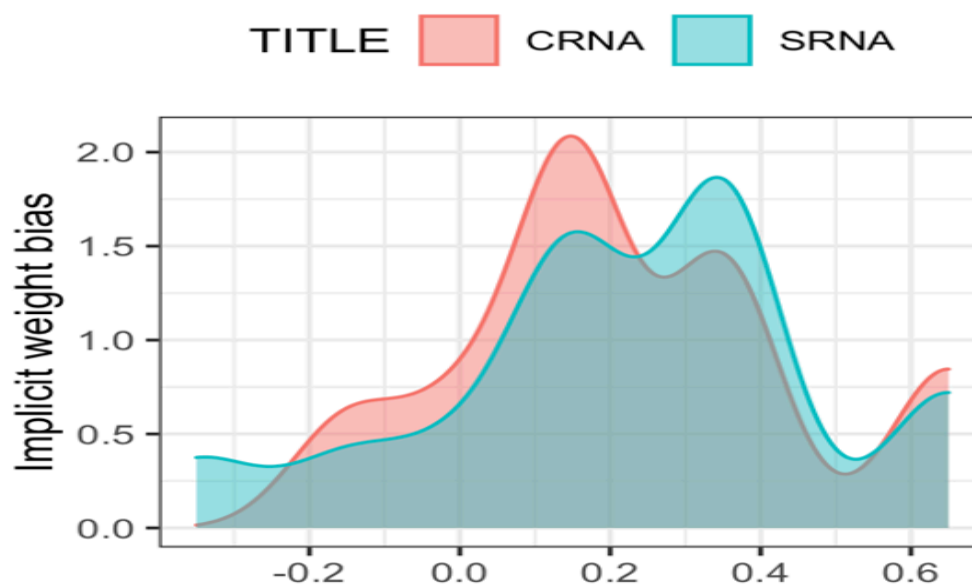Figure 1. Implicit bias by title categories
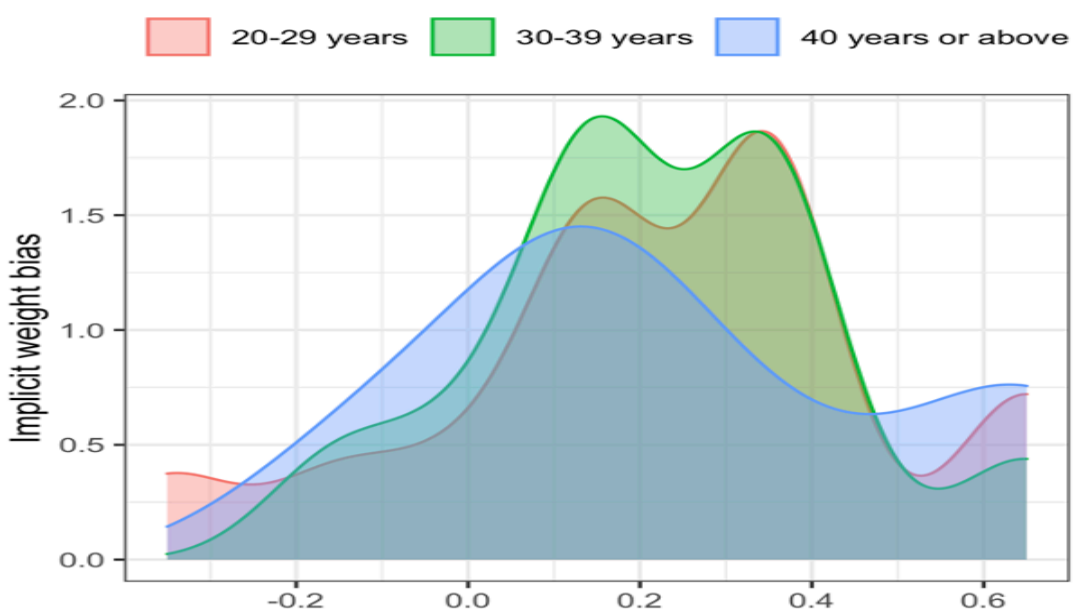

Figure 2. Implicit bias by age
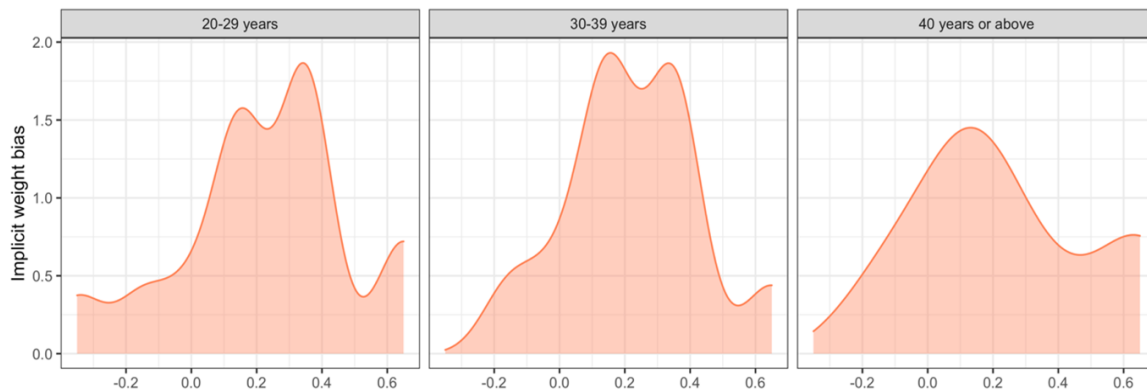
Figure 3. Implicit bias by each age category

Figure 1 divided the dataset by titles. There were not enough anesthesiologist participants to be counted. The average mean for SRNAs was 0.22 with a standard deviation of ±0.28. The average norm for CRNAs was 0.23 with a standard deviation of ±0.24. In comparison, Figure 2 & Figure 3 divided the dataset by age groups. Figure 2 displays all three age groups on one graph, while Figure 3 individually separates them. The age groups were divided into 20-29 years of age, 30-39 years of age, and 40 years and above. For the age group of 20-29, the mean IAT score was 0.22, with a standard deviation of 0.28. 30–39-year-olds averaged at 0.23 with a standard deviation of 0.21. And lastly, the 40-year and above had an average of 0.24 with a standard deviation of 0.29. There was no statistical difference when comparing the two groups (SRNAs & CRNAs). The majority identified a slight (.15) to moderate (0.35) preference for thinner people compared to heavier people. The ANOVA suggested no difference across the groups (*ps*> .303).

DISCUSSIONS

Implications for practice

The anesthesia department identified this project as a need. The findings from this project are consistent with the literature on weight bias in health care providers. They suggest a benefit to increasing providers' awareness of their bias and its potential impact on patient accessibility and outcomes. Implicit bias hinders rapport between patient and provider and results in misunderstanding and resistance to medical advice and treatment protocols (Lawrence et al., 2021). After the project, the project team created and distributed flyers to the anesthesia department to distribute the project findings and raise awareness. Some approaches could include administering the IAT assessment annually, developing an educational module as part of the onboarding training, and incorporating motivational interviewing exercises among healthcare providers. Along with health care systems, educational programs in the health professions can also begin addressing weight bias in their programs, particularly Schools of Nursing that educate nurses for Advanced Practice roles.

Limitations/Strengths

An important limitation of this study was the participation rate. The survey was sent to over 400 anesthesia providers. The return rate for this project was about 10%. This percentage does not equally represent the number of anesthesia providers within the target sites. Unfortunately, the anesthesiologist group lacked representation, so only results from SRNAs and CRNAs and comparisons of SRNAs to CRNAs were possible. Another limitation of the project was the method of assessment. The project team received feedback from multiple participants,

informing them that the IAT was too time-consuming and demanding. The IAT required the participants to allocate 5-10 minutes per test. Because this project was a part of a larger project, the participants felt that asking them to set aside 30 minutes during their busy workday was too taxing. Participants also complained about the survey's timing. They expressed survey fatigue from all the requests to complete surveys. During the time of this project, there were three other surveys circulating to the same audience.

A limitation was the sensitive nature of the project and its impact on the provider's willingness to complete the survey. There was feedback received that some participants didn't believe that bias exists and thought the topic was divisive. In an attempt to reduce this risk, project members spoke openly about this topic during every encounter with anesthesia providers and presented the project at Anesthesia team meetings. The project team members were concerned that the subject was too sensitive and didn't want it to cloud their clinical training, given that they were students in the surveyed facilities. Therefore, the matter's resistance led to a decrease in dialogue surrounding this project.

The primary strength of this project was examining weight biases in a unique group of healthcare providers. This project provided baseline data in which the healthcare system can examine ways to expand diversity and inclusion efforts that address the organization's mission and ultimately make healthcare encounters more satisfying to patients.

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January 29, 2022.

APPENDIX A: Wake Forest IRB Approval Letter

WAKE FOREST
U N I V E R S I T Y
HEALTH SCIENCES

Office of Research
INSTITUTIONAL REVIEW BOARD

MEMORANDUM

To: Exie Earnhardt
         Atrium/Carolinas Healthcare System

From: Brian Moore, Chair
         Institutional Review Board

Date: 7/5/2022

Subject: Not Human Subjects Research: IRB00086381
         Utilizing the Harvard Implicit Association Test to evaluate the level of implicit bias
         among Anesthesia Providers based on age, weight, and race.

The Wake Forest University School of Medicine Institutional Review Board has reviewed your protocol
and determined that it does not meet the federal definition of research involving human subject research
as outlined in the federal regulations 45 CFR 46. 45 CFR 46.102(f) defines human subjects as "a living
individual about whom an investigator (whether professional or student) conducting research obtains (1)
data through intervention or interaction with the individual, or (2) identifiable private information."

The information you are receiving is not individually identifiable. In recent guidance published by the
Office of Human Research Protections (OHRP) on the Guidance on Research Involving Coded Private
Information or Biological Specimens, OHRP emphasizes the importance on what is being obtained by the
investigator and states "if investigators are not obtaining either data through intervention or interaction
with living individuals, or identifiable private information, then the research activity does not involve
human subjects."

Note that only the Wake Forest University School of Medicine IRB can make the determination for its
investigators that a research study does not meet the federal definition of human subject research.
Investigators do not have the authority to make an independent determination that a study does not meet
the federal requirements for human subject research. Each project requires a separate review and
determination by the Board. The Board must be informed of any changes to this project, so that the
Board can determine whether it continues to not meet the federal requirements for human subject
research. If you have any questions or concerns about this information, please feel free to contact our
office at 716-4542.

The Wake Forest School of Medicine IRB is duly constituted, has written procedures for initial and continuing review of clinical
trials; prepares written minutes of convened meetings, and retains records pertaining to the review and approval process; all in
compliance with requirements of FDA regulations 21 CFR Parts 50 and 56, HHS regulations 45 CFR 46, and International

Medical Center Boulevard, Winston-Salem, NC 27157-1023   (336) 716-4542 / fax (336) 716-4480

APPENDIX B: The University of North Carolina at Charlotte IRB Approval Letter

To:	Shanita George
	University of North Carolina at Charlotte
From:	Office of Research Protections and Integrity
Date:	27-Jul-2022
RE:	Determination that Activity is not Research and does not require IRB Approval
Study #:	IRB-23-0056
Study Title:	Utilizing the Harvard Implicit Association Test to evaluate the level of implicit bias among Anesthesia Providers based on age, weight, and race.

This submission was reviewed by the Office of Research Protections and Integrity, which has determined that this submission does not constitute research as defined under federal regulations 45 CFR 46.102(l) and 21 CFR 56.102(c) and/or (l) and does not require IRB approval.

Study Description:
This is a quality improvement project being conducted as part of the DNP in Nurse Anesthesia program. The project topic is a practice issue selected by the Anesthesia Quality and Safety Committee at Atrium Health aimed at improving the quality and outcome of care within the Atrium facility(s) identified for the project. Therefore, establishing a baseline level of implicit bias related to race, weight, and age among current anesthesia providers that practice at the four different Atrium Health sites, will provide insight into the current practice environment.

Please be aware that approval may still be required from other relevant authorities or "gatekeepers" (e.g., school principals, facility directors, custodians of records), even though IRB approval is not required.

If your study protocol changes in such a way that this determination will no longer apply, you should contact the above IRB before making the changes.