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### **Mindfulness Training in Mitigating Implicit Bias: Improving Cultural Competency for Nurses Caring for LGBT Individuals**

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**DOCTOR OF NURSING PRACTICE (DNP) PROGRAM**

**A DNP PROJECT**

**TITLE:**

Mindfulness Training in Mitigating Implicit Bias:  
Improving Cultural Competency for Nurses Caring for LGBT Individuals

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**DATE:** 4/9/2021

The George Washington University

Mindfulness Training in Mitigating Implicit Bias:  
Improving Cultural Competency for Nurses Caring for LGBT Individuals

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## Abstract

**Background:** Equitable care remains a goal of the United States healthcare system, with cultural competency training used as one intervention to mitigate disparities. Cultural competency education is primarily based on racial and ethnic differences, often omitting other marginalized groups. Implicit bias consequences are not addressed in such training programs despite the association with health outcome disparities. Research related to implicit bias has demonstrated the ability to promote malleability in implicit associations.

**Objectives:** This project assessed a mindfulness meditation exercise intervention on nursing awareness in interacting with lesbian, gay, bisexual, and transgender (LGBT) patients.

Additionally, an LGBT health education module that integrates affirmative practice and implicit bias concepts was introduced. This project served to improve awareness of implicit bias against LGBT individuals in order to begin mitigating the associations with poorer health outcomes.

**Methods:** Using a pre-post intervention design, participant acceptance and comfort in working with LGBT individuals was measured using the Sexuality Implicit Association Test (IAT).

Participants were instructed on the use of a mindfulness meditation exercise and completed a self-paced LGBT health education module. Content included LGBT terminology, health disparities, effective communication, and an overview of implicit bias awareness.

**Results:** Participants were comprised of registered nurses and licensed practical nurses working at a non-profit healthcare organization. A total of 81 participants completed the pre-intervention IAT, and 51 completed the post-intervention IAT. In comparing pre- and post-intervention IAT scores, there was an overall increase in neutrality of bias between heterosexual and homosexual individuals.

**Conclusions:** Mindfulness provides a promising opportunity to decrease bias in healthcare workers interacting with marginalized groups. This project provides a basis for organizational change using implicit bias awareness education. The research contributes to the paucity of available literature related to LGBT-specific healthcare, implicit bias, and cultural competence.

## Introduction

Achieving equitable care for all individuals is a fundamental goal for the United States healthcare system (Kates et al., 2018; Penman-Aguilar, Talih, Huang, Moonesinghe, Bouye, & Beckles, 2016). Subsequently, cultural competency remains an essential tenet in mitigating disparities related to health outcomes. However, cultural competency is primarily seen through racial and ethnic differences, omitting other marginalized groups at high risk for discrimination (Agency for Healthcare Research and Quality [AHRQ], 2014). Several authors support this argument, noting that most literature related to bias focuses on African American populations (Blair, Steiner, & Havranek, 2011; FitzGerald & Hurst, 2017). One of the National Institute of Health's goals is to eliminate disparities among marginalized groups (Fredriksen-Golden et al., 2014; Penman-Aguilar et al., 2016). Despite this, homosexual and transgender individuals have only been prioritized as "at-risk" with Healthy People 2020 objectives (Fredriksen-Golden et al., 2014).

The AHRQ (2014) defines cultural competency training as "care that respects diversity in the patient population and cultural factors that can affect health and health care, such as language, communication styles, beliefs, attitudes, and behaviors". Cultural competency education for health care providers can also have varying levels of effect on patient-level outcomes. For example – specific to homosexual and transgender patient outcomes – cultural competency education increases positive provider attitudes and knowledge about these populations (Bristol, Kostelec, & MacDonald, 2018). Additionally, the development of cultural competency for healthcare workers providing services for lesbian, gay, bisexual, and transgender (LGBT) individuals is a factor in mitigating physical and mental health disparities (Donaldson, Smith, & Parrish, 2019).

One consideration that is not addressed often in cultural competency training is the consequence of implicit bias. Bias is the "negative evaluation of one group and its members relative to another" (Blair, Steiner, & Havranek, 2011, p. 71). There are two forms of bias: explicit and implicit. Explicit bias pertains to individual awareness of negative evaluation on one group. Conversely, situational cues may activate implicit bias, leading to operating in an unintentional, unconscious manner. Importantly, implicit bias may lead to prejudice and discrimination toward minority groups, even in individuals that explicitly strive for equality (Staats et al., 2016).

The available literature related to implicit bias among healthcare providers suggests a correlation with minority disparities (Blair, Steiner, & Havranek, 2011). Despite the growing awareness of this relationship, there continues to be a scant evaluation of the effectiveness of interventions to reduce these biases, particularly for the LGBT population (FitzGerald et al., 2019). Therefore, this project sought to evaluate the existing literature related to implicit bias reduction and to reduce implicit bias toward the LGBT population.

### **Background and Significance**

The most troubling aspect of implicit bias for providers is the possibility of a judgment becoming skewed, with resulting behavior becoming biased (FitzGerald et al, 2019). Situational cues that may activate implicit bias may further influence individual perception, memory, and behavior (Blair, Steiner, & Havranek, 2011). Further, when individual bias is high, few meaningful interactions occur to challenge those biases (Fallin-Bennett, 2015).

The most commonly used measurement of implicit bias is the Implicit Association Test (Blair, Steiner, & Havranek, 2011). The Implicit Association Test (IAT) is a computer-based measure that asks respondents to sort words or pictures into mutually exclusive categories



representing a concept dimension – for example, heterosexual and homosexual (Schimmack, 2019). Responses are measured with the assumption that faster response times are related to a stronger implicit association (Schimmack, 2019). The speed measures the strength of the implicit association in sorting these items. Diverse specialties, including psychology, health, political science, and market research, have successfully used the IAT in numerous studies (Blair, Steiner, & Havranek, 2011).

Research related to implicit bias has demonstrated that associations are malleable in the presence of new information (Staats et al., 2016). Interventions that specifically address implicit biases reflect a growing body of inquiry as a consequence. Examples of these interventions include counter-stereotypical exemplars, approach and avoidance behaviors, and educational programming for children. Additionally, mindfulness meditation is a promising intervention based on the principle of nonjudgmental reflection (Staats et al., 2016).

Mindfulness is a process of "openly attending, with awareness, to one's present moment experience" (Creswell, 2017, p. 493). Mindfulness is often a stark comparison to daily life, where automaticity or the suppression of unwanted experiences is often present. Interventions that target mindfulness training are associated with a broad range of outcomes, including physical and mental health and interpersonal functioning (Creswell, 2017; Howarth et al., 2019). Further, mindfulness interventions may influence the development of openness, acceptance, compassion, and insight into the nature of individual's and group's suffering (Creswell, 2017).

Mindfulness meditation exercises reduce automated social cognition through implicit bias (Lueke & Gibson, 2015). Lueke and Gibson (2015) also found that mindful focus inhibits reaction and automatic evaluation tendencies, further allowing for decreased reliance on previously established associations. Staats et al. (2016) noted that researchers studying

mindfulness interventions also conclude that controlled mental processing reduces implicit bias. Further, these researchers propose such interventions may establish more constructive thinking patterns that replace subjective associations.

### **Needs Assessment**

A strengths, weaknesses, threats, and opportunities (SWOT) analysis was conducted at the project site to assist in developing this project. The following section summarizes these findings, found in Appendix A (p. 43). The organization is a large non-profit entity based in Southwest Virginia, providing comprehensive services through a network of hospitals, primary care, and specialty medical practices. The flagship facility, located in Roanoke, Virginia, is a 703-bed Level I Trauma Center. In total, the organization provides healthcare services to nearly one million patients.

Strengths include the organization's mission and vision, including a dedication to improving patient care and community health. Additionally, there is a strong sense of community engagement and commitment from leadership. Weaknesses include incongruent attitudes toward LGBT patients and cultural awareness training. Currently, there is a lack of LGBT-specific training or expertise available. Opportunities include current visions to expand diversity and inclusion offerings to both employees and future healthcare providers receiving medical training through affiliated institutions. Human resource specialists are also engaged in developing cultural competency education. Finally, threats include the perception of non-inclusivity along with regional attitudes towards LGBT individuals.

### **Problem Statement**

There has been a tremendous expansion of both social awareness and acceptance of individuals that identify as LGBT (Fallin-Bennett, 2015). Despite these strides toward civil rights

and LGBT individuals' recognition, there remain challenges in achievable equitable health maintenance and outcomes. LGBT individuals suffer from a disproportionate number of physical and mental health disparities (Smalley, Warren, & Barefoot, 2018). Kates et al. (2018) note the following statistics related to health disparities in the LGBT community:

- Patients self-identifying as LGBT are more likely to rate their health as poor and have a higher prevalence of disabilities.
- In 2014, gay and bisexual men accounted for 70% of new HIV infections.
- Gay and bisexual men are 17 times more likely to develop anal cancer, which may be directly protected with administration of the HPV vaccination.
- Smoking rates are higher in LGBT adults.
- Bisexual individuals are more likely to report having experienced severe psychological distress within the past 30 days.

In addition to these findings, LGBT individuals are less likely to seek care from healthcare professionals due to rejection, prejudice, and perceived discrimination (Patterson, Tree, & Kamen, 2019; Smalley, Warren, & Barefoot, 2018; Smith & Turrell, 2017).

Cultural competence is characterized by the ongoing process of incorporating cultural awareness, knowledge, skill, encounters, desires and serves as an extension of patient-centered care (Henderson et al., 2018). Cultural competency has been studied in numerous practice settings, demonstrating the impact of education-focused interventions on provider awareness of LGBT issues. Moreover, this training has historically focused on factual minority group information with a prescriptive, scenario-based approach (Smalley, Warren, & Barefoot, 2018). Further, there remains a paucity of evidence studying implicit bias in cultural competency training (Fallin-Bennett, 2015).

### **Practice Question**

The following question guided project inquiry: *In nurses providing care for LGBT individuals, what is the effect of a mindfulness meditation intervention on acceptance and implicit bias, as measured by the Sexuality Implicit Association Test, in interacting with the LGBT community?*

### **Aim and Objectives**

This project sought to evaluate the impact of cultural competency training and bias interventions on provider awareness of implicit bias. In doing so, the project allowed the process of mitigating the association with poorer health outcomes in LGBT individuals.

### **Objectives**

The objectives of this project were to:

1. Implement and evaluate a mindfulness strategy for nurses caring for LGBT individuals by November 2020.
2. Introduce an LGBT health education module that integrates affirmative practice components and implicit bias to nurses by November 2020.
3. Establish a decreased preference for heterosexual patients, as measured by repeat Sexuality Implicit Awareness Test scores, in most participants at 3-4-week post-intervention follow-up.

### **Review of Literature**

#### **Search Strategy**

The review of the literature for this project was completed between February and June of 2020. PubMed and CINAHL databases were used to search for literature. The search strategy's inclusion criteria included articles that were a) written within the last ten years, b) written in the

English language, and c) peer-reviewed. Exclusionary criteria used included articles targeting a specific group (e.g., oncologists) or provided a focus on academic curriculum.

An initial search using the keywords "cultural competency," "implicit bias," and "LGBT" was used but did not yield any articles. Two different search strategies were then employed.

### ***Cultural Competency***

A search using the terms "cultural competency" and "LGBT" yielded 99 articles. Ninety were excluded from further review due to relevance. Nine full-text articles were included for evidence and quality appraisal.

### ***Implicit Bias***

The search strategy began with the terms "implicit bias" and "LGBT," which yielded seven articles. However, five of these articles were duplicates and related to cultural competency. An additional search was performed using the keyword "implicit bias." This strategy was employed to identify articles that referenced interventions targeting implicit bias. This strategy identified 13 articles; three were used for evidence and quality appraisal. The remaining articles were excluded due to relevance. Additionally, a publication review yielded through a Google Scholar search yielded one additional article. Further articles from Google Scholar were not used as many related to implicit bias in healthcare were duplicates.

### **Evidence and Quality Appraisal**

The Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) Model was used to examine the quality of evidence for the literature review. This tool provides a rating hierarchy for research evidence (Level I-V) and quality rating (Grade A-C). Strong evidence and quality ratings are more likely to represent best practices (Dang & Dearholt, 2018). A summary table with evidence levels and quality ratings using this tool is available for reference in Appendix B

(p. 44); the section "EBP Translation Model" provides a greater discussion of the JHNEBP Model.

### **Literature Review**

This literature review aimed to synthesize the knowledge on implicit bias, cultural competency, and LGBT health outcomes.

#### ***Implicit Bias***

Phelan et al. (2017) noted that biases impact verbal and nonverbal communication with patients and may interfere with provider decision-making. In another study, residents continued to report discomfort in their ability to care for LGBT patients despite receiving increased LGBT health training during medical school (Ufomata et al., 2018). Further, the consequences of prejudice towards marginalized groups are widely recognized, and interventions aimed at reducing prejudice are warranted (Dermody, Jones, & Cumming, 2013).

Multiple interventions proposed to address implicit bias have been suggested (Dermody, Jones, & Cumming, 2013; Lai, Haidt, & Nosek, 2014; Lueke & Gibson, 2016). Dermody, Jones, and Cumming (2013) proposed imagined contact as one strategy in a group of psychology students at the University of Sydney. Participants were first asked to "imagine yourself meeting a male homosexual stranger for the first time," and were then instructed to imagine finding out "interesting and unexpected things" (Dermody, Jones, & Cumming, 2013, p. 266). Ultimately, the intervention did not provide any significant difference in reducing implicit out-group prejudice towards male homosexuals ( $F = 0.447$ ,  $p = 0.506$ ).

Lai, Haidt, and Nosek (2014) tested the induction of moral elevation in reducing sexual prejudice against male homosexuals. The authors note that moral elevation is the theoretical opposite of disgust and is associated with social elicitors such as certain population classes or

behaviors. Participants viewed inspiring videos, which were then followed with implicit and explicit bias measurement. The authors found that implicit and explicit sexual prejudice was "slightly reduced" in individuals who underwent moral elevation compared to individuals in the control group ( $p = 0.24$ ).

Lueke and Gibson (2016) posited that mindfulness manipulation might reduce implicit bias towards black and elderly populations. The authors note that one purpose of mindfulness intervention is to "limit the ability of automatically activated verbal-conceptual content derived from past experience to bias thought and behavior" (p. 1). In a group of students from a large midwestern university, the authors instructed participants to partake in a mindfulness meditation intervention that required a focus and awareness of bodily functions. In comparison to participants in the control group, participants showed significantly less racial bias ( $F = 4.21$ ,  $p = 0.04$ ) and age bias ( $F = 3.88$ ,  $p = 0.05$ ).

**Implicit Bias Measurement.** The most recognized measure of implicit bias is the IAT (FitzGerald et al., 2019). Specific to this literature review, several researchers used the IAT for their research (Dermody, Jones, & Cumming, 2013; Lai, Haidt, & Nosek, 2014; Lueke & Gibson, 2016). Participants are asked to quickly categorize positively and negatively valenced words or images as part of the testing procedure. With the task, the basic premise surmises that an individual's performance speed reflects the strength of automatic associations between the target and evaluate attribute (Dermody, Jones, & Cumming, 2013). The methodology section provides a further discussion of the Sexuality IAT.

**Mindfulness Meditation Exercise.** After a review of the literature, the mindfulness meditation review was chosen as the project intervention. Comparatively, there was a more significant reduction in implicit bias using mindfulness meditation versus imagined contact and moral

elevation. Further, mindfulness meditation would require less time and resources from participants to complete. This intervention would be able to be completed quickly before or during the workday with minimal interruption.

### *Cultural Competency*

Bristol, Kostelec, and MacDonald (2018) completed a cultural competency training program for emergency department nurses and providers. Using a pre-post design, they measured knowledge and skills, openness and support, and awareness of oppression experienced by the LGBT community. Upon completing the competency training program, Bristol, Kostelec, and MacDonald (2018) found a statistically significant difference between pre- and post-intervention groups ( $p = 0.001$ ). Also, there was an increase in oppression awareness by 6.5% ( $p = 0.005$ ). Donaldson, Smith, and Parrish (2019) conducted a similar study in which an online training module was used to evaluate LGBT knowledge and attitudes. Using a pre-post design, the authors found a statistically significant increase in LGBT knowledge ( $p < 0.001$ ). Shrader et al. (2017) noted an overall improvement in a similar pre-post design with LGBT awareness training, with specific improvement noted in preventive measures. Wyckoff (2019) found a significant increase in pre- and post-intervention Gay Affirmative Practice (GAP) scores (range 74-144 v. 88-150,  $p < 0.05$ ).

Knowledge and skills in providing care for LGBT patients in various provider groups significantly increased with cultural competency training. Several methods were used to measure competency, with multiple authors using the GAP Scale. Schweiger-Whalen et al. (2019) incorporated the GAP scale in a study of nurses, nursing students, nurse practitioners, social workers, and counselors. Wyckoff (2019) further demonstrated the GAP Scale with nursing staff,



using the tool with a group of LPNs along with associate's, bachelor's, and master's prepared registered nurses.

Bristol, Kostelec, and MacDonald (2018) used the Ally Identity Measure (AIM) in a group of nurses, providers, and supporting service staff. The Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale (LGB-KASH) was used in a mixed group of nurses, physicians, and social workers by Donaldson, Smith, and Parrish (2018). Joint Commission competencies to include the clinical environment, intake questions, and staff knowledge was incorporated by Felsenstein (2018) in a primary care office setting, with participants involved in both clinical and administrative roles.

A majority of these studies were performed in academic settings: nursing schools, medical schools, and internal medicine residencies. However, cultural competency training is an effective intervention in improving professional knowledge, skills, and attitudes towards LGBT patients in many settings. Additional study settings included emergency departments (Bristol, Kostelec, & MacDonald, 2018), primary care clinics (Felsenstein, 2018), medical education workshops (Schweiger-Whalen et al., 2019), and acute care medical-surgical units (Wyckoff, 2019).

Several additional findings are notable, the first being professional knowledge gained in addition to openness and support. Bristol, Kostelec, and MacDonald (2018) found that cultural competency education may provide other strategies to meet the cultural needs of LGBT patients. Wyckoff (2019) identified that competency training and professional development might decrease barriers to care. Additionally, several studies explored an awareness of oppression that may be experienced by LGBT patients. For example, qualitative data collected by Schweiger-Whalen et al. (2019) found that cultural competency training "made me realize how unsafe

members of the LGBT community can feel in everyday situations" and "[understand] how stress-producing health encounters can be for LGBTQ" (p. 7).

### ***LGBT Health Outcomes***

Numerous health outcomes are identified throughout the literature, including mental health outcomes.. According to Bristol, Kostelec, & MacDonald (2018), elevated rates of psychiatric disorders, substance abuse, and suicide are associated with LGBT individuals' discrimination. Donaldson, Smith, and Parrish (2018) note that, regardless of age, mental health disparities are more significant in LGBT individuals than heterosexual counterparts. There is also a higher incidence of anxiety and depression noted within the LGBT community (Schweiger-Whalen et al., 2019).

In addition to mental health outcomes, physical health outcomes are also identified. For example, there is a higher risk of medical diseases, including asthma, diabetes, hypertension, and hepatitis A and B found in the LGBT population (Shrader et al., 2017). Additionally, there are varying outcomes for specific measures within the various LGBT sub-groups. To illustrate this point, gay men and transgender individuals are at higher risk for sexually transmitted diseases, including HIV; obesity is more likely to be present in lesbians and bisexual women (Schweiger-Whalen et al., 2019).

### ***Summary of Evidence***

Public opinion related to equal rights for LGBT individuals in the United States is "remarkable" (Fallin-Bennett, 2015). As such, one may easily assume that sexual identities can be shared openly and in any setting. However, persistent discrimination experiences, such as homophobia and transphobia, often result in LGBT avoidance of the healthcare system (Smalley,

Warren, & Barefoot, 2018). While available research is growing, more evidence-based knowledge related to LGBT patients' care is needed (Bristol, Kostelec, & MacDonald, 2018). Health equity remains a challenge for LGBT patients, who remain disproportionately impacted by many conditions. Cultural competency training has been associated with an increase in awareness of sexual minority issues (Bristol, Kostelec, & MacDonald, 2018; Schweiger-Whalen et al., 2019; Wyckoff, 2019). Improved cultural competence may improve the patient-provider relationship, which may, in turn, promote greater patient engagement with the healthcare system. However, implicit bias awareness interventions may also provide an improvement strategy for patient-provider relationships.

### **EBP Translation Model**

#### **Johns Hopkins Nursing Evidence-Based Practice Model**

The JHNEBP Model was chosen as the evidence-based translational model for this project. Permission was obtained to use the model by completing the online Copyright Permission Form ([www.hopkinsmedicine.org/evidence-based-practice/ijhn\\_2017\\_ebp.html](http://www.hopkinsmedicine.org/evidence-based-practice/ijhn_2017_ebp.html)). The JHNEBP Model is composed of three interrelated, essential components: inquiry, practice, and learning (Dang & Dearholt, 2018). The model was used to provide a structural framework to navigate the quality improvement process.

The integration of scientific and experiential evidence is a key reason this model was chosen for this project (White, Dudley-Brown, & Terhaar, 2016); evidence-based findings combined with the collective experience and expertise of the student researcher and project advisors allowed for successful project implementation. Dang and Dearholt (2018) also note that researchers with varied experience have successfully used the JHNEBP process with mentorship

and organizational support. The model's design provided additional guidance and tools to navigate each project phase to ensure successful implementation.

Three distinct phases are notable in this model, referred to as the PET process (Practice question, Evidence, and Translation). Each phase has distinct operational steps. A summary of these steps, as applied to this project, is provided in Table 1

**Table 1: Practice Question, Evidence, and Translation Steps in JHNEBP Model.**

<b>Practice Question</b>	
1. Recruit interprofessional team.	<ul style="list-style-type: none"> <li>• Primary and secondary project advisors</li> <li>• Nursing researchers</li> <li>• Organization project management (IT, biostatistician)</li> </ul>
2. Define the problem.	
3. Develop and refine the EBP problem.	
4. Identify stakeholders.	<ul style="list-style-type: none"> <li>• Organizational leadership                             <ul style="list-style-type: none"> <li>○ Human Resources/Education</li> </ul> </li> <li>• Nurses</li> <li>• Community members</li> </ul>
5. Determine responsibility for project leadership.	
6. Schedule team meetings.	
<b>Evidence</b>	
7. Conduct internal and external review for evidence.	<ul style="list-style-type: none"> <li>• Cultural competency training specific to LGBT health</li> <li>• Implicit bias interventions</li> </ul>
8. Appraise the level and quality of each piece of evidence.	<ul style="list-style-type: none"> <li>• Review of literature                             <ul style="list-style-type: none"> <li>○ Evidence Table, Appendix B</li> </ul> </li> </ul>

9. Summarize the individual experience.	
10. Synthesize overall strength and quality of evidence.	
11. Develop recommendations.	
<b>Translation</b>	
12. Determine fit, feasibility, and appropriateness of recommendations.	<ul style="list-style-type: none"> <li>• Align with organization mission and goals of diversity and inclusion</li> <li>• Fit with current HR initiatives regarding cultural competency education towards LGBT patients</li> </ul>
13. Create action plan.	<ul style="list-style-type: none"> <li>• Methods</li> <li>• Evaluation Plan</li> </ul>
14. Secure support and resources to implement action plan.	<ul style="list-style-type: none"> <li>• Discussions regarding methodology and intervention with organization staff (nursing researchers, IT, biostatistician)</li> </ul>
15. Implement action plan.	
16. Evaluate outcomes.	<ul style="list-style-type: none"> <li>• Data Collection/Evaluation and Analysis Methods, Appendix K</li> </ul>
17. Report outcomes to stakeholders.	
18. Identify next steps.	
19. Disseminate findings.	

The JHNEBP Model is an open system influenced by internal and external factors (Dearholt & Dang, 2018). Internal factors included the organization's culture, value given to nursing research, and organizational standards. One external factor considered was the American Nurses Credentialing Center, specifically the Magnet Recognition Program®. Moreover, recent state legislation (Virginia Values Act) served to further promote access to safe, quality healthcare

services by including sexual orientation and gender identity as prohibited discrimination. In addition, an increasing focus on quality measures related to LGBT-health from the Joint Commission and the Institute of Medicine were external factors that had the potential to impact project resources and outcomes.

### **Health Equity Promotion Model**

The Health Equity Promotion Model, proposed by Fredriksen-Goldsen et al. (2014), provided additional theoretical underpinnings. The Health Equity Promotion Model promotes intersectionality within LGBT communities, noting the influences of structural and environmental circumstances. In particular, the model promotes consideration of the exclusion and marginalization of LGBT individuals over time within shifting historical and social contexts. Discrimination, stigmatization, and microaggressions have a significant impact on the health of LGBT individuals. Further, injustice through social conditions and societal norms can "systematically and institutionally disadvantage marginalized individuals and lead to poorer health outcomes" (Fredriksen-Golden et al., 2014, p. 657). Conversely, social inclusion has a positive impact on the health of LGBT individuals. For individuals who have developed vital social resources, including interrelationships with healthcare providers, adverse experiences related to health and healthcare are mitigated. Appendix C (p. 58) provides a figure summarizing the Health Equity Promotion Model.

The Health Equity Promotion Model was used to highlight the deleterious impact of discrimination and stigmatization on health outcomes in the LGBT community. The National Academy of Medicine, formerly the Institute of Medicine, has found that "LGBT populations are health disparate and underserved, recognizing the lack of attention to sexual and gender identity as critical gaps in efforts to reduce overall health disparities" (Fredriksen-Golden et al., 2014, p.

653). The LGBT health education module, an additional component to the mindfulness meditation intervention, provided participants with information related to discrimination in health care. The Health Equity Promotion Model was also implemented within the health education module to provide an overview of intersectionality and social inclusion on health outcomes. Additionally, an overview of LGBT health disparities was provided. The framework provided the necessary underpinnings for policy change within the healthcare organization through these actions.

## **Methods**

### **Design**

This project provided a research and policy focus using a pre-post intervention design. The primary intervention was the implementation of a mindfulness meditation exercise. The mindfulness exercise was delivered via a 10-minute audio clip and made available for participants to download. Additionally, participants completed an LGBT health education module. The LGBT health education module was modeled after curriculum available from the National LGBT Health Education Center, a Fenway Institute program (2016). The project interventions section will provide more significant discussion related to the modular curriculum. The National LGBT Health Education Center website provided electronic permission for material usage (<https://www.lgbthealtheducation.org/frequently-asked-questions/>).

This project used the Sexuality Implicit Association Test (IAT) to measure implicit bias. The instruments section will provide greater discussion on the tool. Data were collected before the mindfulness meditation exercise and the LGBT health education module. Following completion of the pre-survey, both of the interventions were made available simultaneously. Of note, the LGBT health education module was self-paced. Participants were encouraged to

download the mindfulness meditation exercise to practice mindfulness daily (e.g., at the beginning of a work shift). Post-intervention data were collected 3-4 weeks following implementation.

### **Setting**

As a whole, the healthcare organization in which the project took place is a non-profit group with a comprehensive network of hospitals, primary, and specialty practices throughout Southwest Virginia. The project focused on organization facilities in the Roanoke Valley, in both inpatient and outpatient contexts. The inpatient setting included the 703-bed flagship hospital; outpatient settings focused on primary care offices, specifically internal medicine and family medicine.

### **Participants**

Participants were comprised of nursing staff – registered nurses and licensed practical nurses. Inclusionary criteria included current full- or part-time employment through the organization. Exclusionary criteria included employment through another group (e.g., travel workers temporarily assigned at the organization) or work in a specialty other than nursing. Demographic information was collected from each participant to include age, gender, level of education, and sexuality.

### **Sample Size**

The target sample size was estimated using power analysis. This method was appropriate for the project, as the analysis plan consisted of detecting significant variable associations (Creswell & Creswell, 2018). Power analysis helped increase the likelihood of determining if an effect exists by reducing the overall rate of data inference errors (Perugini, Gallucci, & Costantini, 2018).



Power analysis was calculated to estimate the target sample size using G\*Power, an open-source program for power analysis and sample size calculations (<https://stats.idre.ucla.edu/other/gpower/>). The calculation was performed using a two-tailed test with an effect size of 0.5, significance of 0.05, and power of 0.8. The estimated number of participants in total was calculated to be 128. Lueke and Gibson noted attrition of 30%, comparable to previous research using similar methods, which had attrition of 25% (2016). One hundred sixty-five participants total were planned to be recruited to compensate for expected attrition.

### **Recruitment**

Recruitment occurred during August 2020 and ended mid-September 2020. Participants were recruited voluntarily, using convenience sampling methods through organization email. The organization offered access to an organization-wide nursing distribution list, which provided email access to ambulatory and inpatient nursing staff. Roanoke-based nurses were introduced to the project through a mass email sent using the distribution list. Information, including the project purpose, intervention, confidentiality, participation benefits, potential harms and risks, and primary investigator contact information, was provided.

### **Consent Procedure**

Appendix D (p. 59) provides a summary of the consent form provided to participants. During the recruitment phase, the email sent contained a link for participants to access the electronic informed consent form, which was required before project participation. This link took participants to a summary screen reviewing study information. If believing questions were answered and agreed to participate, participants were prompted to "agree" with the consent

summary and were then taken to the demographic and pre-intervention surveys on this screen. Respondents who chose "do not agree" were opted-out without access to project materials.

### **Harms and Risks**

There was no anticipated direct harm or risk posed to participants during any project phase that would not be otherwise encountered during daily living. Participants may have experienced emotional distress related to the project content. Participants may also have felt increased anxiety and emotional distress if responses could be directly associated back to them. This project design was completed with anonymous data collection to decrease these instances. Contact information for the organization's Employee Assistance Program (EAP) was made available during the consenting process to access counseling services for participants that may have experienced emotional distress. These services were made available at no cost to the participant as part of their employee benefits.

### **Costs and Compensation**

Costs for project design and implementation were negligible. Access to organization resources, such as a computer, email, and REDCap support through the Health Analytics Research Team (HART) were afforded through employment. No cost was incurred for participants other than that associated with their time, which was not compensated. Participants did not receive any compensation for completing the intervention.

### **Instrument**

The Sexuality IAT is the most widely used measure of implicit bias related to sexuality (Anselmi et al., 2013). The instrument is a computerized two-choice discrimination task that measures the association between "concepts" (e.g., *heterosexual*, *homosexual*) and "evaluations"

or "stereotypes" (e.g., *fantastic*, *dirty*). Using a keyboard, participants were instructed to quickly sort concepts into categories by pressing either "E" or "I" (Project Implicit, 2011).



The test is divided into five main parts:

1. Sort words related to concepts. (e.g., sorting the word "gay" into the category "homosexual" on the left side)
2. Sort words related to evaluation. (e.g., sorting the word "beautiful" into the category "good" on the left side)
3. Categories are combined, with both concepts and evaluations sorted. (e.g., sorting the word into "good OR gay people" on the left side)
4. Placement of the categories is switched, with an increase in variables to sort. (e.g., sorting the word into "good OR gay people," now on the right side)
5. Categories are combined in a way that was opposite than before.

The instrument was delivered as a survey through a "Virtual Laboratory" via Qualtrics.

**Table 1: Sexuality IAT Category Items.**

Good	Attractive Glorious Magnificent Lovely Pleasure Joyful Celebrate Excitement
Bad	Nasty Rotten Abuse Angry

	Ugly Evil Poison Horrible
Gay People	Gay People Homosexual Gay Gay Men 
Straight People	Straight People Heterosexual Straight 

**Project Interventions**

Project interventions addressed individual- and systems-level change. The mindfulness meditation exercise served as an easily accessible tool for participants to employ during daily practice. While supplementary to the mindfulness meditation exercise, the LGBT health education module was critical to the project.

***Mindfulness Meditation Exercise***

A ten-minute audio clip (UC San Diego Center for Mindfulness, “10-Min Wisdom Meditation” by Steve Hickman, 2019) was played to demonstrate mindfulness meditation

techniques. The intervention was made available upon completion of the pre-intervention IAT. The audio was also available for download for participants to access. Participants were instructed to use the intervention daily. Emails were sent to participants to encourage ongoing utilization of the mindfulness meditation exercise intervention.

### ***LGBT Health Education Module***

The LGBT health education module afforded the opportunity for partnership through the organization's human resources department. Content included important LGBT terminology (Table 3), health disparities faced by LGBT individuals, and effective communication to provide affirming care to LGBT patients. Additionally, the module provided a brief overview of implicit bias awareness. Interventions to mitigate implicit bias in the clinical setting, including the mindfulness meditation exercise, were reviewed. The module was delivered via Cornerstone, the organization's online education delivery platform.

This component of the project was a modified education offered by the Fenway Institute. The Fenway Institute provides an interdisciplinary approach to research, training, education, and policy-related explicitly to LGBT individuals and communities (2020). Further, the Fenway Institute promotes high-quality, comprehensive healthcare and research availability for LGBT health.

**Table 2: LGBT Terminology.**

<b>Term</b>	<b>Definition</b>
Sexual orientation	How a person characterizes their emotional and sexual attraction to others.
Gender identity	A person's inner sense of being a girl/woman/female, boy/male, male, something else, or having no gender.

Heterosexual	A sexual orientation that describes women who are primarily, emotionally, and physically attracted to men and men who are primarily, emotionally, and physically attracted to women.
Lesbian	A sexual orientation that describes a woman who is primarily, emotionally, and physically attracted to other women.
Gay	A sexual orientation that describes a man who is primarily, emotionally, and physically attracted to other men.
Bisexual	A sexual orientation that describes a person who is emotionally and physically attracted to both women/females and men/males.
Transgender	Describes a person whose gender identity and sex assigned at birth do not correspond based on traditional expectations; for example, a personal assigned female sex at birth who identifies as a man.
Homophobia	Discrimination towards, and fear, marginalization, and hatred of lesbian and gay people, or those who are perceived as lesbian or gay.
Social stigma	Negative stereotypes and lower social status of a person or group based on perceived characteristics that separate that person or group from other members of a society.
Heteronormativity	The assumption that everyone is heterosexual, or that other heterosexuality is "normal." May also refer to societal pressure for everyone to look and act in a stereotypically heterosexual way.
Intersectionality	The idea that comprehensive identities are influenced and shaped by the interconnection of race, class, ethnicity, sexuality/sexual orientation, gender/gender identity, physical disability, national origin, religion, age, and other social or physical attributes.

The LGBT health education module was completed as an asynchronous, self-paced module. Appendix E (p. 64) provides a summary of the LGBT health education curriculum.

### Outcomes Measured

The project's short-term outcomes included the successful completion of the mindfulness meditation exercise and the LGBT health education module. Additionally, a decreased preference for heterosexual patients compared to homosexual patients, as measured by IAT scores, was also expected. Medium-term outcomes included organization policy changes related to LGBT-specific health education and cultural competency training for employees. Long-term outcomes included an improvement in patient-provider relationships, measured by feedback from LGBT patients. Finally, an update to the organization's mission and values would reflect improved inclusivity and affirmative practices.

### Project Timeline

Beginning in the fall of 2020, the study was conducted through December 2020. Recruitment began in September 2020, with the program starting in October 2020. The education module and mindfulness intervention had a deadline of November 2020. However, to promote greater participant involvement, the project deadline was extended through December 2020. Project completion, including data collection and analysis, was performed in December 2020-January 2021. Project evaluation and dissemination continued through the spring of 2021.

**Table 3: Project Timeline.**

<b>Milestone</b>	<b>Completion Date</b>
Project proposal submission	July 2020
Approval of project proposal	July 2020
Practice site IRB submission and approval	July-August 2020
GWU IRB submission and approval	July-August 2020
Recruitment	September 2020
Education module/mindfulness intervention deadline	October 2020

Program completion	December 2020
Project evaluation and dissemination	January-May 2021

## Resources

Resources for education and intervention delivery included computer, internet, and email access. The organization provided these resources. Additional computer and internet access outside the project setting was necessary for participants who wished to further review the education and intervention. However, this was not a requirement for the completion of the project. Further, the organization's HART provided additional insight and resource into project completion. The HART offered collaboration for data acquisition, management, and biostatistical analysis.

The human resources department provided access to Cornerstone for the delivery of the LGBT health education module. Access to Cornerstone allowed for review of participant completion of the LGBT health education module. Further opportunity to partner with the organization's human resources department also allowed for additional resource utilization, primarily through the Office of Continuing Professional Development. The Office of Continuing Professional Development facilitates continuing education activities that may be used to improve clinical practice and enhance patient care.

## Results

This project aimed to assess a mindfulness intervention on the awareness of implicit bias in nurses interacting with LGBT patients. Data collection began in October 2020 and concluded in December 2020. Data were available for direct download from Qualtrics as a Microsoft Excel file. Data were then translated into the Data Dictionary (Appendix I, p. 78) using Microsoft Excel, which was reviewed for accuracy by the researcher and biostatistician. Additionally, the



Iatgen software analyzes time-sensitive data entry for perceived errors by eliminating data collected too quickly, too slowly, or collected through repetition. A total of 81 individuals participated in the pre-intervention survey, with 65 completing the pre-intervention IAT. Fifty-one participated in the post-intervention survey, with 45 completing the post-intervention IAT.

Table 1 (Appendix J, p. 81) provides a summary of demographic information collected from participants during pre-intervention testing. Participant's ages ranged from 18 to 74, with a majority of participants aged 25-34 (n= 22, 27.85%), 35-44 (n = 20, 25.32), and 55-64 (n = 18, 22.78%). Seventy individuals identified as female (88.61%), with one identifying as "other" (1.27%). Most participants identified as heterosexual (n = 62, 78.48%), with 10 individuals identifying as homosexual (12.66%), 6 as bisexual (7.59%), and 1 as "other" (1.27%). Most nurses in the study had baccalaureate degrees (n =39. 50.0%), while 7 identified as diploma-prepared (8.97%), 9 as associates-prepared (11.54%), and 23 with graduate degrees (20 masters-prepared, 25.64%; 3 doctorate-prepared, 3.85%).

Before completing the mindfulness intervention, participants were also asked about their comfort level working with LGBT patients. Most respondents indicated that they were either extremely comfortable (n = 63, 79.75%) or somewhat comfortable (n = 12, 15.19%) working with this patient population. No participants indicated extreme discomfort in working with the group. Finally, participants were asked about the completion of any education-related to LGBT health or implicit bias. A majority of nurses indicated they had not previously completed LGBT health education (n = 51, 64.56%) or implicit bias education training (n = 72.15%).

### **Sexuality Implicit Association Test**

The Sexuality IAT was previously discussed in the Methods section. To summarize, this tool is a computerized two-choice discrimination task used to measure an association between

"concepts" (*heterosexual, homosexual*) and "stereotypes" (*good, bad*). The Sexuality IAT is the most widely used measure of implicit bias concerning sexuality. Intervention-specific data required specialized software due to the IAT's sensitive reaction-time requirements, which cannot be completed using standardized data collection and analysis methods (Carpenter et al., 2019). Iatgen was chosen to calculate IAT-specific results, as the software conducts calculations using the D-score algorithm, analogous to Cohen's *d* at the participant level (Carpenter et al., 2019). The software has been shown to have internal consistency and is able to calculate D-score drop and error rates (Carpenter et al., 2019).

D-scores are typically calculated on a scale of -2 to +2. For the Sexuality IAT data analyzed through IAT, a positive D-score indicates a preference for heterosexual individuals, while a negative D-score suggests a preference for homosexual individuals. A score of "0" can therefore be assumed neutral or without any bias. As shown in Table 3 (Appendix J, p. 82), there was an overall decrease in the preference towards homosexual individuals (-0.25667 pre-intervention to -0.19706 post-intervention), showing an improvement of bias towards either group. These scores were analyzed using SPSS software, revealing statistical non-significance of the data collected ( $p\text{-value} = 0.54$ ).

### **Study Aims Analysis**

Appendix K (p. 84) provides an overview of the outcomes identified for this project. The project outcomes were to:

1. Implement and evaluate a mindfulness strategy for nurses caring for LGBT individuals.
2. Introduce an LGBT health education module that integrates components of affirmative practice and implicit bias.

3. Establish a decreased preference for heterosexual patients, as measured by repeat Sexuality Implicit Association Test scores, in a majority of participants.

The post-intervention survey completed before the IAT was used to evaluate the first outcome. Participants were asked to share thoughts about the mindfulness intervention's helpfulness and if it would be recommended for colleagues. A majority of respondents believed that the mindfulness intervention was helpful (strongly agree:  $n = 15$ , 30.0%; somewhat agree:  $n = 17$ , 34.0%). Most participants would also recommend the intervention for others to complete (strongly agree:  $n = 18$ , 35.29%; somewhat agree:  $n = 21$ , 41.18%).

To evaluate outcome two, participants were asked to complete similar questions related to the LGBT health education module's appropriateness and if it would be recommended for coworkers. An overwhelming majority of responses indicated that the LGBT health education module was appropriate for the clinical setting. Only three of those surveyed (5.88%) showed they neither agreed nor disagreed about the module's applicability to clinical practice. Similarly, only four (7.84%) neither agreed nor disagreed about recommending the education module to colleagues. Table 4 (Appendix J, p. 84) summarizes data collected for these outcomes.

Project outcome three was evaluated through the Sexuality IAT as stated. Participants completed the IAT after a pre-intervention survey, which was repeated several weeks after the mindfulness intervention. Of note, this outcome assumed that participants would show a preference toward heterosexual patients. The pre-intervention IAT D-Score revealed a slight inclination toward homosexual patients. This pattern was noted again in the post-intervention IAT D-Score but showed a shift in bias neutrality following the intervention's use.

## Discussion

Project outcome three presupposed that participants would have a preference towards heterosexual individuals based on pre-intervention IAT scores. However, it was found that participants already had a slight preference towards homosexual individuals, with preferences neutralizing after project interventions. This may be explained through the voluntary recruitment process, as participants who desire to participate in LGBT-based research may have a stronger inclination towards identifying positively with the LGBT population. However, in reviewing project outcomes, there is no desire to shift preferences from one group toward another; rather, improved bias reflected in the data should become a target objective.

The small cohort of participants is a limiting factor for generalizability. Project design and implementation were executed during the COVID-19 pandemic. Shifting responsibilities and focuses within the organization during this period limited further recruitment of participants. Additional research opportunities with a larger sample size are warranted for further investigation.

## Implications for Practice

Cultural competency interventions such as those employed during this project have strong potential for improving provider knowledge of LGBT health (Bristol, Kostelec, & MacDonald, 2018). Further, the mindfulness meditation exercise provides an opportunity for further awareness of implicit biases that may impact the care of LGBT patients. The information and findings obtained may be expanded and translated into use with all provider specialties, including physicians, social work, case management, and ancillary patient services. Training programs such as the one developed for this project are a valuable resource for providers caring

for patients of any background and have the potential to change current practices in all care settings.

### **Implications for Healthcare Policy**

This project is timely in the present United States sociopolitical climate and may be used to identify gaps in current practices as well as address current healthcare policies. Previous studies and information obtained from this project allow for creating policies related to affirmative care best practices. These clinical guidelines may then impact LGBT health outcomes in many ways, including access to care, disease management, and patient satisfaction.

### **Implications for Executive Leadership**

The results of this and similar projects may be used by leadership to implement similar training offerings across all patient care environments. The project complements the organization's mission to create a safe, inclusive, and diverse environment. Integrating project interventions into leadership management may help to support clinical staff in providing care for LGBT patients. Additionally, healthcare organizations within the surrounding community may adopt similar training to provide improved care for the LGBT community of southwest Virginia.

### **Implications for Quality & Safety**

Information revealed during this project reveals the opportunity to improve individual and community outcomes. Cultural competency and mindfulness practices are able to be easily integrated into routines and facilitate openness and acceptance of marginalized groups. In promoting such training for healthcare providers working with LGBT patients, health disparities and patient outcomes may be positively impacted.

### **Plans for Sustainability and Future Scholarship**

Partnership with the organization's human resources department during project design and implementation creates the potential for ongoing research opportunities. The ability to reach diverse medical specialties with the mindfulness meditation intervention and LGBT health education module will allow for sustained change in providers' attitudes about caring for LGBT patients. Negligible costs and ease of implementation also allow for continued implementation of project interventions. Future research may target interventions within other facilities of the organization or the community. Additionally, research identifying the LGBT patient perception of care received may allow for identifying further knowledge gaps.

### **Conclusion**

Cultural competency remains an essential consideration in achieving equitable outcomes for marginalized populations. Despite this knowledge, stigmatization and discrimination continue to exist for certain groups, including members of the LGBT community. Current scientific literature related to LGBT health and education reveals an ongoing specific need for cultural competency training within this target demographic.

Implicit bias is one aspect of cultural competency that is often not addressed yet may have devastating effects on LGBT individuals' health outcomes. Mindfulness, a process of openly attending to present experiences, has been studied and shown to reduce automated social cognition through implicit bias. The implications for this practice are diverse and may have a targeted impact on provider awareness and behaviors in interacting with LGBT individuals. The information obtained from this project is promising and may contribute to the ongoing progress of reaching true health equity for all patients within the United States healthcare system.

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Appendix A: SWOT Analysis

	<p align="center"><b>Helpful</b> To achieving the objective</p>	<p align="center"><b>Harmful</b> To achieving the objective</p>
<p><b>Internal Origin</b> { Attributes of the organization }</p>	<p align="center"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>● Organization’s mission and vision</li> <li>● Organizational leadership</li> <li>● Community engagement</li> <li>● Opportunity for continuing education</li> <li>● Employee engagement</li> <li>● LGBT business resource group</li> </ul>	<p align="center"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>● Limited education availability</li> <li>● Lack of experts in LGBT health issues</li> <li>● No LGBT specific resources for training/development</li> <li>● Incongruent provider attitudes                             <ul style="list-style-type: none"> <li>○ Towards LGBT patients</li> <li>○ Towards cultural competency training</li> </ul> </li> </ul>
<p><b>External Origin</b> { Attributes of the organization }</p>	<p align="center"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>● Expansion of current mission and vision</li> <li>● Recent policy change (Virginia Values Act, 2020)</li> <li>● Partnership opportunities with Roanoke Diversity Center</li> <li>● Academic affiliations</li> </ul>	<p align="center"><b>Threats</b></p> <ul style="list-style-type: none"> <li>● Perceptions of non-inclusivity</li> <li>● Regional attitudes towards LGBT health/individuals</li> <li>● Lack of focus/organizational awareness of LGBT health issues</li> </ul>

Appendix B: Evidence Table

Citation	Evidence Type	Sample Size, Setting	Study Findings	Observable Measures	Limitations	Evidence Level, Quality
<p>Bristol, S., Kostelec, T., &amp; MacDonald, R. (2018). Improving emergency health care workers' knowledge, competency, and attitudes toward lesbian, gay, bisexual, and transgender patients through interdisciplinary cultural competency training. <i>Journal of Emergency Nursing</i>, 44(6), 632-639.</p>	<p>Pre-post design with LGBT cultural competency training using the Ally Identity Measure (AIM)</p> <p>Intervention: 2-hour cultural competency training specific to the ED</p> <p><u>3 domains</u></p> <ol style="list-style-type: none"> <li>1. Knowledge and skills</li> <li>2. Openness and support</li> <li>3. Awareness of oppression experienced by the LGBT community</li> </ol> <p><u>Modules</u></p>	<p><i>n</i> = 95 135 total online surveys completed</p> <p><u>Position held</u> RN = 71 Provider = 17 Supporting services = 41</p> <p><u>Age</u> 18-30 = 44 31-40 = 35 41-50 = 21 51+ = 29</p> <p><u>Sexual orientation</u> Heterosexual = 117 Homosexual = 5 Bisexual = 5</p> <p>Setting: emergency room</p>	<p>Chi square and Fisher's exact tests analyses</p> <p>Statistically significant difference between pre- and post-intervention groups (<math>p &lt; 0.001</math>)</p> <p>Knowledge and skills subscale noted to have 14.9% increase (<math>p &lt; 0.001</math>)</p> <p>Oppression and awareness increased 6.5% (<math>p = 0.005</math>)</p> <p>Openness and support increased 4.9%, which was</p>	<p>Knowledge and skills, openness and support, and awareness of oppression experienced by the LGBT community</p>	<p>Convenience sample of ED staff from an urban, level II trauma center</p> <p>Low return rate of post-education AIM surveys</p>	<p>Level II, Grade A</p>

	<ol style="list-style-type: none"> <li>1. Goal setting and objectives</li> <li>2. Components of gender and sexual identities</li> <li>3. Intersectionality</li> <li>4. Health disparities</li> <li>5. How to create a welcoming environment</li> </ol>		not statistically significant (p = 0.048)			
<p>Dermody, N., Jones, M.K., &amp; Cumming, S.R. (2013). The failure of imagined contact in reducing explicit and implicit bias out-group prejudice toward male homosexuals. <i>Current Psychology</i>, 32(3), 261-274.</p>	<p>Experimental design investigating the efficacy of imagined intergroup contact in improving attitudes towards male homosexuals on both explicit (Attitudes Towards Gay Men, ATG) and implicit measures (IAT)</p> <p><u>Groups</u> 1. Imagined interaction</p>	<p>n = 85</p> <p><u>Gender</u> Male = 33 Female = 52</p> <p><u>Age</u> Mean = 20.02, range 18-38</p> <p>Setting: first year psychology course at University of Sydney</p>	<p>ANOVA</p> <p>Imagery control group: no significant difference in attitudes toward male homosexuals on the ATG or IAT (F = 0.615, p = 0.440; F = 0.057, p = 0.813)</p> <p>Manipulation: Mean ATF score not significantly increased by imagined</p>	Explicit and implicit attitudes towards male homosexuals	Demographics (young, educated, living in city) may predict lower levels of prejudice	Level I, Grade A

	<p>2. Prime control 3. Unrelated imagery control</p>		<p>interaction (M = 22.47 pre-intervention on a 7-point Likert scale; M = 22.38 post)</p> <p>Mean IAT not significantly different after imagined interaction (F = 0.447, p = 0.506)</p>			
<p>Donaldson, W., Smith, H.W., &amp; Parrish, B.P. (2019). Serving all who served: Piloting an online tool to support cultural competency with LGBT U.S. military veterans in long-term care. <i>Clinical Gerontologist</i>, 42(2), 185-191.</p>	<p>Pre/post-test design with an online training module (“LGBT Veterans in Long-Term Care: Cultural Competency and Considerations for Care”) using 22 items from the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale (LGB-KASH) and Attitudes</p>	<p>n = 26</p> <p><u>Specialty</u> Nursing = 8 Medicine = 3 Social work = 4 OT/PT = 4 Psychology = 2 Chaplaincy = 1 Recreation = 1 Administration = 2</p> <p>Setting: geriatric extending care units</p>	<p>Independent sample t-tests</p> <p>Statistically significant increase in LGBT knowledge from pre- to post-test (4.36 to 5.7 on 7-point Likert scale; p &lt; 0.001)</p> <p>Statistically significant increase in transgender knowledge form pre- to post-test</p>	<p>Staff members knowledge, skills, and attitudes towards LGBT veterans</p>	<p>Online training provides difficulty in ensuring participant compliance</p> <p>No standardized measures of LGBT cultural competency measuring knowledge, skills, and attitudes</p>	<p>Level II, Grade A</p>



	<p>Towards Transgender Individuals Scale (ATTIS)</p> <p><u>Training content</u></p> <ol style="list-style-type: none"> <li>1. Terminology</li> <li>2. Fictional case vignette</li> <li>3. Intersectionality</li> <li>4. New challenges brought by aging LGBT individuals</li> </ol>		<p>(4.32 to 5.75 on 5-point Likert scale; <math>p &lt; 0.001</math>).</p>			
<p>Felsenstein, D.R. (2018). Enhancing lesbian, gay, bisexual, and transgender cultural competence in a midwestern primary care clinic setting. <i>Journal for Nurses in Professional Development</i>, 34(3), 142-150.</p>	<p>Pre-post design with three JCAHO cultural competencies (clinical environment, intake questions, and staff knowledge) including educational programs</p>	<p><math>n = 11</math></p> <p><u>Clinical role</u></p> <p>Direct care = 55.6%</p> <p>Administrative = 22.2%</p> <p>No answer = 22.2%</p> <p><u>Previous LGBT training</u></p> <p>None = 33.3%</p> <p>Minimal = 33.3%</p> <p>Some = 33.3%</p>	<p>Wilcoxon signed-rank test</p> <p>Significant increase in pre- to post-test change scores (median change score 4, <math>p = 0.033</math>)</p> <p>Cultural competencies measured by the Joint Commission 2011 Field Guide checklist</p>	<p>Incorporation of competencies into care setting, increasing staff knowledge of LGBT patient care</p>	<p>Small sample size</p>	<p>Level II, Grade A</p>

		Setting: primary care clinic	<ol style="list-style-type: none"> <li>1. A more inclusive environment was met by display of a symbol embracing diversity</li> <li>2. LGBT self-identity was achieved by adding sexual orientation/gender identity questions</li> <li>3. Staff knowledge of LGBT care was measurable through pre-post questionnaire results.</li> </ol>			
Lai, C.K., Haidt, J., & Nosek, B.A. (2014). Moral elevation reduces prejudice against gay men. <i>Cognition and Emotion</i> , 28(5), 781-794.	<p>Experimental design with 4 studies to investigate if induced moral/emotional elevation reduces sexual prejudice against male homosexuals</p> <p><u>Studies</u></p>	<p><u>Study 1</u> n = 377</p> <ul style="list-style-type: none"> <li>• 61.7% female</li> <li>• 85.1% heterosexual</li> <li>• Mean age = 30.1</li> </ul> <p><u>Study 2</u> n = 799</p> <ul style="list-style-type: none"> <li>• 67.2% female</li> </ul>	<p>Aggregate contrast analysis</p> <p>All participants reported elevation condition led to feelings of emotional uplift (aggregate d = 2.20)</p>	<p>Explicit (measured by ATG) and implicit attitudes (IAT scores) towards male homosexuals</p>	<p>Difficult to reproduce</p> <p>Focuses on male homosexuals</p>	Level I, Grade A

	<p>1. elevation-inducing video to elicit no particular effect                  2. Prejudice reduction through any positive affect (amusement videos)                  3 &amp; 4. Elevation-inducing video or control to elicit no affect</p> <p><u>Emotional inductions</u>                  Control: how flutes are made                  Elevation-inducing: Mentor; Sportsmanship; Hero                  Amusement: flash mob; stand-up comedy</p>	<ul style="list-style-type: none"> <li>• 83.4% heterosexual</li> <li>• Mean age = 29.5</li> </ul> <p><u>Study 3</u>  <i>n</i> = 423</p> <ul style="list-style-type: none"> <li>• 69.3% female</li> <li>• 85.1% heterosexual</li> <li>• Mean age = 27.4</li> </ul> <p><u>Study 4</u>  <i>n</i> = 2023</p> <ul style="list-style-type: none"> <li>• 60.2% female</li> <li>• 83.6% heterosexual</li> <li>• Mean age = 30.8</li> </ul>	<p>Mentor elevation clip reduced implicit prejudice (<math>t = 2.39</math>, <math>p = 0.17</math>), but not statistically significant</p> <p>Sportsmanship elevation clip reduced implicit prejudice (<math>t = 2.21</math>, <math>p = 0.24</math>), but not statistically significant</p> <p>Hero elevation clip reduced implicit prejudice (<math>t = 2.27</math>, <math>p = 0.24</math>), but not statistically significant</p>			
<p>Lueke, A. &amp; Gibson, B. (2015). Mindfulness meditation reduces implicit</p>	<p>Experimental design with two groups (mindfulness meditation, control) to</p>	<p><i>n</i> = 56</p> <ul style="list-style-type: none"> <li>• 71% female</li> <li>• 100% Caucasian</li> </ul>	<p>ANOVA, Pearson's <math>r</math></p> <p>Participants in the intervention group showed</p>	<p>Implicit attitudes as measured by Motivation to Respond Without Prejudice Scale and Mindful</p>	<p>Study focused on race and age, no LGBT measurements</p>	<p>Level I, Grade A</p>

<p>age and race bias: The role o reduced automaticity of responding. <i>Social Psychological and Personality Science</i>, 6(3), 284-291.</p>	<p>determine the impact of mindfulness on implicit bias against race and age, measured by IAT</p> <p><u>Intervention</u> 10-minute mindfulness tape instructing participants to focus and become aware of bodily sensations, while accepting bodily sensations and thoughts without reservations</p>	<ul style="list-style-type: none"> <li>All aged between 18-23</li> </ul> <p>Setting: large Midwestern university</p>	<p>significantly more state mindfulness than control group (M = 8.87 vs .6.42 on 11-point Likert scale, <math>p &lt; 0.001</math>)</p> <p>Participants in the mindfulness group showed significantly less implicit racial bias (<math>F = 4.21</math>, <math>p = 0.04</math>) and age bias (<math>F = 3.88</math>, <math>p = 0.05</math>) in comparison to the control group</p>	<p>Attention Awareness Scale</p>		
<p>Mayfield, J.J., Ball, E.M., Tillery, K.A., Crandall, C., Dexter, J., Winer, J.M., Bosshardt, Z.M., Welch, J.H., Dolan, E., Fancovic, E.R., Nanez, A.I., De May, H., Finlay, E., Lee, S.M.,</p>	<p>Quasi-experimental with pre-intervention readings (related to sexual history taking), implicit bias activity and post-intervention survey</p> <p>Intervention: 30-minute large-</p>	<p><math>n = 84</math></p> <p><u>Gender</u> Male = 40 Female = 37</p> <p><u>Sexual orientation</u> Heterosexual = 84.5% Homosexual/ Bisexual = 6%</p>	<p>Wilcoxon signed-rank test</p> <p>Statistically significant improvement reported comfort with discussing sex with patients in general using a 7-point Likert</p>	<p>Comfort in taking a sexual history, comfort in taking a sexual history in person with different sexual orientation than participants'</p>	<p>Focuses on sexual history taking</p> <p>Data presented through graphical representation; no actual statistics shared</p>	<p>Level II, Grade A</p>

<p>Streed, C.G., &amp; Ashraf, K. (2017). Beyond men, women, or both: A comprehensive, LGBTQ-inclusive, implicit-bias-aware, standardized-patient-based sexual history taking curriculum. <i>MedEdPORTAL</i>, 13.</p>	<p>group lecture, multiple standardized patient encounters with debrief</p> <p><u>Intervention content</u></p> <ol style="list-style-type: none"> <li>1. Gender identity</li> <li>2. Sexual orientation</li> <li>3. Sexual practices/behaviors</li> <li>4. Correct pronoun usage</li> <li>5. Use of sensitive language</li> <li>6. Nonbinary gender identities</li> </ol>	<p>Setting: medical school</p>	<p>scale (p &lt; 0.0001)</p> <p>Statistically significant improvement in reported comfort discussing sex with patients of a different sexual orientation or identity (p &lt; 0.0001)</p> <p>Statistically significant improvement in knowledge of sexual health and practices of MSM and WSW (p &lt; 0.0001)</p>			
<p>Patterson, J.G., Tree, J.M., &amp; Kamen, C. (2019). Cultural competency and microaggressions in the provision of care to LGBT patients in rural and Appalachian</p>	<p>Cross-sectional study with quantitative survey (Adapted LGBT Healthcare Scale) and interviews</p>	<p>n = 85 31 purposively recruited; 54 via convenience sampling</p> <p><u>Position held</u> RN = 66 Physician = 19</p>	<p>Pearson’s chi-squared test</p> <p>Statistical significance between medical training addressing LGBT healthcare needs of physicians and</p>	<p>Attitudes toward LGBT healthcare</p>	<p>Convenience sampling using database recruitment via TN Health Professional Licensing Reports</p> <p>6.2% response rate</p>	<p>Level II, Grade A</p>

<p>Tennessee. <i>Patient Education &amp; Counseling</i>, 102, 2081-2090.</p>		<p><u>Age</u> 41.6 ± 11.4</p> <p><u>Sexual orientation</u> Heterosexual = 78 Homosexual = 4 Bisexual = 1</p> <p>Setting: multisite, rural Tennessee</p>	<p>nurses (22.7% vs. 52.6%; p = 0.04)</p> <p>85.9% of providers disagreed that they would prefer not to care for LGBT patients; 92.9% disagree that they would refuse care to LGBT patients</p> <p>Qualitative data revealed that interviewees reported serving patients “equally”, yet described discomfort with LGBT patients and showed LGBT microaggressions in clinical practice</p>			
<p>Phelan, S.M., Burke, S.E., Hardeman, R.R.,</p>	<p>Prospective cohort study, surveyed during</p>	<p>n = 3492</p> <p><u>Gender</u></p>	<p>Hierarchical linear modeling</p>	<p>Implicit sexual orientation bias</p>	<p>No specific intervention to</p>	<p>Level II, Grade B</p>

<p>White, R.O., Przedworski, J., Dovidio, J.F., Perry, S.P., Plankey, M., Cunningham, B.A., Finstad, D., Yeazel, M.W., van Ryn, M. (2017). Medical school factors associated with changes in implicit and explicit bias against gay and lesbian people among 3492 graduating medical students. <i>Journal of General Internal Medicine</i>, 32(11), 1193-1201.</p>	<p>first semester of medical school and again during third or fourth year</p> <p>Interventions: all participants completed an explicit bias survey, with 50% randomized to complete a sexual orientation implicit bias test</p>	<p>Male = 1733 Female = 1759</p> <p><u>Age</u> 19-22 = 1133 23 = 897 24-25 902 26+ = 532</p> <p>Setting: 49 medical schools</p>	<p>Implicit bias against sexual minorities was reduced during medical school (a shift from moderate-strong to moderate bias; <math>\bar{x}</math> 0.45 to 0.34)</p> <p>Reduced implicit bias was associated with interaction with LGBT students, faculty, and patients (<math>b = -0.04, p = 0.008</math>)</p>		<p>evaluate implicit bias of cohort</p>	
<p>Schweiger-Whalen, L., Noe, S., Lynch, S., Summers, L., &amp; Adams, E. (2019). Converging cultures:</p>	<p>Pre-post design with 4-hour workshop using the GAP Scale and a knowledge quiz to measure</p> <p><u>Content</u></p>	<p><math>n = 130</math></p> <p><u>Gender</u> Male = 28 Female = 102</p> <p><u>Age</u> 20-29 = 41</p>	<p>Mann-Whitney, linear regression</p> <p>Significant change in knowledge scores (mean change</p>	<p>Cultural knowledge, practitioner beliefs regarding treatment of gay and lesbian patients</p>	<p>Convenience sampling of self-selected participants</p> <p>Regional differences may</p>	<p>Level II, Grade A</p>

<p>Partnering in affirmative and inclusive health care for members of the lesbian, gay, bisexual, and transgender community. <i>Journal of the American Psychiatric Nurses Association, 25(6), 453-466.</i></p>	<p>1. LGBT culture (symbols, concepts, terminology) 2. Health disparities 3. Strategies for delivering affirmative, inclusive care</p>	<p>30-39 = 38 40-49 = 17 50-59 = 16 60+ = 16</p> <p><u>Profession</u> RN = 29 Student = 75 NP = 3 Social worker = 6 Counselor = 5 Physical therapist = 1 Pharmacist = 1 Administration = 3</p> <p>Setting: regional community hospital with workshop offered to health care professionals and undergraduate nursing students</p>	<p>3.28; <math>t(126) = 14.99, p &lt; 0.001</math>.</p> <p>Significant change in GAP scores post-intervention (mean change 4.58; <math>t(80) = 8.6007, p &lt; 0.001</math>).</p> <p>A number of participants provided open-ended responses reflecting increased awareness of LGBT topics, history, and inclusive practices.</p>		<p>limit generalizability</p> <p>Time, money, logistical expectations required of workshop</p>	
<p>Shrader, A., Casero, K., Casper, B., Kelley, M., Lewis, L., &amp; Calohan, J. (2017). Military</p>	<p>Pre/post-test design with LGBT awareness trainings</p> <p><u>Content</u></p>	<p><math>n = 51</math></p> <p><u>Gender</u> Male = 18 Female = 31</p> <p><u>Age</u></p>	<p>Statistical data not provided, summarized in table/graphic form</p>	<p>Awareness of LGBT health concerns measured by a 15-question multiple-choice questionnaire</p>	<p>Small sample size</p> <p>LGBT military beneficiary focus (service members and family)</p>	<p>Level II, Grade B</p>

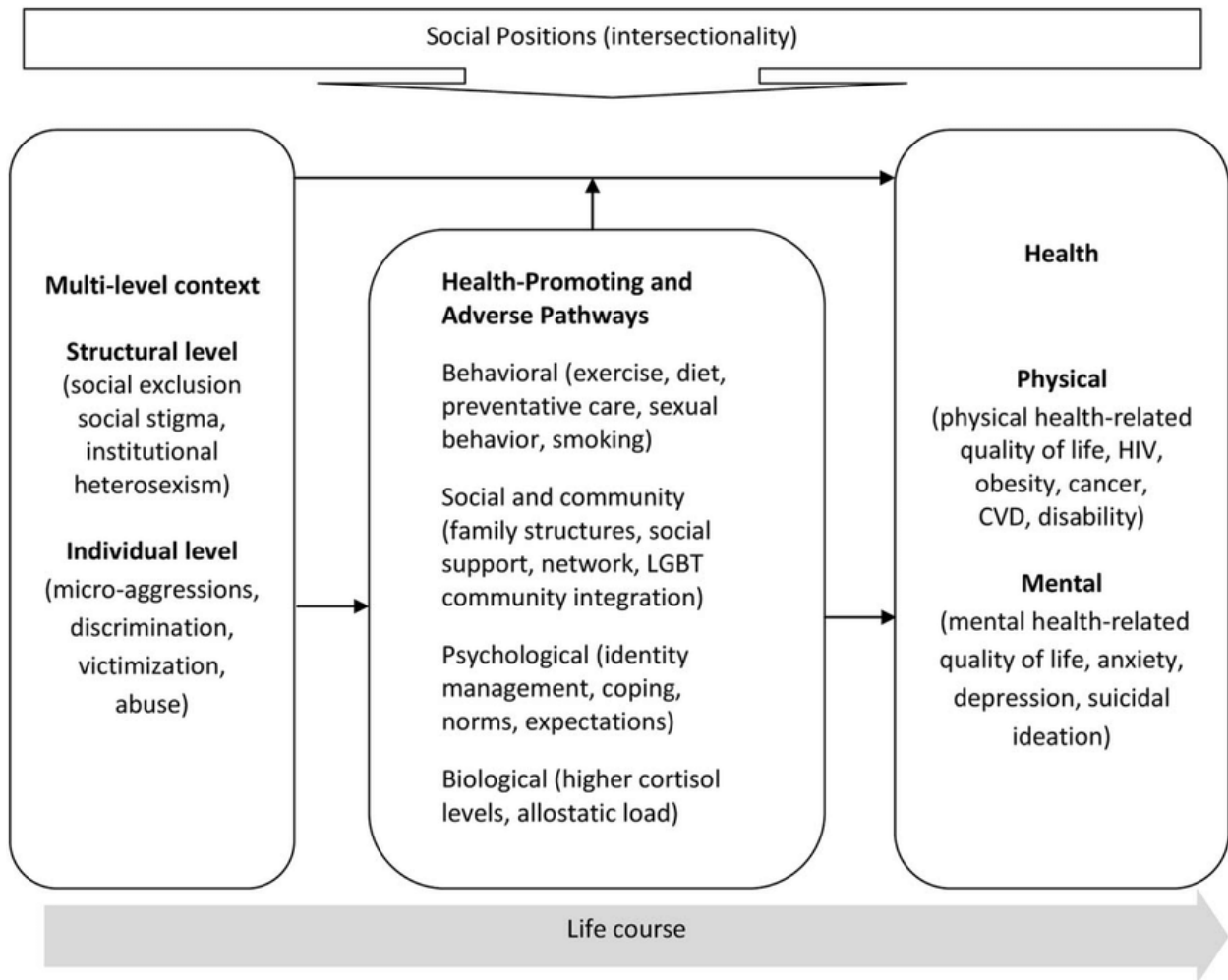


<p>lesbian, gay, bisexual, and transgender (LGBT) awareness training for health care providers within the military health system. <i>Journal of the American Psychiatric Nurses Association</i>, 23(6), 385-392.</p>	<ol style="list-style-type: none"> <li>1. LGBT military statistics</li> <li>2. Policy changes regarding LGBT and military service</li> <li>3. Terminology</li> <li>4. Cultural sensitivity</li> <li>5. Pertinent health issues</li> <li>6. Preventive measures</li> <li>7. Barriers to care</li> </ol>	<p>&lt; 40 = 71.2%                  ≥ 40 = 29.8%</p> <p>Setting: military air force bases (Travis Air Force Base, Joint Base Lewis-McChord)</p>	<p>Overall improvement in scores from pre- to post-test</p> <p>Barriers to care and pertinent health issues yielded lowest scores; preventive measures area of best performance</p> <p>“Little” statistical difference on questions 1, 9, and 15</p>			
<p>Ufomata, E., Eckstrand, K.L., Hasley, P., Jeong, K., Rubio, D., &amp; Spagnoletti, C. (2018). Comprehensive internal medicine residency curriculum on primary care of patients who identify as LGBT. <i>LGBT Health</i>, 5(6), 375-380.</p>	<p>Pre-post design with ambulatory curriculum</p> <p><u>Modules</u></p> <ol style="list-style-type: none"> <li>1. Understanding LGBT issues</li> <li>2. Cultural competencies, performing sensitive history/physical</li> <li>3. Health promotion and</li> </ol>	<p><u>IAT</u>                  n = 220                  88 residents; 22 faculty</p> <p><u>Presurvey</u>                  n = 129                  100 residents; 29 faculty</p> <p><u>Gender</u>                  Male = 38                  Female = 53</p> <p><u>Age</u></p>	<p>Wilcoxon matched-pairs, signed-rank</p> <p>Average “D-score” for the IAT was 0.27±0.42, signifying a slight preference for straight people in comparison to gay people</p> <p>Statistically significant</p>	<p>Resident knowledge of LGBT issues in primary care, confidence in providing LGBT primary care</p>	<p>Conducted at single large academic institution, limiting generalizability</p> <p>Intervention only assesses knowledge, perception of importance and confidence; further research necessary to</p>	<p>Level II, Grade A</p>

	<p>disease prevention 4. Mental health, violence, and reproductive health</p> <p>An implicit association test (IAT) was utilized prior to study; results were not shared with participants to avoid potential confounding effects</p>	<p>29.0 ± 5.3</p> <p>Setting: internal medicine residency program</p>	<p>increase in knowledge of LGB primary care (2.84 to 3.13 on 5-point Likert scale; p = 0.0633)</p> <p>Statistically significant increase in ability to identify resources for community engagement (2.02 vs. 2.98 on 5-point Likert scale; p &lt; 0.0001)</p>		<p>determine the need to change practices or provide further training.</p>	
<p>Wyckoff, E.D. (2019). LGBT cultural competence of acute care nurses. <i>Journal for Nurses in Professional Development</i>, 35(3), 125-131.</p>	<p>Pre-post design with learning module intervention using the Gay Affirmative Practice (GAP) Scale for measurement</p> <p><u>Content</u> 1. LGBT terminology</p>	<p>n = 30</p> <p><u>Age</u> 20-29 = 11 30-39 = 5 40-49 = 8 50-59 = 5 60+ = 1</p> <p><u>Level of education</u> LPN = 6 Associate = 15 Bachelor's = 6</p>	<p>Significant increase in pre- and post-intervention GAP scores (74-144 v. 88-150; <math>t(29) = -4.22, p &lt; 0.05</math>)</p> <p>No significant change in beliefs (<math>t(29) = -1.72, p &gt; 0.05</math>); statistically significant</p>	<p>Practitioner beliefs and behaviors when caring for lesbian or gay patients</p>	<p>Small sample size</p> <p>Lack of generalizability due to unit type/acute care setting</p> <p>Limit of GAP Scale to encompass bisexual and transgender populations</p>	<p>Level II, Grade A</p>

	2. Health disparities 3. Effective communication	Master's = 3  Setting: acute care medical-surgical unit	difference in behavior subscale scores ( $t(29) = -4.15, p < 0.05$ )			
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Appendix C: Health Equity Promotion Model



## Appendix D: Electronic Consent for Participation

**Title:** Mindfulness Training in Mitigating Implicit Bias: Improving Cultural Competency for Nurses Caring for LGBT Individuals

**Investigators:**

Daniel Terrell, MSN, FNP-BC DNP Student, George Washington University
Mercedes Echevarria, DNP, APN Assistant Dean for DNP Program, George Washington University
Kimberly Carter, PhD, RN, NEA-BC Senior Director of Nursing Research & Evidence-Based Practice

**Summary:**

This consent form contains important information to help you decide whether to take part in a research study. You should read all the information in this consent form and discuss with study staff if you have any questions. A brief summary of the study is provided below.

- Being in this research study is voluntary; it is your choice.
- If you join this study, you can still stop at any time.
- Do not join this study unless all of your questions are answered.

This project aims to bring awareness to implicit bias against lesbian, gay, bisexual, and transgender (LGBT) individuals to begin mitigating the association with poorer health outcomes with this group. The research is being completed as required for doctoral nursing studies at the George Washington University.

Your participation is expected to last over a course of 3-4 weeks. This will include a 5 minute pre-intervention test taken on the computer, a 10-minute mindfulness meditation exercise, a 15-20 minute self-paced LGBT health education module, and a repeat post-intervention test similar to the pre-intervention test.

Possible benefits to you by participating are an increase in mindfulness and implicit bias awareness that may positively impact your clinical practice. There are no intended harms or risks associated with the project; however, due to the nature of the content covered, you may feel emotionally distressed. Should you feel distressed, the Employee Assistance Program (EAP) will be available to provide you with support. You may contact them at **(540) 981-8950**. Being in the study will not cost anything.

Ask questions about anything that is not clear at any time during your participation by contacting the project investigators.

**What is informed consent?**

You are being asked to take part in a research study that will study a mindfulness intervention in nurses working for LGBT individuals. The research is a doctoral nursing project as required by George Washington University.

Before you can decide whether to take part in the research, you should be told about the possible risks and benefits with this study. This process is known as informed consent. This consent form will give you information about this study and your rights as a research subject.

This consent form may have words or information you do not understand. The research staff will explain anything that you do not clearly understand. Please ask as many questions as you need to make sure that you know what will happen to you in this study and why you are being asked to be in it.

**Why is this research being done?**

This project aims to bring awareness to implicit bias against lesbian, gay, bisexual, and transgender (LGBT) individuals to begin mitigating the association with poorer health outcomes with this group.

Your participation is expected to last over a course of 3-4 weeks. This will include a pre-intervention test, a 10-minute mindfulness meditation exercise, a self-paced LGBT health education module, and a post-intervention test.

- The pre- and post-intervention tests will be completed through the computer as a Qualtrics survey, and each will take no more than 5 minutes to complete. The post-intervention test will have two additional questions related to your use of the mindfulness meditation exercise.
- The mindfulness meditation exercise will be available for you to download or access as often as you need. We encourage you to complete this exercise on a regular basis – for example, before work or the morning before getting ready for the day.
- The LGBT health education module will be self-paced, and should take no more than 15-20 minutes to complete. It will be delivered as a click-through presentation.

**What will happen in this research study?**

You will first complete the Sexuality Implicit Association Test (IAT), which is a tool that is used to measure implicit bias. With this tool, you will be asked to quickly sort words or pictures into categories using keys on the computer (“E” for the left side, “I” for the right side).

Following completion of the IAT, you will be given immediate access to the mindfulness meditation exercise and LGBT health education module. The mindfulness meditation exercise is a 10-minute audio clip that demonstrates meditation techniques. It will be made available for download for continued access. The LGBT health education module will be a self-paced presentation that provides an overview of LGBT terminology, health disparities, effective communication, and implicit bias awareness.

You will receive weekly emails to encourage continued use of mindfulness meditation and completion of the LGBT health education module. After 3-4 weeks, you will complete another Sexuality IAT; this will be used to compare any timing differences that may be significant and associable with the mindfulness intervention.

**What are the risks of being in this research study?**

There are no intended harms or risks associated with the project; however, due to the nature of the content covered, you may feel emotionally distressed. If at any time you experience this and wish to withdraw from the project, notify the project investigator.

The Employee Assistance Program (EAP) will be available to assist with processing any feelings of distress that you may experience. You may contact them to schedule or find out more information.

**What are the benefits of being in this research study?**

Possible benefits to you by participating are an increase in mindfulness and implicit bias awareness that may positively impact your clinical practice. This is also an intervention that may be easily shared with others and used with a number of populations, not just the study population.

**Will I receive any new information about this research study?**

Sometimes new information will become available that may impact your ability or willingness to stay in a study. If that happens, researchers will tell you about that information.

**What about confidentiality?**

You will be assigned a randomized Login ID that will be used to link your pre- and post-intervention IAT tests. No personal information will be collected during the study, and your identity will not be used in any sort of published report. Weekly emails will be generated to participants that successfully the pre-intervention survey to maintain anonymity. Access to testing data will be limited to the primary investigator, nursing research director, and a biostatistician for statistical review.

The investigator and research team may share information about you with the Institutional Review Board (IRB), a research protection group that provides ongoing review of the research project.

**Will it cost me money to take part in the research?**

Taking part in this research will not cost you any money.

**Will I be paid for taking part in this research?**

You will not be paid for taking part in this research.

**What if I want to stop being in the study before it is finished?**

Being in this research is voluntary. You may refuse to take part, or you may withdraw at any time.

**Who are the contact persons?**

If you encounter complications or have any questions about the study, you may contact:

Daniel Terrell, MSN, FNP-BC DNP Student, George Washington University
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Kimberly Carter, PhD, RN, NEA-BC Senior Director of Nursing Research & Evidence-Based Practice

This research is being overseen by an Institutional Review Board (IRB). An IRB is a group of people who perform independent review of research studies. You may talk to them if:

- You have questions, concerns, or complaints that are not being answered by the research team.
- You are not getting answers from the research team.
- You cannot reach the research team.
- You want to talk to someone else about the research.
- You have questions about your rights as a research subject.



Appendix E: LGBT Health Education Module Curriculum

<p><b>Section 1: LGBT Terms and Definitions</b></p>	<p>Sexual orientation Gender identity Heterosexual Lesbian Gay Bisexual Transgender Homophobia Social stigma Heteronormativity Intersectionality</p>
<p><b>Section 2: Stigma, Discrimination, and Health</b></p>	<p><u>Discrimination statistics</u></p> <ul style="list-style-type: none"> <li>• 39% of LGBT individuals are rejected by a family member or friend</li> <li>• 30% are threatened or physically attacked             <ul style="list-style-type: none"> <li>○ 61% of transgender have reported being physically attacked</li> </ul> </li> <li>• 30% of LGBT youth missed at least one day of school in the last month because they felt unsafe or uncomfortable</li> <li>• 21% are treated unfairly by an employer             <ul style="list-style-type: none"> <li>○ 55% of transgender people have lost a job due to bias</li> </ul> </li> </ul> <p><u>Discrimination in health care</u></p> <p>LGBT patients report that providers</p> <ul style="list-style-type: none"> <li>• Use excessive precautions or refuse to touch them (11%)</li> <li>• Blame them for their health status (12%)</li> <li>• Use harsh or abusive language (11%)</li> </ul> <p>Transgender patients report</p> <ul style="list-style-type: none"> <li>• Being harassed in a doctor’s office (25%)</li> <li>• Being denied medical care (19%)</li> </ul> <p>Overview of health equity promotion model</p> <p>LGBT health disparities</p> <ul style="list-style-type: none"> <li>• Homelessness</li> <li>• Smoking</li> <li>• HIV and STIs</li> <li>• Anxiety and depression</li> <li>• Addiction</li> <li>• Suicide attempts</li> <li>• Lack of peer or family support</li> </ul>

<p><b>Section 3: Implicit Bias</b></p>	<p>Overview of implicit bias</p> <ul style="list-style-type: none"> <li>• Implicit bias modifies the relationship between healthcare professionals and patients by decreasing trust, self-efficacy, understanding, and satisfaction</li> </ul>
	<p><u>The science of implicit bias</u></p> <ul style="list-style-type: none"> <li>• There are useful aspects of implicit bias that pertain to behaviors of adaptation and survival, such as being able to quickly assess and respond to danger stimuli             <ul style="list-style-type: none"> <li>○ Automatic responses to facial stimuli in conjunction with social conditioning can result in bias</li> </ul> </li> <li>• Regions of the brain related to implicit bias activation             <ul style="list-style-type: none"> <li>○ Frontal cortex: associated with reasoning, first impressions, and empathy</li> <li>○ Amygdala: associated with automatic responses to stimuli and “fight or flight” response</li> <li>○ Temporal lobe: store basic information about individuals and social stereotypes</li> </ul> </li> </ul>
	<p><u>Mitigating implicit bias in clinical practice</u></p> <ul style="list-style-type: none"> <li>• Practicing mindfulness to reduce the likelihood that implicit biases will be activated in the mind, which in turn increase awareness and ability to control responses to implicit bias once activated</li> <li>• Increasing self-awareness by checking in with yourself on a regular basis to ensure that practices are based on a rational assessment of clinical situations rather than on stereotypes and prejudices</li> <li>• Building empathy for shared context of experiences and joint decision-making</li> </ul>
<p><b>Section 4: Effective Communication</b></p>	<p><u>Avoiding assumptions</u></p> <ul style="list-style-type: none"> <li>• Don’t assume SO/GI based on how a patient looks or sounds</li> <li>• Don’t assume you know how a person wants to describe themselves or their partners</li> <li>• Don’t assume all of your patients are heterosexual and cisgender (not transgender)</li> <li>• Use gender neutral terms and avoid pronouns             <ul style="list-style-type: none"> <li>○ <i>‘How may I help you?’</i> instead of <i>‘How may I help you, sir?’</i></li> <li>○ <i>‘The patient is waiting in the room’</i> instead of <i>‘She is waiting for her appointment’</i></li> <li>○ <i>‘Do you have a partner?’</i> instead of <i>‘Do you have a wife?’</i></li> </ul> </li> </ul>
	<p><u>Using names and pronouns</u></p>

	<ul style="list-style-type: none"> <li>• Transgender people often change their name to affirm their gender identity, which may differ from insurance/identity documents</li> <li>• Transgender people want others to use pronouns that affirm their gender identity</li> <li>• Registration forms should have a space to enter correct/preferred names and pronouns             <ul style="list-style-type: none"> <li>○ This information should also be included in the health record</li> </ul> </li> </ul>
	<p><u>Scenarios</u></p> <p>What could you say if you are unsure about a patient’s correct name or pronoun?  <i>I would like to be respectful – what name and pronouns would you like me to use?</i></p> <p>What could you say if a patient’s name doesn’t match insurance or medical records?  <i>Could your chart be under a different name?</i></p> <p>What if you accidentally use the wrong term or pronoun?  <i>I’m sorry, I didn’t mean to be disrespectful.</i></p>
	<p><u>Identity</u></p> <ul style="list-style-type: none"> <li>• It is important to listen to, understand, and mirror the terms that patients use to describe themselves</li> <li>• Keep in mind, some people do not like to label their sexual orientation or gender identity</li> <li>• Don’t laugh or gossip about a patient’s appearance or behavior</li> <li>• Don’t use stereotypes or ask questions that are not necessary for care</li> </ul>
	<p><u>Accountability</u></p> <ul style="list-style-type: none"> <li>• Creating an environment of accountability and respect requires everyone to work together</li> <li>• Don’t be afraid to politely correct your colleagues if they make a mistake or make insensitive comments</li> </ul>

Curriculum adapted from the National LGBT Health Education Center, a program of the Fenway Institute (2016).

Appendix F: Logic Model

Target Population	Assumptions	Inputs	Activities	Outputs	Outcomes	Outcome Indicators
<p>Clinicians caring for LGBT patients</p>	<ul style="list-style-type: none"> <li>• Clinicians have time to participate in the project</li> <li>• Clinicians have an interest in LGBT health</li> <li>• Clinicians have an interest in implicit bias</li> <li>• Clinicians will want to actively participate in the project</li> <li>• Clinicians are willing to participate in the project without compensation</li> </ul>	<p><u>Resources</u></p> <ul style="list-style-type: none"> <li>• Organization mission and vision</li> <li>• Organization technology resources</li> <li>• Support from nursing research</li> <li>• Support from human resources</li> <li>• Evidence-based education from Fenway Institute</li> <li>• Electronic delivery of content</li> </ul> <p><u>Challenges</u></p>	<ul style="list-style-type: none"> <li>• Education module</li> <li>• Mindfulness intervention</li> <li>• IAT</li> <li>• Analyze data</li> <li>• Implement education policy change</li> <li>• Implement affirmative practice into mission and values</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of pre-intervention IAT</li> <li>• Completion of education module</li> <li>• Completion of mindfulness intervention</li> <li>• Completion of post-intervention IAT</li> <li>• Data analysis</li> <li>• Dissemination of findings</li> </ul>	<p><u>Short</u></p> <ul style="list-style-type: none"> <li>• Education module completion</li> <li>• Mindfulness intervention completion</li> <li>• Improved acceptance and comfort in working with LGBT patients</li> </ul> <p><u>Medium</u></p> <ul style="list-style-type: none"> <li>• Policy changes</li> </ul> <p><u>Long</u></p> <ul style="list-style-type: none"> <li>• Improvement in patient-provider relationships</li> </ul>	<p><u>Short</u></p> <ul style="list-style-type: none"> <li>• Recruitment of 165 eligible participants</li> <li>• Education completed</li> <li>• Mindfulness intervention completed</li> <li>• Analysis and comparison of pre- and post-intervention IAT</li> </ul> <p><u>Medium</u></p> <ul style="list-style-type: none"> <li>• Policy implementation for LGBT education</li> <li>• Cultural competency education policies</li> </ul>

		<ul style="list-style-type: none"> <li>• Changes to workflow with pandemic</li> <li>• Recruitment and completion</li> <li>• Potential for limited access to education resources outside of workplace</li> </ul>			<ul style="list-style-type: none"> <li>• Updated mission and values</li> </ul>	<p><u>Long</u></p> <ul style="list-style-type: none"> <li>• Feedback from patients</li> <li>• Feedback from providers</li> <li>• CHNA findings</li> <li>• Partnership with LGBT community groups</li> <li>• Mission and vision updated to reflect inclusivity and affirmative practices</li> </ul>
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Appendix G: Project Proposal Signature Form

**Appendix 8: DNP Project Proposal Signature Form**

All DNP Projects require formal approval by the DNP Team. After the written paper is approved the DNP Team will complete this form. Students and DNP Team Members should also keep a copy for their records.

Full Title of DNP Project Mindfulness Training in Mitigating Implicit Bias: Improving Cultural Competency for Nurses Caring for LGBT Individuals

**Name of Team Members**

Student Daniel Terrell, MSN, FNP-BC

DNP Project Primary Advisor Mercedes Echevarria, DNP, APN

DNP Secondary Advisor Kimberly Carter, PhD, RN, NEA-BC

DNP Team Member \_\_\_\_\_

**Guidelines for DNP Project Proposal**

Cover Page, Table of Contents, Abstract (< 250 words), and general formatting meet APA requirements and GWSON instructions.
<b>Introduction:</b> Basic overview of project and describes the contribution it will make to <b>change practice</b> and <b>impact outcomes</b> .
<b>Background &amp; Significance:</b> The problem or gap is clearly identified. <b>Description of the problem/gap</b> includes, the population affected, what is currently happening, why the audience should care, what we currently know, and what we need to find out. The significance is explained in detail to include the impact/status of the problem/gap on population, cost, policy, leadership, healthcare systems, and beyond.
<b>Needs Assessment:</b> The need, feasibility, and resources available are discussed. Congruence of the project to the organization’s mission and strategic plan is evident. The student describes logically the contextual/organizational environment. Discusses previous attempts or possible solutions to the problem based on evidence and experience. Was a specific process used? Ex: SWOT, Community Assessment, etc.
<b>Problem/Purpose Statement:</b> Problem/Purpose is clearly stated and summarized. Scope of project is realistic and appropriate to DNP Scholarship.
<b>Practice Question:</b> The student frames an answerable practice question related to the problem/practice gap.
<b>Aims &amp; Objectives:</b> All aims are supported by objectives that are specific, measurable, achievable, realistic, and time-bound.
<b>Review of Literature:</b> Directly relates to answering the posed Practice Question. Databases used, key terms, and search strategy are described. Evidence is appraised and synthesized into an Evidence Table using the instructions by Dearholt & Dang (2018). The student integrates and synthesizes the evidence and articulates a written summary of the findings and does not simply regurgitate information.
<b>EBP Translation Model:</b> The EBP Translation Model for the project is described and applicable to operationalizing the project.

DNP Project Requirements

<p><b>Methodology:</b>                  The overall design of the project correlates to the Aims &amp; Objectives. The student clearly communicates the: Setting, Study Population, and Recruitment Strategy, the Consent Procedure, Risk/Harms to Participants, and Cost/Compensation for Participants. The study implementation(s) is/are described in detail. Progress Indicators/Outcomes to be measured are relevant to the project. Tools/Instruments are appropriate. A project timeline and budget/resource list is presented.</p>
<p><b>Evaluation Plan:</b>                  An evaluation plan for the DNP Project Process is included. Evaluation measures, tools, instruments, and measures match the Aims/Objectives and Project Type.</p>
<p><b>IRB:</b>                  A Determination of Research has been submitted. If indicated, all GW SON IRB requirements are met. If the project is suitable for IRB submission, all IRB forms have been completed and approved by the DNP Primary Project Advisor. All organizational IRB requirements are met.</p>
<p><b>Letter of Cooperation</b> is included.</p>
<p><b>Writing of DNP Project:</b>                  Scholarly writing exhibited, appropriate grammar, spelling, organization, and flow.</p>
<p><b>Turn-It-In Originality Report</b> is included.</p>

**Comments** \_\_\_\_\_

**Describe Corrective Actions if Revisions Required** (Use additional paper if necessary)  
 \_\_\_\_\_

**Select the Outcome of the proposal:**

- Approved as presented     Approved with minor revisions     Reject proposal

Student Signature Daniel Trevell MSN, FNP-BC

DNP Project Primary Advisor Signature Mercedes Echevarria DNP, APRN

DNP Project Secondary Advisor Signature Kimberly G. Carter PhD, RN, NEA-BC

DNP Team Member Signature \_\_\_\_\_

Date August 5, 2020

## Appendix H: Data Dictionary

<b>Data Element</b>	<b>Data Label</b>	<b>Data Type</b>	<b>Definition/Purpose</b>	<b>Data Values &amp; Coding</b>
Random ID	Participant_ID	Alphanumeric	Randomized, survey generated identifier	4-digit alphanumeric
Participant age	Age	Numeric, continuous	Age in years	<ol style="list-style-type: none"> <li>1. 18-24</li> <li>2. 25-34</li> <li>3. 35-44</li> <li>4. 45-54</li> <li>5. 55-64</li> <li>6. 65-74</li> </ol>
Participant gender	Gender	Categorical	Self-identified gender	<ol style="list-style-type: none"> <li>1. Male</li> <li>2. Female</li> <li>3. Transgender male</li> <li>4. Transgender female</li> <li>5. Non-binary</li> <li>6. Other</li> <li>7. Prefer not to say</li> </ol>
Participant education	Education	Categorical	Highest level of education completed	<ol style="list-style-type: none"> <li>1. Diploma program</li> <li>2. Associates degree</li> <li>3. Bachelor's degree</li> <li>4. Master's degree</li> <li>5. Doctorate degree</li> </ol>
Participant sexuality	Sexuality	Categorical	Self-identified sexuality	<ol style="list-style-type: none"> <li>1. Heterosexual</li> <li>2. Homosexual</li> <li>3. Bisexual</li> <li>4. Other</li> <li>5. Prefer not to say</li> </ol>
Participant comfort in working with LGBT patients	LGBT_comfort	Categorical	Comfort in working with LGBT patients	<ol style="list-style-type: none"> <li>1. Extremely comfortable</li> </ol>



				<ol style="list-style-type: none"> <li>2. Somewhat comfortable</li> <li>3. Neither comfortable nor uncomfortable</li> <li>4. Somewhat uncomfortable</li> <li>5. Extremely uncomfortable</li> </ol>
LGBT-specific cultural competency education	LGBT_education	Categorical	Previous LGBT-specific cultural competency education completed	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>
Implicit bias awareness education	Implicit_education	Categorical	Previous implicit bias awareness education	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>
Average number of LGBT worked with monthly	LGBT_average	Numeric, continuous	Number of LGBT patients worked with on average during a month	<ol style="list-style-type: none"> <li>1. 0</li> <li>2. 1-3</li> <li>3. 3-6</li> <li>4. 6-10</li> <li>5. Greater than 10</li> <li>6. Unsure</li> </ol>
Mindfulness meditation exercise usage	Mindfulness_use	Categorical	Number of times mindfulness meditation exercise was used	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Once/week</li> <li>3. 2-3 times/week</li> <li>4. 4-6 times/week</li> <li>5. Daily</li> </ol>
Mindfulness meditation exercise helpfulness	Mindfulness_helpful	Categorical	Finding the mindfulness exercise helpful in working with diverse patient groups	<ol style="list-style-type: none"> <li>1. Strongly agree</li> <li>2. Somewhat agree</li> <li>3. Neither agree nor disagree</li> <li>4. Somewhat disagree</li> <li>5. Strongly disagree</li> </ol>

Recommend mindfulness to coworkers	Mindfulness_recommend	Categorical	Recommendations for coworkers to use similar intervention	<ol style="list-style-type: none"> <li>1. Strongly agree</li> <li>2. Somewhat agree</li> <li>3. Neither agree nor disagree</li> <li>4. Somewhat disagree</li> <li>5. Strongly disagree</li> </ol>
LGBT education appropriateness	Education_appropriate	Categorical	Found LGBT health education module appropriate for working with LGBT population	<ol style="list-style-type: none"> <li>1. Strongly agree</li> <li>2. Agree</li> <li>3. Somewhat agree</li> <li>4. Neither agree nor disagree</li> <li>5. Somewhat disagree</li> <li>6. Disagree</li> <li>7. Strongly disagree</li> </ol>
LGBT education recommendation	Education_recommend	Categorical	Recommendations for coworkers to complete similar education	<ol style="list-style-type: none"> <li>1. Strongly agree</li> <li>2. Agree</li> <li>3. Somewhat agree</li> <li>4. Neither agree nor disagree</li> <li>5. Somewhat disagree</li> <li>6. Disagree</li> <li>7. Strongly disagree</li> </ol>

## Appendix I: Results

**Table 1: Participant Demographics.**

	Total	Frequency
<i>Age</i>	79	
18-24	5	6.33%
25-34	22	27.85%
35-44	20	25.32%
45-54	18	22.78%
55-64	11	13.92%
65-74	3	3.80%
<i>Gender</i>	79	
Male	8	10.13%
Female	70	88.61%
Prefer not to say	1	1.27%
<i>Education</i>	78	
Diploma	7	8.97%
Associates	9	11.54%
Bachelors	39	50.0%
Masters	20	25.64%
Doctorate	3	3.85%
<i>Sexuality</i>	79	
Heterosexual	62	78.48%
Homosexual	10	12.66%
Bisexual	6	7.59%
Other	1	1.27%

**Table 2: Comfort Level, LGBT Health Education, Implicit Bias Education Completion.**

	Total	Frequency
<i>Comfort level</i>	79	
Extremely comfortable	63	79.75%
Somewhat comfortable	12	15.19%
Neither comfortable nor uncomfortable	2	2.53%
Somewhat uncomfortable	2	2.53%
Extremely uncomfortable	0	
<i>Previous LGBT education</i>	79	
Yes	28	35.44%
No	51	64.56%
<i>Previous implicit bias education</i>	79	
Yes	22	27.85%
No	57	72.15%

**Table 3: Pre- and Post-Intervention Results.**

	Pre-Intervention	Post-Intervention
Number of participants who completed	65	45
Participants dropped due to speed	-	-
D-Score mean	-0.25667	-0.19706
Cohen's d	-0.54043	-0.36708
Error rate	0.05305	0.06838
Reliability	0.88244	0.90864

**Table 4: Post-Intervention Survey Results.**

	Total	Frequency
<i>Mindfulness intervention helpful</i>	50	
Strongly agree	15	30.0%
Somewhat agree	17	34.0%
Neither agree nor disagree	11	22.0%
Somewhat disagree	4	8.0%
Strongly disagree	3	6.0%
<i>Recommend intervention for colleagues</i>	51	
Strongly agree	18	35.29%
Somewhat agree	21	41.18%
Neither agree nor disagree	11	21.57%
Somewhat disagree	-	-
Strongly disagree	1	1.96%
<i>LGBT health education appropriate</i>	51	
Strongly agree	19	37.25%
Somewhat agree	9	17.65%
Agree	20	39.22%
Neither agree nor disagree	3	5.88%
Disagree	-	-
<i>Recommend LGBT education for colleagues</i>	51	
Strongly agree	28	54.0%
Somewhat agree	19	37.25%
Neither agree nor disagree	4	7.84%
Disagree	-	-

## Appendix J: Data Collection/Evaluation and Analysis Methods

<b>Aims/Evaluation Questions</b>	<b>Measures</b>	<b>Measure Type</b>	<b>Data Source</b>	<b>Recruitment Method/ Population</b>	<b>Timing/Frequency</b>	<b>Calculation/ Statistics</b>	<b>Goal/ Benchmark</b>
What is the effect of a mindfulness strategy on implicit bias in nurses caring for LGBT individuals?	Sexuality IAT  Self-reporting	Outcome	Sexuality IAT results  Participant report	Convenience sampling of nurses working in the organization	Sexuality IAT: pre-intervention  Participant report: post-intervention	Sexuality IAT: Chi square comparison with post-intervention data collected  Participant report: descriptive with percentage	Statistically significant decrease in preference for heterosexual patients
What is the effect of an LGBT health education module on implicit bias in nurses caring for LGBT individuals?	Sexuality IAT	Outcome	Sexuality IAT results	Convenience sampling of nurses working in the organization	Post-intervention	Chi-square comparison with post-intervention data collected	Statistically significant decrease in preference for heterosexual patients
Is there an impact on decreasing preferences for heterosexual patients using mindfulness strategies and education?	Sexuality IAT	Outcome	Sexuality IAT results	Convenience sampling of nurses working in the organization	Post-intervention	Chi-square comparison with pre-intervention data collected	75% of participants with statistically significant decrease in preference