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**Advanced Practice Registered Nurses and Healthcare Disparities: Understanding
the Impact of Implicit Bias**

by

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A project submitted to the faculty of
Gardner-Webb University Hunt School of Nursing
in partial fulfillment of the requirements for the degree of
Doctor of Nursing Practice

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Abstract

Introduction: Disparities in healthcare have long been a challenge for physicians, advanced practice providers, nurses, and other interdisciplinary team members. More recently, population health-focused efforts have been implemented to manage ever-increasing rates of diabetes, hypertension, and obesity, as well as lack of transportation, limited access to care, and poverty (North Carolina Department of Health and Human Services [NCDHHS], 2019). Racism, sexism, ageism, sizeism, etc., are present in the healthcare setting and manifests in implicit bias during care delivery. This can manifest as beliefs, behaviors/practices, and emotions of the provider (Paradies et al., 2014). Research is limited related to the impact of the use of training targeted at advanced practice nurses recognizing implicit bias, its impact on clinical decision-making, and its relationship to disparities in healthcare. This Quality Improvement Project evaluates if advanced practice registered nursing (APRN) students in the project setting demonstrate an increased understanding of implicit bias, its effect on healthcare disparities, and its impact on clinical decision-making after participating in targeted anti-bias education and training.

Methods: The Project utilized a virtual video platform with participant access being an independent study process. The project utilized is a quantitative 10-question Likert-scale survey upon completion of the Education Module. There were 68 APRN students who received the Education Module link with a Qualtrics survey. Data analysis was performed using descriptive statistics.

Results: Data analysis of responses indicated participants agreement/strong agreement related to gains in understanding of microaggressions, identifying areas for practice

improvement, recognizing a need for more APRN training related to implicit bias and healthcare disparities, and improved understanding of the impact on patient-provider-trust.

Conclusions: It appears targeted education about implicit bias and healthcare disparities related to clinical decision-making can improve APRNS's understanding and potentially impact provider practice. Most participants indicated improved knowledge in these areas. Areas where there were lower scores involved questions related to personal insight and reflection. Due to the small size of the study, results are not generalizable to the APRN population. Further research is needed into the area for future knowledge and practice change.

Keywords: healthcare disparities, implicit bias, microaggressions, APRN, clinical decision-making

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Problem Recognition

Disparities in healthcare have long been a challenge for physicians, advanced practice providers, nurses, and other interdisciplinary team members. More recently, population health-focused efforts have been implemented to manage ever-increasing rates of diabetes, hypertension, and obesity, as well as lack of transportation, limited access to care, and poverty (NCDHHS, 2019). Individuals found to be members of racial/ethnic minority groups frequently noted to have brown or black skin are often designated as marginalized or at-risk populations due to the many challenges in having their healthcare needs met. According to Paradies et al. (2014), racism is a predominant factor in racial/ethnic disparities in healthcare. Racism, sexism, ageism, sizeism, etc., are present in the healthcare setting and manifests in implicit bias during care delivery. This manifests as the beliefs, behaviors/practices, and emotions of the provider (Paradies et al., 2014). FitzGerald and Hurst (2017) found there were multiple characteristics where implicit bias was found such as socioeconomic status (SES), mental illness, weight, AIDS diagnosis, intravenous drug users, those with disabilities, and even certain social circumstances. The perpetrator's background often affects how they perceive an individual and their “deficits” as well as how they respond to them when making decisions related to care provision.

Implicit bias and racism are often manifested through microaggressions and other acts such as inadequate or delayed care (Paradies et al., 2014). This can cause serious physical, emotional, and psychological harm, even death in some instances, as evidenced by increased suicide rates in black males who have experienced biased treatment (O’Keefe et al., 2015). It not only costs individuals and groups but also impacts society as

a whole and perpetuates divisiveness. Patients from a non-white heritage, non-CIS gendered individuals, non-heterosexuals, older adults, etc. have unique perspectives, individual vocabulary and expression of symptomology, and emotional responses that basic cultural diversity training may not be sufficient to encompass. To this purpose, clinicians, and health care systems need to put into place adequate training programs based on cultural humility with recognition of bias, conscious or unconscious (Teal et al. 2012).

Problem Statement

Research is limited related to the impact of the use of training targeted at advanced practice nurses regarding implicit bias, its impact on clinical decision-making, and its relationship to disparities in healthcare. A review of the literature consistently demonstrates the recommendation for further study and the development of appropriate training interventions for doctors and advanced practice providers to decrease biased practices and microaggressions. An improved understanding of one's own unconscious bias and attitudes is imperative for successful change related to this area.

Literature Review

The literature review included CINAHL, Medline, PubMed, and WILEY Library initially for the previous 5 years (to 2017) of peer-reviewed journals with subjects 18 years or older, then expanded to include articles for the previous 10 years (to 2012) to capture greater data on the topic. Gray literature was included, for example, the position statements from the American Nurses Association (ANA, 2016 & 2018) related to the topic. Also, an anti-bias self-assessment tool was provided by the Anti-Defamation League (2007).

Upon review, results were consistent across all studies of unconscious or implicit bias, bias, and/or discrimination being present in healthcare delivery by clinical providers and within systems. Depending on the study, this included medical doctors (MDs), advanced practice registered nurses (APRNs), physician's assistants (PAs), and other types of healthcare professionals. Microaggressions and implicit bias affecting clinical decision-making were trends noted across most studies to have a causal effect on healthcare disparities for vulnerable, at-risk populations. For the most part, the use of Implicit Association Tests (IAT) was reported as positive in affecting individual's perceptions, although some studies did indicate that depending on its use it could potentially create negative feelings in participants as could any bias-based training. Most studies were conducted in populations that were already practicing providers (MD, APRN, PA, etc.) and were one-time training experiences.

Overall, recommendations suggested that to be effective, participants needed to feel more connected to the population that the microaggressions or bias was happening to in order to begin to recognize and develop new thinking about those behaviors. In other words, developing a more relatable story or understanding of the other individual as a person and their experiences versus one's own...create a new schema.

Next, research synthesis suggested ongoing education regarding implicit bias, clinical decision-making, and healthcare disparities should include delivery that allows it to be done in a way relatable to self, develop mindfulness, promote self-reflection, and be delivered consistently to have a greater chance to modify implicit bias behaviors in clinical practice and ultimately have an impact on healthcare disparities.

Needs Assessment

Target Population/Community

The target population was the advanced practice registered nursing (APRN) students at the project setting. Both the Family Nurse Practitioner and Psychiatric-Mental Health Nurse Practitioner Programs at the project setting are uniquely positioned to begin breaking the cycle of implicit bias in the clinical setting and thereby combatting healthcare disparities, by receiving targeted bias assessment and anti-bias education and training. Both cohorts are enrolled in a BSN to DNP curriculum, with post-masters and post-doctoral options.

The related PICOT question developed was: Do advanced practice registered nursing (APRN) (P) students demonstrate an increased understanding of implicit bias, its effect on healthcare disparities, and how to manage it related to clinical decision-making (O) on post-assessment education scores (C) after taking part in a single session (T) of targeted anti-bias education and training(I)?

Sponsors and Stakeholders

When considering the project there can be several types of sponsors. First, the author of the project is a sponsor and will in this case be funding the project. Next, the program coordinators who manage the APRN Programs at the project setting may also be considered sponsors. The school of nursing itself and even the University are notable sponsors.

Stakeholders would include any future advanced practice provider or medical doctor (MD, DO, NP, PA, CNM, etc.). The project setting is a stakeholder given the project setting has a vigorous academic program educating not only APRN's, physician

assistants (PAs), but also many other types of nurses. The Family Nurse Practitioner Program Coordinator and the Psychiatric Mental Health Nurse Practitioner Program Coordinator may be stakeholders as well as sponsors given their positions related to APRN's at the project setting. As such, both individuals would be stakeholders as the project results could impact areas that need to be included in the curriculum currently being taught.

The DNP project will be conducted within the APRN cohorts which will provide specific data to this team of nurse educators and clinicians. Area hospital systems should also have an interest as stakeholders, as clinical providers are employed at multiple levels in both organizations. If the outcome is as anticipated, both hospital systems will need to consider the implications for clinician practice and the potential benefit to their organizations. Training related to implicit bias and clinical decision-making may be something the evidence suggests would be beneficial for their system to improve the quality of patient care and safety. The project setting is a stakeholder as according to the mission statement the project setting strives to embrace people with all types of differences and practices within a Christian ethic.

Organizational Assessment

The project setting has deep ties to the theological community which can be seen in specialized majors such as theology, religious studies, and faith-based values. The project setting has strong philosophical Christian beliefs and continues to cultivate a relationship with the local theological community. The project setting is also known for excellence in its educational and nursing programs of study (DataUSA, 2019) with over 80 majors one can choose from.

The project setting hosts students from international countries, the majority states in the USA, and nearly every county in the project state. (Gardner-Webb University [GWU], n.d.-c). This appears to be evidence of a quite diverse population. The project setting describes its desire to be student-centered and to be a culturally “welcoming” to others without regard to their differences (GWU, n.d.-d), however, enrollment in 2019 was not only predominantly white for undergraduates (59.6%) but also for Doctoral students (50.3%). For undergraduates, Black/African Americans were second at 22.4% and Doctoral Hispanic/Latino second at 14.3% (DataUSA, 2019). This indicates possible limitations of racial and ethnic diversity campus-wide. It does not speak specifically to diversity in religious, socio-economic, and life experiences. A closer look shows that the most common undergraduate degrees conferred in 2019 were Registered Nursing degrees. Of note, in 2019 there were approximately 800 degrees awarded to female students (331 to male students) and approximately 700 degrees awarded to white students (286 to black students) (DataUSA, 2019).

The school of nursing for the project setting offers 10 pathways to nursing consisting of four undergraduate programs and six graduate programs including a post-masters certificate program. The project setting is nationally accredited by Accreditation Commission for Education in Nursing (ACEN) and a student/instructor ratio that is similar to the University’s 13:1 ratio depending on the specific program of study (GWU, n.d.-a). Although there are more male professors (37) than females in the project setting, there are more females in educator roles (86) overall (DataUSA, 2019). This trend holds true for the project setting.

SWOT Analysis

Strengths

The SWOT Analysis (Figure 1) shows strengths in the project site having a well-established relationship with the community and positive support for new programs as well as change. The proposed project requirements are affordable, and financing is not an obstacle as it will be funded by the author. It is beneficial to the project setting to support the project, as the project measure may be able to lend support to the ACEN planning information. The project setting's administration was receptive to this project and provided access to potential participants. Additionally, APRN students are not set into practice yet, therefore it is easier to make changes in behaviors now than later into independent practice.

Weaknesses

The first weakness is that one needs faculty buy-in to implement any change in curriculum. Therefore, it is vital to ensure any change suggested for implementation needs to be validated by ample evidence. Next, the project setting is historically conservative which may hamper the image of being open to diversity, racial equity, and acceptance of marginalized groups such as non-CIS gendered and homosexuals due to possible misperceptions. Other weaknesses may include there are exceptional demands on APRN students, and they may be hesitant to complete additional educational modules or surveys, as they have significant time commitments.

Opportunities

The project setting currently has a nursing faculty which are cohesive and "open" to exploring new information/methods. As previously stated, there are other mid-level

provider programs, healthcare professions, and service programs that may be excellent areas to integrate implicit bias programs and education (PA, Mental Health Counseling, Education, Criminal Justice, Business, etc....) Also, APRN students are not in practice yet, so it is an opportune moment to integrate self-reflection and education in implicit bias.

Threats

The threats that were assessed are that there have been personnel changes and a long-standing open position within the project setting for a Director of Diversity. There is currently no formal training about racism, implicit bias, and discrimination in clinical practice as part of the APRN curriculum. Also, future unexpected funding priorities and potential personnel changes create a threat to any organization.

Figure 1

SWOT Analysis

Strengths <ol style="list-style-type: none"> 1. Strong ties to the community, solid academic programs 2. Financially able to afford tools, resources and supplies needed to achieve a goal. 3. The project setting is nationally accredited, and implementation of diversity/anti-racism training is positive toward accreditation follow-up. 4. Supportive program administrators in the project setting 	Weaknesses <ol style="list-style-type: none"> 1. Need faculty buy-in to implement any change in curriculum. 2. The project setting is historically conservative which may hamper the image of being open to diversity and racial equity.
Opportunities <ol style="list-style-type: none"> 1. Nursing faculty are cohesive and “open” to exploring new information/methods. 2. APRN students are not set into practice yet, so it is easier to make changes. 3. Project setting has several professional programs where implicit bias training may be useful 	Threats <ol style="list-style-type: none"> 1. Personnel changes in the position of Diversity Director 2. No formal training about implicit bias and bias in clinical practice. 3. Unexpected funding challenges or personnel changes

Available Resources

The project-setting faculty and the DNP project faculty advisor are resources that are readily available to assist in project development. The library in the project setting is a resource for data and database research. The administration staff was available to assist with data uniquely available only to the project setting. Other resources included anti-bias education resources available by the Anti-Defamation League, the Canadian Psychological Association in conjunction with the University of Ottawa (Canada)-Vulnerability, Trauma, Resilience, and Culture Research Laboratory or VITRAC-R Lab. Two written works of particular benefit include *Microintervention Strategies: What You Can Do to Disarm and Dismantle Individual and Systemic Racism and Bias* by Wiley Publications and *SWAY: Unraveling Unconscious Bias* by Pragya Agarwal, Bloomsbury Publishing.

Desired and Expected Outcomes

The specific outcomes intended for the project are that APRN students first recognize that they do have personal bias. Each student will be given a pre-assessment to evaluate for implicit bias related to areas such as gender, age, race, sexual orientation, etc. This will be done by allowing participants the opportunity to complete an Implicit Association Test (IAT) of their choice at Project Implicit (<https://implicit.harvard.edu/implicit/takeatest.html>). There are approximately 15 types of IAT offered and the results are confidential between the participant and Project Implicit. Next, they will be introduced to the concept of implicit versus explicit bias and how it can impact clinical decision-making. They will receive education on implicit bias, how it is present without their awareness, and how to manage it to ensure it does not impact

patient care. Anti-bias training will be provided and then a post-assessment administered. The desired outcome is that all students will have improved scores. The expected outcome is that a significant percentage of participants will show improved scores and an understanding of how to mitigate personal bias in patient care and clinical decision-making.

Team Selection

The DNP project Chair holds a DNP and is a Psychiatric Mental-Health Nurse Practitioner (PMHNP) and was also the program coordinator for the PMHNP Program. This individual also served as the Practice Partner and was a Certified Nurse Educator and an Assistant Professor at the project setting. Also, the Project Chair spent a significant number of years working as a psychiatric mental health nurse and in community mental health, which includes exposure to issues of social justice and working with marginalized and at-risk populations. This would benefit working with the individuals around this project.

Cost/Benefit Analysis

Initial costs for this DNP Project included basics like Microsoft software and PDF software to generate written work, presentations in Canva™ (cost for professional version) and surveys, use of Qualtrics™ survey, and training tuition (example: Canadian APA training on anti-racism). Next, costs for printing educational resources and teaching tools, handouts, and a project poster. There may also be travel costs involved to and from the project setting and attending any necessary training, resources, or meeting with Project Committee/Members. Comparatively, there are many project benefits including:

Improved clinical practice and decision-making by APRNs based on education and outcome.

- Improved spiritual well-being due to decreased internal interpersonal conflict.
Improved patient outcomes due to better clinical healthcare.
- Decrease in healthcare disparities along racial and ethnic parameters (possibly gender, body image, socioeconomic and so on).
- Decrease in depression, anxiety, PTSD, and other related health issues as seen with people experiencing implicit bias related to race, age, gender, sexual orientation, etc.
- Increased trust in the project setting and school of nursing by marginalized populations over time as diversity and inclusion become more apparent within the community.

Based on the cost-benefit analysis, the project appears to be a worthwhile investment of both time and money.

Scope of Problem

According to FitzGerald and Hurst (2017), implicit bias does affect clinicians' judgment and clinical decision-making. The study found that based on the available evidence healthcare professionals like physicians and nurses demonstrate implicit bias at rates that are similar to the lay public. FitzGerald and Hurst (2017) noted there were specific areas or characteristics where implicit bias was found "race/ethnicity, gender, socioeconomic status (SES), age, mental illness, weight, AIDS diagnoses, brain injured patients perceived to have contributed to their injury, intravenous drug users, disability, and social circumstances" (p. 13). This is a very complex issue and can be impacted by

the individual's unique experiences and characteristics including their own socioeconomic status, education level, race, country of origin, etc. (FitzGerald & Hurst, 2017). O'Keefe et al. (2015) tells us experiencing stigma, being discriminated against, and undergoing prejudice leads to increased stress and poor mental health outcomes. Also noted was an increased relationship between racial microaggressions and an increased rate of depression as well as poorer mental health outcomes for people of color (O'Keefe et al, 2015).

The above-stated authors, Fitzgerald, Hurst, and O'Keefe, all state there is limited research available and recommend further study on this topic. This DNP Project is expected to help facilitate insight into the role of implicit bias in clinical decision-making. It will also provide an initial intervention to empower novice providers with tools to manage personal biases in the clinical setting. Ultimately, the hope is that this will begin to have a trickle-down effect on healthcare disparities as practice behaviors related to marginalized populations begin to change.

Goals, Objective, and Mission Statement

Goals

The goal of the project was to examine the presence of implicit bias in the advanced practice registered nursing (APRN) student population in the project setting and evaluate student knowledge and insight related to its impact on personal clinical decision-making and healthcare disparities. The target population was the advanced practice registered nursing (APRN) students in the project setting, both the Family Nurse Practitioner (FNP) and Psychiatric Mental-Health Nurse Practitioner (PMHNP) cohorts. According to a systematic review by Hall et al. (2015), implicit bias was found against

people of color (Black, Hispanic, Asian, etc.) in all studies except one on the part of medical professionals who participated. It was noted there was an association between patient-provider interactions, adherence, and patient outcomes. Approximately five states in the United States have begun requiring medical professionals (nurses and/or doctors) to have implicit bias training of some kind, and depending on the state it may be required for licensure and other states have similar legislation being considered (The Pew Charitable Trusts [PEW], 2022).

Process/Outcome Objectives

The objectives used in this project were SMART (specific, measurable, achievable, relevant, and time-bound) and were:

- **S-** The project will use provide a pre-intervention Implicit Association Test (IAT), a post-intervention assessment of implicit bias using a Likert scale assessment, provide training on implicit biases, microaggressions, the impact of implicit bias on clinical practice and healthcare disparities, and methods to recognize and avoid biased clinical practices.
- **M-** The project will assess understanding and insight related to implicit bias/microaggressions/clinical decision making/healthcare disparities post-intervention assessment using a Likert scale assessment. Participants will take an Implicit Association Test (IAT) prior to receiving the education/training and post-intervention assessment.
- **A-** Participants will be provided a website link to access the education module which contains instructions for the initial step of completing the IAT online prior to the intervention. A 20-minute education module will be available via recorded

Canva™ presentation with closed captioning for the FNP/PMHNP cohorts. The post-intervention assessment will be completed via a link immediately following the intervention. The project leader hypothesizes that post-intervention, participants will note an increased understanding of implicit bias and its impact on healthcare disparities.

- **R-** The goal of the project aligned with the DNP project Objective which indicates that APRNs in the project setting gain an increased understanding of implicit bias in clinical decision-making and its impact on healthcare disparities and patient outcomes, as well as a measure to apply in clinical practice to avoid biased decision making. Post-Likert scale scores will indicate a significant gain in knowledge and insight.
- **T-** Spring 2023 Cohort, FNP/PMHNP APRN students at the project setting will receive an informational email, approximately March 10, 2023, regarding the project and be made aware to watch for the educational module link within 7-10 days. Project link email to be sent to FNP/PMHNP cohorts March 20, 2023, by DNP Program Chair. The intervention takes place via the virtual Canva™ module during Spring 2023 semester. Post-intervention assessment will take place within 7days of intervention to assess data for follow-up on implicit bias intervention.

Mission Statement

The mission of this project was to increase APRNs' understanding of the presence and impact of implicit bias in clinical decision-making by providing targeted assessment and anti-bias education. By providing early intervention to APRNs early in practice, the hope is to establish greater knowledge, understanding, and personal insight into a deeply

ingrained institutional and social challenge that can hinder a nurse practitioner unknowingly. The impact on patient outcomes resulting in healthcare disparities is broad and far-reaching (Nurse.org, 2022). The project setting's Christian ideals and principles are reflected in the institutional motto and as nurses improving our service to the community in a humane and impactful way upholds this principle.

Theoretical Underpinnings

According to a systematic review by Hall et al. (2015), implicit bias was found against people of color (Black, Hispanic, Asian, etc.) on the part of medical professionals who participated in all of the studies except one. It was noted there was an association between patient-provider interactions, adherence, and patient outcomes (Groves et al., 2021). According to Dictionary.com (2022), bias is defined as “a particular tendency, trend, inclination, feeling, or opinion, especially one that is preconceived or unreasoned” (para. 1). Implicit bias (unconscious bias) can be developed relating to innumerable topics from gender identity, sexual orientation, political ideology, age, culture, profession, and so on.

Jean Piaget's Cognitive Developmental Learning Theory (CDLT) posits that learning occurs in “schemas” or what can be described as cognitive structures or blocks of knowledge or beliefs. As one grows through childhood and into adulthood, knowledge expands as established information begins to be influenced by experiential learning and the natural advancement of growth and development. Knowledge acquisition is an overlapping process; it requires assimilation or the taking in of information, accommodation, or internalizing and adapting to the new knowledge (McEwen & Wills, 2014). An example of this process would be learning the sky is blue. As a child, one

assimilates this as a fact. However, at sunset, the sky becomes a plethora of pinks, golds, and purples, and a child seeing this for the first time must accommodate that the sky is not always blue but can have different characteristics while still being the sky. Piaget's concept of schema with assimilation and accommodation applies to the DNP project as implicit bias is based on acquired thoughts or beliefs that have been internalized and are unconscious. By gaining awareness and knowledge of the impact of implicit bias on clinical decision-making and healthcare disparities, clinicians may be able to reframe and accommodate new knowledge to avoid this practice pitfall (Cherry, 2022).

Applying the Adult Learning Theory (ALT) as described by Malcolm Knowles supports the unique needs of the adult learner and the process used for the project education module. Adult learners are problem-centered learners who generally seek knowledge to be able to apply it in the real world (Bastable, 2014). Learning needs to be perceived as relevant and valuable to motivate adult learners, and they must be ready for new knowledge acquisition. Educators are seen more as facilitators with adult learners, which applies to participants in the DNP project proposed (Bastable, 2014). They also come with a vast amount of differing knowledge and experience which must be acknowledged and accounted for when providing new information.

Adult learners have already experienced life and have their own unique cultures, beliefs, ideas, likes/dislikes, and values. ALT posits that this rich life experience and knowledge can create a challenge when being asked to look at new perspectives and ideas. Respecting the learner's current view/position while providing new knowledge and schemas for assimilation and accommodation will be implemented utilizing components of both Piaget's CDLT and ALT (Bastable, 2014). For further examination of how Piaget

and Knowles' theories and theoretical constructs are integrated into this DNP project's interventions and evaluation see the Conceptual-Theoretical-Empirical diagram (CTE) noted in Appendix A.

The DNP project outcome is multifaceted. Advanced Practice Registered Nurses (APRNs) in the project setting will gain insight into their personal implicit biases, allowing for reflective practice. After this initial step, APRNs will receive education on implicit bias, its impact on healthcare disparities, and methods to mitigate/minimize its impact on clinical decision-making. Anticipated outcomes are that participants will report increased insight regarding implicit bias, a greater understanding of healthcare disparities related to this type of bias, and an improved ability to manage personal bias in clinical practice. Outcomes will be evaluated using a Likert-scale survey post-intervention.

Work Planning

The proposed DNP project outcomes are that participants will report increased insight regarding implicit bias, a greater understanding of healthcare disparities related to this type of bias, and an improved ability to manage personal bias in clinical practice. The Workplace Breakdown Structures (Appendix B) illustrate a methodology for project management and implementation. It is summarized in four phases: Establishing DNP Project Site, QI Process, Implementation Activities, and Utilizing and Reporting Project Data. A Gantt chart was started on July 14, 2022, and a meeting was conducted with the Project Chair on July 21, 2022, to discuss the Quality Improvement (QI) application site process and project planning. This is part of the first phase. The second phase is focused on the QI process itself, not only designing the education module and Qualtrics™ survey

but completing the QI application and checklist for submission to the project setting's QI Review Committee.

Gantt Timeline Chart

The project outcome is multifaceted. The Gantt Timeline Chart (Appendix C) is organized into four sections: Establishing DNP Project Site, QI Process, Implementation Activities, and Utilizing and Reporting Project Data. The QI application and checklist were completed and submitted by October 31, 2022. The plan included meeting and consulting with the Project Chair via Zoom on multiple occasions to review the QI process and project progressions. As part of the QI process, the project education module in PowerPoint™ or Canva™ and the post-education survey with Qualtrics™ survey link were finalized. Additionally, further efforts to engage in the quality improvement process included the development of a framework in a Plan-Do-Study-Act Cycle that would be applicable to this specific DNP project (Appendix D). QI approval was expected to be received by 1/1/2023.

Project implementation activities were scheduled, with the survey being released to the FNP/PMHNP cohorts on February 13, 2023, and completed by February 27, 2023. The final section of the Gantt Timeline Chart section addresses Project Data-Utilizing and Reporting Data. This step and project completion and submission of the final Canva™ presentation were expected by March 21, 2023.

DNP Project Budget

The total project budget was estimated to be approximately \$270. The itemized project budget was:

- Training Courses: \$0

- Multiple training courses have been completed by the Project Leader. No cost has been incurred by the Project specifically due to Project Leader professional memberships covering course fees or courses being free.
- POP Voice Lavalier Microphone Set: \$30
 - Microphone to be used for recording education module and final Canva™ presentation.
- Gift Cards (2): One \$50 gift card at a total cost of \$100.
 - Gift cards were offered as incentives after completion of the education module and survey where participation is voluntary and optional.
- Formatting cost: Approximately \$200.
 - Professional editing and formatting of final written project proposal.

Conclusion

A timeline, or structural roadmap for project completion as it were, was established for the project. It provided a guideline for the project leader to break task completion into more manageable and function-related, smaller steps within the project process. This was an important aspect of the successful completion of the project ensuring that APRNs began to understand the impact of implicit bias, its impact on their individual practice and clinical decision-making, and ultimately how it contributes to healthcare disparities.

Evaluation Planning

The proposed DNP project outcomes were that participants will report increased insight regarding implicit bias, a greater understanding of healthcare disparities related to this type of bias, and an improved ability to manage personal bias in clinical practice. The

Work Breakdown Structures noted in Appendix B illustrate a methodology for project management and implementation. It is summarized in four phases: (1) establishing DNP Project Site, (2) QI Process, Implementation Activities, (3) Utilizing, and (4) Reporting Project Data. A Gantt chart was started on July 14, 2022, and a meeting was conducted with the Project Chair on July 21, 2022, to discuss the Quality Improvement application site process and project planning. This is part of the first phase. The second phase is focused on the QI process itself. Not only designing the education module and Qualtrics™ survey but completing the QI application and checklist for submission to the project setting's QI Review Committee.

What Are We Trying to Accomplish?

The goal of this topic was to increase awareness and understanding of implicit bias in clinical decision-making and how it is making a significant impact on disparities in the healthcare community. The APRN cohorts in the project setting are the cohorts being targeted as gaining an understanding of this topic and modifiable factors creating a detrimental burden for at-risk populations is very important. Marcelin et al. (2019) tell us that not only is there implicit bias present in how clinicians provide medical care, but there is also evidence that medical schools and other academic programs may have these biased, racial and otherwise, practices entrenched in their staff and processes. The cost of implicit bias in the academic setting may well be the perpetuation of using underlying stereotypes, racial, ethnic, gender, etc., as misinformation to aid in clinical decision-making. According to the American Nurses Association's (ANA) (2016), position statement on the Nurse's role in ethics and human rights, nurse educators must impart to student nurses the importance of addressing unjust issues when they are seen, at any

level, and to understand that justice and caring are foundational concepts when considering ethics and human rights in healthcare delivery. Implementing the DNP project in an academic setting has the potential to provide initial insight into the challenges in addressing implicit bias at this level.

How Will We Know That Change Is An Improvement?

Self-reflection about one's personal and professional values related to issues like inclusivity, diversity, dignity and respectfulness, and civility to address personal conflicts ensure that patient care and health promotion remain priorities, per the ANA (2018) in their position statement addressing discrimination. The ANA states that "Given the impact of unintentional discrimination based upon attitudes and stereotyping, all nurses must examine their biases and prejudices for indications of discriminatory action" (2018, p. 4). The DNP project requires the participants to complete an IAT of their choice. This allows the participant to select an area of interest to have the implicit association test performed which they receive detailed feedback and then proceed to complete the education module on the project. Improvement is measured utilizing a 10-question Likert (Qualtrics™) survey that participants have the option of completing at the end of the module.

The scale used in the Likert survey was Strongly Disagree (0), Disagree (1), Neutral (2), Agree (3), and Strongly Agree (4). To measure changes for the purposes of the project a neutral (2) response would indicate ambiguous feelings about a topic and be recorded as no change. Any response of Agree (3) or Strongly Agree (4) would also be considered an improvement. Any response of Disagree (1) or Strongly Disagree (0) would not be considered calculated as a positive response. As far as behavioral change,

the project posits that individuals with a higher than neutral response may be more mindful of their actions and decision-making. Self-reflection and insight into the issue of their own implicit biases, as well as the greater impact of implicit bias on the community of individuals that they as APRNs will serve, may engender a shift in behavior and/or increase openness/readiness for additional information.

What Change Can We Make That Will Result in Improvement?

Current processes to address and combat implicit bias in the healthcare arena are disjointed. For example, the ANA has established several position statements as have several other leading nursing organizations. Some states like California and Michigan, have begun requiring medical professionals (nurses and/or doctors) to have implicit bias training of some kind, and depending on the state implicit bias training may be required for initial licensure or license renewal (PEW, 2022). There are other states that have similar legislation being considered and across the United States individual nursing programs may be adding implicit bias to the curriculum by choice or due to state board of nursing requirements (PEW, 2022).

According to Cooper et al. (2022), the use of mindfulness and shared values, being able to identify with another individual in some way, are parts of implicit bias training that assist in improving outcomes more consistently than utilizing IAT alone, as it can be shocking to realize one's internal voice may be different than one's conscious belief system. Ackerman-Barger et al. (2021) describe utilizing the Microaggressions Triangle Model consisting of the following: the source (ASSIST), the recipient (ACTION), and the bystander (ARISE). It is a method that facilitates training individuals on how to manage to communicate and engage with others when missteps are made such

as microaggressions in the workplace. It is a model that can be utilized with patients, peers, and many situations. By implementing processing like these and establishing early training such as making implicit bias a part of the curriculum for all healthcare providers with a requirement for licensure and license renewal nationwide, a process can begin to make slow continuous efforts to chip away at an insidious problem that has infiltrated the healthcare system at an unconscious level.

Conclusion

This DNP project was not about divisiveness and blame. It is about acknowledging barriers to care that at-risk and underserved populations are experiencing that we as a community of nurses may be contributing to. By acknowledging one's own challenge or deficit, one can work toward strengthening our relationship with our local communities again and begin to expand improved global nursing relationships as well. 'Nurse know thy self' was an early lesson taught to novice nurses entering pre-licensure programs. Implicit bias training asks the nurse to begin to know themselves on a new, more revealing level, for their personal good and ultimately for the greater good.

Implementation

The proposed DNP Quality Improvement (QI) DNP project "Advanced Practice Registered Nurses and Healthcare Disparities: Understanding the Impact of Implicit Bias" received QI Committee approval on March 9, 2023. Potential participants were sent an announcement email on approximately March 10, 2023 by the DNP Program Chair, which briefly outlined the project and gave an estimated time frame for potential participants to expect the link to the education module with the post-survey.

The education module with link/Qualtrics™ QR code was emailed to potential participants on March 20, 2023, and was open through March 27, 2023, a 7-day time period. The Qualtrics™ survey participants completed was a 10-question Likert scale survey developed by the DNP project leader and critiqued by the DNP project Chair/Practice Partner as well as the QI Committee. Both the education module and Qualtrics™ survey were delivered via an online/virtual platform and captioning was provided within the module.

Threats and Barriers

The DNP project was a time-consuming project that took place across multiple semesters. It involved a great deal of research, writing, and coordination and it required meticulous time management during this arduous process. The greatest threat to the project had been an internal source due to significant medical. As far as barriers go, the unfamiliarity with Qualtrics™ and the lack of readily available, easy-to-use resources to “teach oneself” how to navigate Qualtrics™ and make appropriate decisions, created barriers that increased work time and frustration. Utilizing Canva™ also provided limited resources and created barriers which were solved by researching tutorials and finding options like VEED (<https://www.veed.io/>) to provide rolling captioning of video presentations. For the most part, while frustrating and time-consuming, the problems encountered were minor and solvable.

Time constraints were also a likely origin of limited responses and response rates. All students within each APRN track have heavy demands on time and receive multiple emails, all of which could have been participation factors. Cohorts were at different places and course sequences within their specific enrollment time, and many students in

the earlier courses may lack familiarity with the DNP project, therefore, misinterpreting the introductory emails. Additionally, there were two cohort groups in their final semester which was especially taxing as there were increased clinical hour requirements and some individuals were personally attempting to conclude their own DNP projects. Time constraints also required a shorter time frame to have the project open and available to students. Offering a more extended time frame could have enhanced participation.

Lastly, as has been discussed previously in this paper, a reflection of implicit bias is not always a welcome or easy topic to confront. Many individuals may have felt uncomfortable or had rigid views regarding the topic, therefore did not engage in the educational module or project activities. This is a constant theme and barrier in implicit bias education and one that needs to be considered in project planning, evaluation, and revision.

Monitoring of Implementation

Prior to the implementation day, the DNP project Leader verified that all aspects of the project were functional (recorded education module and link with active captioning & Qualtrics™ survey link/QR code) and confirmed that the DNP project Chair/Practice Partner had also verified the same. The DNP project leader monitored to ensure potential participants were able to access the module and monitored to see the Qualtrics™ survey did note participation taking place and no alerts were noted for any problems or issues with either the module or survey during implementation. The DNP project leader received one student email for submission for the optional gift card drawing. No other emails were submitted. The DNP Program Chair sent the invitation to participate in the DNP project to 68 APRN students. According to the Qualtrics™ survey data, eleven

students accessed the survey upon completing the informed consent as noted in the education module.

Project Closure

The project implementation closed on March 27, 2023, as Qualtrics™ closed the survey automatically based on the survey parameter. Although potential participants who received the email invitation could continue to view the education module, survey completion was no longer available. One student contacted the DNP project leader on March 31, 2023, reporting viewing the module and not being able to complete the survey. They were advised of the survey closure on March 23, 23. The participant who submitted an email for a gift card drawing was contacted and provided with a \$50 Amazon e-gift card to their school email address and documentation of such was provided to the practice partner. The Qualtrics™ survey was then closed to new participants and had complete data analysis sets available for review. Due to the online/virtual nature of the intervention, the DNP project leader did not receive face-to-face feedback from participants. However, in addition to the survey, participants were provided with several methods of contacting the DNP project leader directly if there were any questions, concerns, or other feedback to be given.

Interpretation of Data

The Implicit Bias Post-Module Survey is a multiple-choice Likert scale survey that consists of 10 questions. The purpose of the Implicit Bias Post-Module Survey was to promote knowledge and insight related to the impact of implicit bias on personal clinical decision-making and healthcare disparities in at-risk populations in the advanced practice registered nursing (APRN) student population. The Implicit Bias Post-Module

Survey was developed by the DNP project leader. It was developed using a quantitative design approach. The DNP project Chair provided review and face validity for the survey. The survey had not been utilized previously, therefore no reliability coefficient was available. It was anticipated the Implicit Bias Post-Module Survey should take approximately 5 minutes for participants to complete. The Implicit Bias Post-Module Survey remained open for approximately 7 days after the educational session was initially distributed, then closed. Informed consent was provided prior to the survey link via email. The DNP project leader's contact information, as well as the Dean of the Graduate School at the project setting, and The DNP project Chair, was embedded within the informed consent if participants had additional questions. An incentive was offered at the completion of the survey where participants had the option of submitting their email for a random drawing for one \$50 Amazon gift card. Only one participant submitted their information, and they received the gift card after the closure of the survey. The DNP project Chair was provided with documentation of this.

Quantitative Data

After completion of the educational module, potential project participants received the Implicit Bias Post-Module Survey Qualtrics™ link (QR code for the survey was also provided beside the link) with Informed Consent. This opened for participants to complete after participants finished the educational module. The DNP project leader did not have access to potential participant emails in order to maintain the anonymity of participants for use with Qualtrics™ anonymous survey distribution. This was a 10-question Likert scale survey estimated to take approximately 5 minutes designed using

Qualtrics applications. Appendix E shows the descriptive statistics for the survey questions.

The project leader included a question to determine if the participants had any prior formal education or training about implicit bias before taking part in The DNP project. There were five participants (n=5) and 60 % (n=3) strongly agreed that they had experienced some type of implicit bias training either in their schoolwork or continuing education activity. The two remaining participants indicated negative responses having not experienced prior training related to the project topic, one participant (n=1) at 20% selected disagree and one participant (n=1) at 20% selected strongly disagree. Figure 2 displays the data for Question 1.

Figure 2

Question 1 Data

I have had formal education or training about implicit bias prior to today's module through either schoolwork or continuing education activity.

Likert Scale Selection	Percentage of Participants
Strongly Agree	60%
Agree	0%
Neutral	0%
Disagree	20%
Strongly Disagree	20%

The project leader included a question to determine if the participants had previous knowledge of implicit bias and its effects on healthcare disparities in vulnerable populations. Of the five participants, 60% (n=3) strongly agreed and 40% (n=2) agreed that they were aware of healthcare disparities and the impact of implicit bias on this problem. Figure 3 displays the data for Question 2.

Figure 3*Question 2 Data*

I was previously aware that implicit bias affects healthcare disparities in vulnerable populations.

Likert Scale Selection	Percentage of Participants
Strongly Agree	60%
Agree	40%
Neutral	0%
Disagree	0%
Strongly Disagree	0%

The project leader included a question to determine if the participants gained new knowledge about how implicit bias can influence an APRN's clinical decision-making. Of the five participants, 50% (n=2) Agreed that they did gain knowledge from the Project. One respondent 25% (n=1) had a neutral response and one 25% (n=1) strongly disagreed. Figure 4 displays the data for Question 3.

Figure 4*Question 3 Data*

I learned something new about an APRN's clinical decision-making and how implicit bias can influence it.

Likert Scale Selection	Percentage of Participants
Strongly Agree	0%
Agree	50%
Neutral	25%
Disagree	25%
Strongly Disagree	0%

The project leader included a question to determine if the participants gained a greater understanding of microaggressions after participating in the Education Module. Out of the five participants, 80% (n=4) strongly agreed on new knowledge related to a greater understanding of microaggressions. The remaining participant (n=1) agreed 20% that they also had gained knowledge about the topic of microaggressions. Figure 5 displays the data for Question 4.

Figure 5

Question 4 Data

I have a greater understanding of what microaggressions are after the activity.

Likert Scale Selection	Percentage of Participants
Strongly Agree	80%
Agree	20%
Neutral	0%
Disagree	0%
Strongly Disagree	0%

The project leader included a question to examine if the participants could identify the application of education related to healthcare disparities and inequity in their personal practice as an APRN. Of the five participants, 40% (n=2) strongly agreed that they could identify at least one area of practice application that was learned from the Education Module. Of the remaining participants one response agreed (20%; n=1), one response was neutral (20%; n=1), and one response (20%; n=1) disagreed. Figure 6 displays the data for Question 5.

Figure 6*Question 5 Data*

I can identify at least one area in my practice where I can apply what I learned during the activity to help reduce healthcare disparities or inequity.

Likert Scale Selection	Percentage of Participants
Strongly Agree	40%
Agree	20%
Neutral	20%
Disagree	20%
Strongly Disagree	0%

The project leader included a question to determine if the participants gained insight about themselves from taking the Harvard IAT of their choice. Results demonstrated that 25 (n=1) agreed that they had gained new insight about themselves from the IAT. 75 % (n=3) gave neutral responses, and one (n=1) participant did not respond. Figure 7 displays the data for Question 6.

Figure 7*Question 6 Data*

I gained new insight about myself from taking the IAT of my choice.

Likert Scale Selection	Percentage of Participants
Strongly Agree	0%
Agree	25%
Neutral	75%
Disagree	20%
Strongly Disagree	0%

The project leader included a question to evaluate if the participants gained knowledge of implicit bias after completing the Education Module. Of the five

participants, 40% (n=2) strongly agreed, 40% agreed (n=2), and 20% were neutral (n=1) regarding gaining a greater understanding of implicit bias from participating in this activity Figure 8 displays the data for Question 7.

Figure 8

Question 7 Data

My knowledge about implicit bias increased after participating in this activity.

Likert Scale Selection	Percentage of Participants
Strongly Agree	40%
Agree	40%
Neutral	20%
Disagree	0%
Strongly Disagree	0%

The project leader included a question to determine if the participants felt that APRNs could benefit from additional education related to the impact of implicit bias on healthcare disparities. Of the five participants, 40% (n=2) strongly agreed and 20% (n=1) agreed on the need for additional education for APRNs related to the Project topic. The remaining two participants demonstrated that 40% (n=2) disagreed with Question 8. Figure 9 displays the data for Question 8.

Figure 9

Question 8 Data

I think more could be done to educate APRNs about the impact of implicit bias on healthcare disparities.

Likert Scale Selection	Percentage of Participants
Strongly Agree	40%
Agree	20%
Neutral	0%

Disagree	40%
Strongly Disagree	0%

The project leader included a question to determine if the participants could apply self-reflection and evaluate how implicit bias may impact how they practice as a clinician/provider. Fifty percent of participants (n=2) strongly agreed that they had utilized self-reflection and had gained an understanding of implicit bias that could be applied to and impact their clinical practice. the CISD tool could aid in their workplace setting. In addition, one (n=25%) participant's response was neutral, one participant's response (n=25%) was strongly disagree, and one participant did not respond. Figure 10 displays the data for Question 9.

Figure 10

Question 9 Data

Upon self-reflection, I have a greater understanding of how implicit bias may impact how I practice as a clinician/provider.

Likert Scale Selection	Percentage of Participants
Strongly Agree	50%
Agree	0%
Neutral	25%
Disagree	0%
Strongly Disagree	25%

The project leader included a question related to microaggressions and their effect on patient-provider trust to determine if the participants gained new knowledge related to this topic. Of the five participants, 67% (n=2) strongly agreed on a greater understanding of this topic. One participant's (n=1) response was neutral. The remaining participants (n=2) did not respond. Figure 11 displays the data for Question 10.

Figure 11*Question 10 Data*

I have a greater understanding of microaggressions and their effect on patient-provider trust.

Likert Scale Selection	Percentage of Participants
Strongly Agree	66.67%
Agree	0%
Neutral	33.33%
Disagree	0%
Strongly Disagree	0%

Process Improvement Data

The link to the education module with the Implicit Bias Post-Module Survey was emailed to 68 FNP and PMHNP cohort students enrolled in the Spring 2023 semester at the project setting. Of those potential participants data collected by Qualtrics™ indicated that five (5) individuals accessed the survey link and completed the survey followed by Qualtrics™ providing the anonymous data results. Improvement was measured utilizing a 10-question Likert (Qualtrics™) survey with the scale used in the Likert survey as Strongly Disagree (0), Disagree (1), Neutral (2), Agree (3), and Strongly Agree (4). Any response of Agree (3) or Strongly Agree (4) would be considered an improvement. Any response of Disagree (1) or Strongly Disagree (0) would not be calculated as a positive response. Neutral responses were not interpreted as either positive or negative.

Data indicated that 60% (6 out of 10) of question participants' responses were neutral or higher. Overall, all 10 questions were scored "strongly agree" by at least two or more participants 80% (8 out of 10) of the time. There were four questions involving insight and self-reflection that some participants did not respond to, resulting in a 60% (2 out of 5) response rate for question #10 and an 80% response rate for questions #3, 6 & 9

(1 out of 5). In evaluating data for individual questions, responses indicated that participants overall gained a greater understanding of microaggressions and implicit bias related to APRNs in clinical practice. There were occasional neutral responses indicating ambiguous feelings or uncertainty. Of note on question #8, 40% (2) respondents indicated that they disagreed that more could be done to educate APRNs about the impact of implicit bias on healthcare disparities. On questions #3 & #5, one participant disagreed they could identify an area to apply something they learned and that they learned something new about how implicit bias impacts clinical decision-making.

Overall results indicated a positive response and learning based on the goal of Agree or Strongly Agree on their survey responses. Although some participants had previous exposure to the topic, responses indicated agreement/strong agreement related to gains in understanding of microaggressions, identifying areas for practice improvement, thinking there is a need for more training, and understanding the impact on patient-provider trust. Areas noted for a greater degree of neutral or disagree/strongly disagree were related to insight and self-reflection (the IAT). These are higher reasoning-type processes and can trigger psychological and emotional responses. The result indicates the APRN cohorts in the project setting are open and receptive to information about implicit bias and healthcare disparities.

Impact and Project Sustainment

Due to the small size of the survey, the results cannot be generalized to the APRN population, however, the positive responses demonstrated by the participants indicated openness and potential. It is that potential the profession would be wise to grasp onto and move forward with. Implicit bias at its root is unconscious; one does not have an

awareness of those specific thoughts and feelings that lurk beneath the surface. To combat implicit bias among nursing professionals it is important it be addressed with consistency and constancy. Bias does not resolve with one lesson, it is like addiction, there are learned behaviors and emotional roots. Ponder the Microaggressions Triangle (Ackerman-Barger et al., 2021), as this is a therapeutic communication method to facilitate ongoing engagement. Healthcare professionals need this to utilize with peers and patients. The results of The DNP project indicated a positive environment ready for change. As an academic setting with an APRN cohort, this is an excellent opportunity to establish a process to begin ongoing implicit bias education of APRNs and nursing professionals as much as possible. The ANA states that although being impartial starts at home with the individual nurse and their own unconscious bias and practices, as a profession nursing needs to explore all ways to mitigate bias and discrimination. That includes incorporating policies at all levels within the curriculum in the academic setting and also in the workplace (ANA, 2018).

The DNP project engenders the vision of future anti-bias training incorporated in the project settings' new student orientation. It is a vision of something that begins as a seed in nursing education, truly seeing our neighbors and patients as ourselves. As nurses are called to live the philosophy of caring for and healing the mind, body, and spirit of our clients, so too must we heal our own to be the hands and feet of Christ. This is the potential that can impact the health and wellness of our local and global community and a vision that is the hope for this DNP project.

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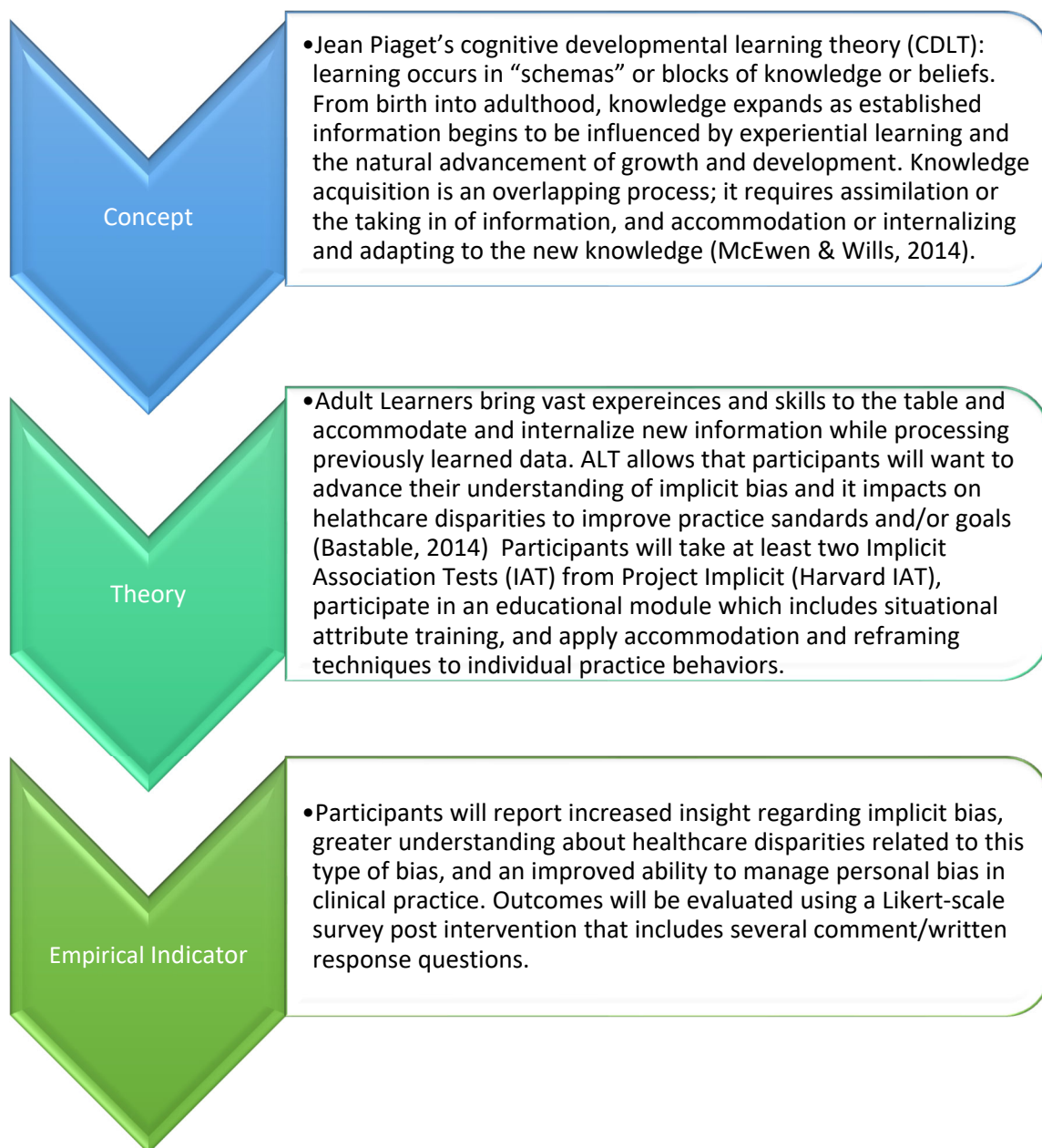
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Appendix A

Conceptual-Theoretical-Empirical (CTE) Diagram



Appendix B

Work Breakdown Structures

Establishing DNP Project Site

- GWU HSON Student APP for project Site
- Complete Step 5
- Complete Step 6
- Meeting with Dr. Smith

QI Process

- Create PPT/Canva Education Module
- Complete QI Project Application
- Complete QI Project Checklist
- Create Qualtrics Post-Education Survey with Link
- Submit Project for approval to QI Committee

Implementation Activities

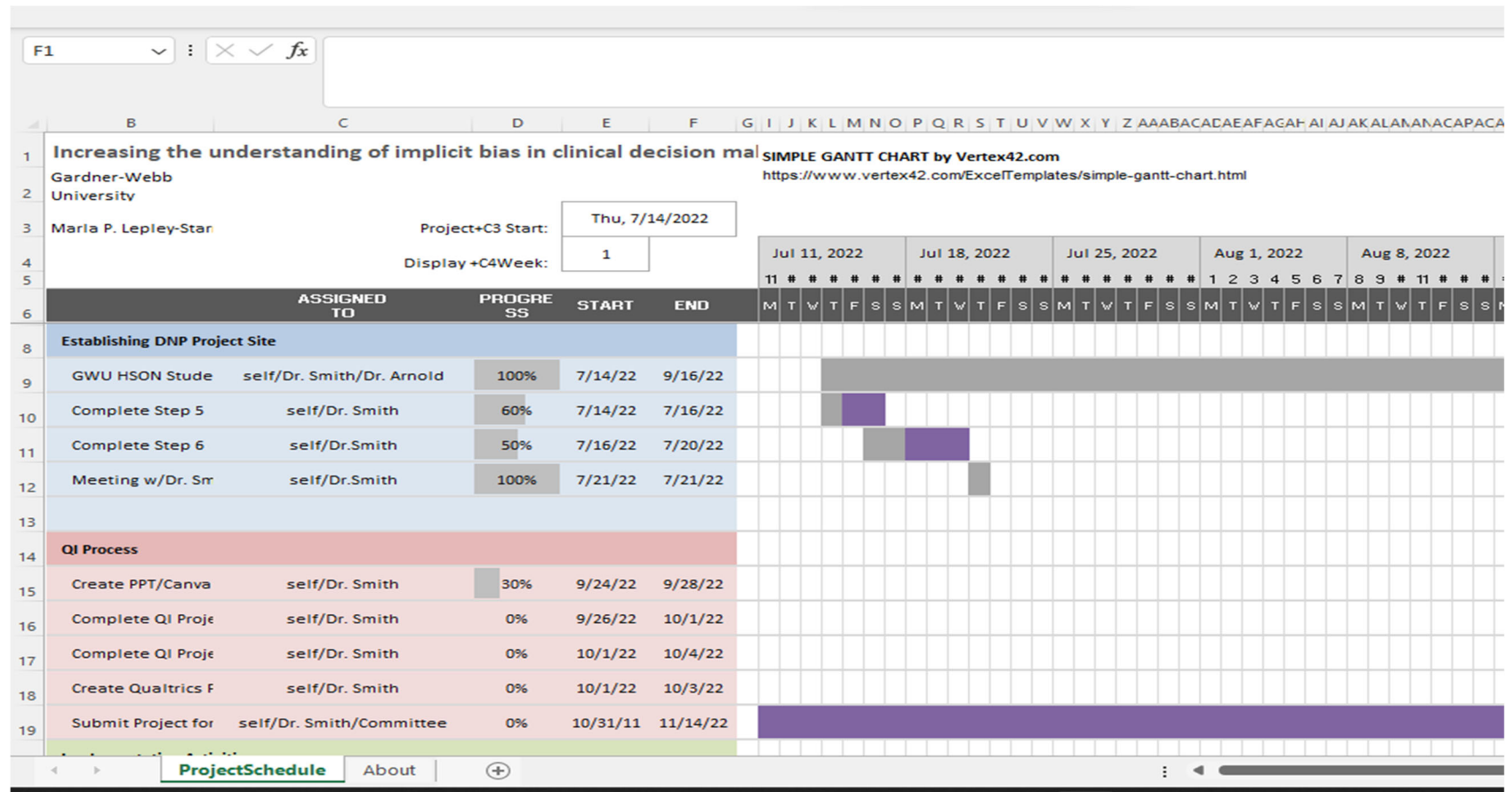
- Final Project Planning and Development
- Project Implementation
- Project Feedback
- Collection of Baseline Data

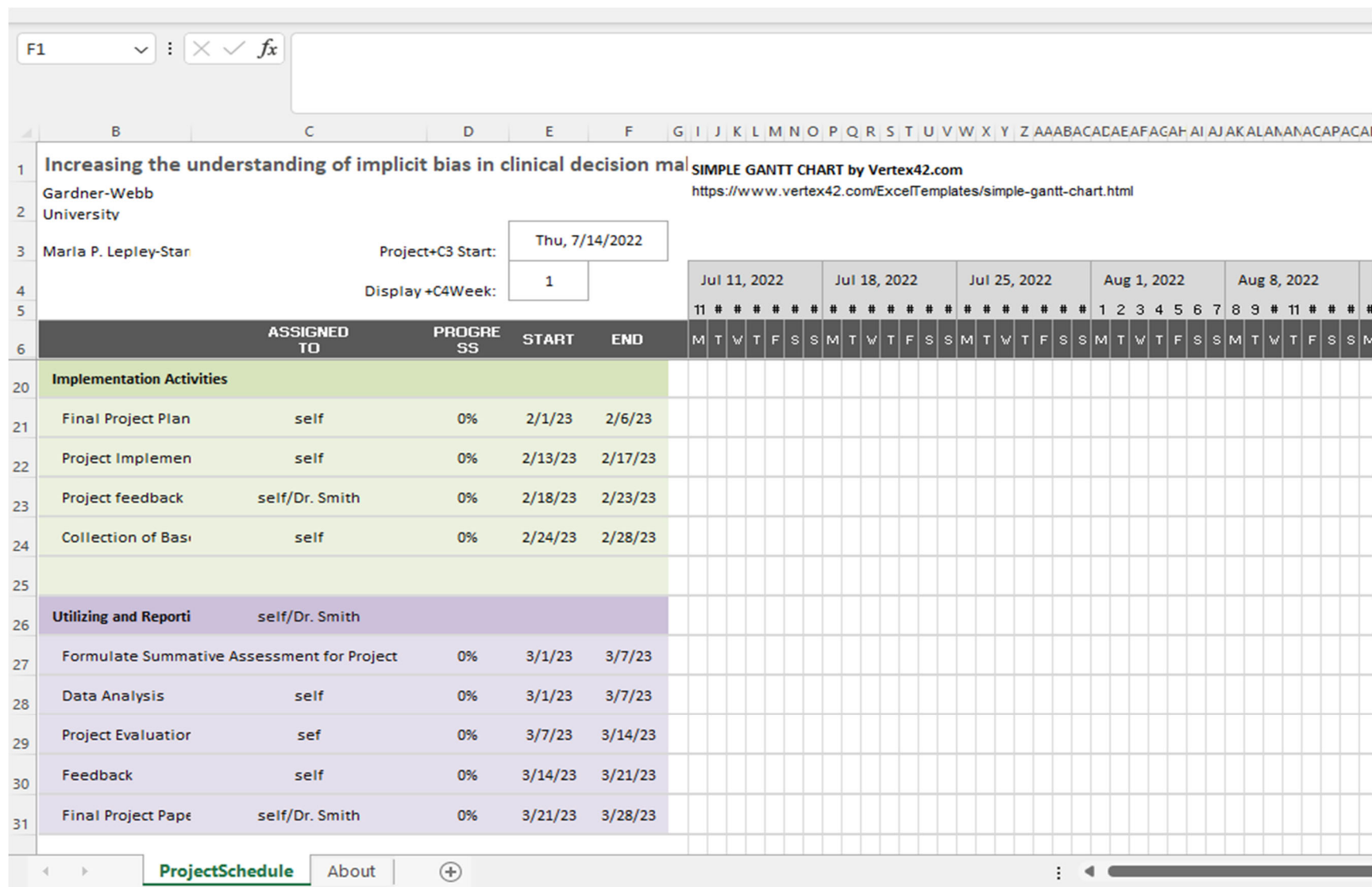
Utilizing and Reporting Project Data

- Formulate Summative Assessment for Project
- Data Analysis
- Project Evaluation Proces
- Feedback
- Final Project Paper/Canva Presentation

Appendix C

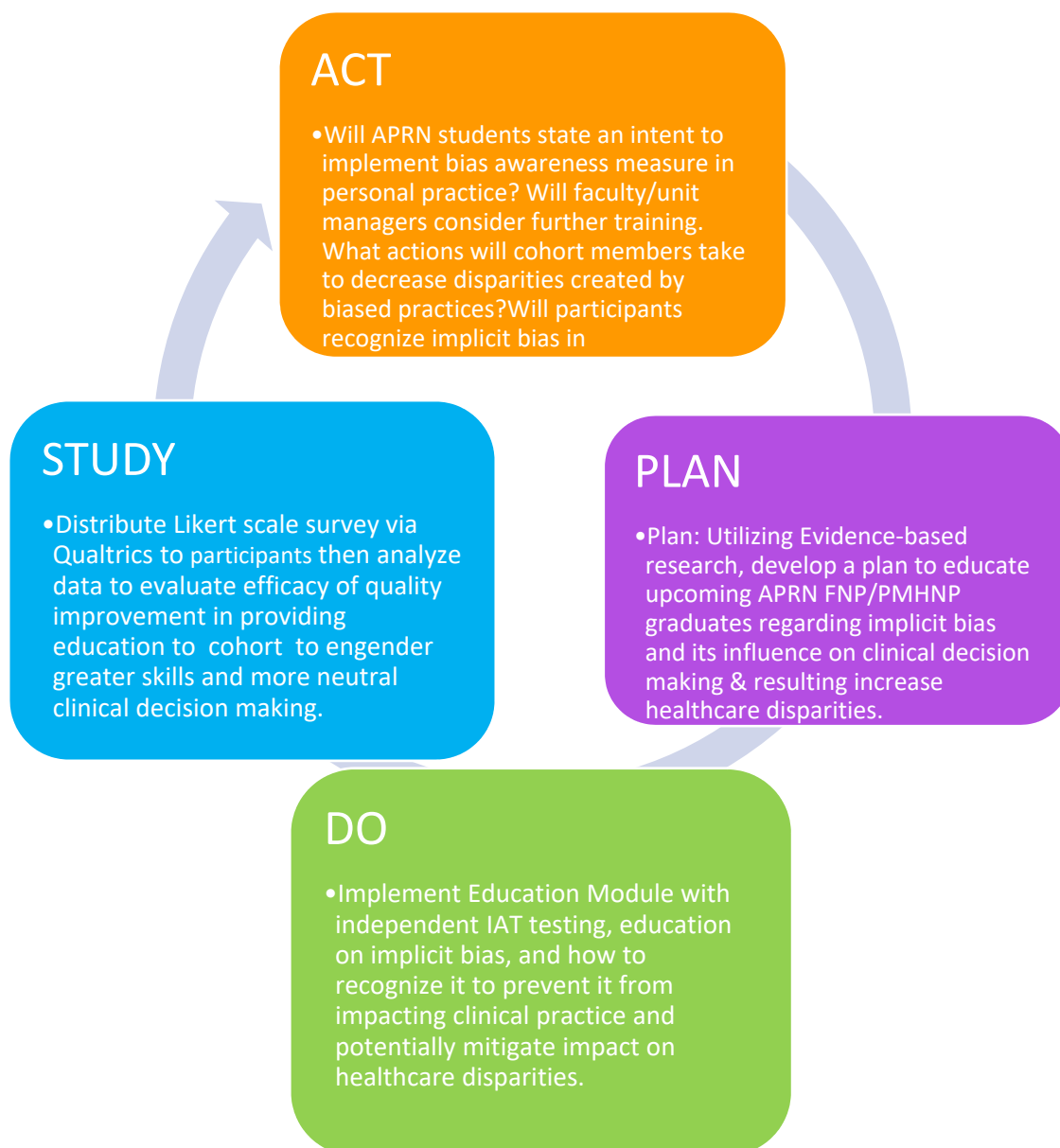
Gantt Timeline Chart





Appendix D

Plan-Do-Study-Act (PDSA) Cycle



Appendix E

Descriptive Statistics for Survey Questions

#	Field	Min	Max	Mean	Std Deviation	Variance	Count
1	I have had formal education or training about implicit bias prior to today's module through either schoolwork or continuing education activity.	1.00	5.00	3.60	1.74	3.04	5
2	I was previously aware that implicit bias affects healthcare disparities in vulnerable populations.	4.00	5.00	4.60	0.49	0.24	5
3	I learned something new about an APRN's clinical decision-making and how implicit bias can influence it.	2.00	4.00	3.25	0.83	0.69	4
4	I have a greater understanding of what microaggressions are after the activity.	4.00	5.00	4.80	0.40	0.16	5
5	I can identify at least 1 area in my practice where I can apply what I learned during the activity to help reduce healthcare disparities or inequity.	2.00	5.00	3.80	1.17	1.36	5
6	I gained new insight about myself by taking the IAT of my choice.	3.00	4.00	3.25	0.43	0.19	4
7	My knowledge about implicit bias increased after participating in this activity.	3.00	5.00	4.20	0.75	0.56	5
8	I think more could be done to educate APRNs about the impact of implicit bias on healthcare disparities.	2.00	5.00	3.60	1.36	1.84	5
9	Upon self-reflection, I have a greater understanding of how implicit bias may impact how I practice as a clinician/provider.	1.00	5.00	3.50	1.66	2.75	4
10	I have a greater understanding of microaggressions and their effect on patient-provider trust.	3.00	5.00	4.33	0.94	0.89	3