

Increasing the Doctorate of Nurse Anesthesia Pipeline

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Abstract

Mentorship in the medical community can positively influence professional growth (Chan et al., 2016; Giannone et al., 2018; Stanfill et al., 2019). The objective of this research project was to increase AdventHealth University (AHU) undergraduate nursing students' intent to apply to a nurse anesthesia program (NAP) by implementation of a mentorship program. There exists evidence to support that peer mentorship promotes positive outcomes, such as career growth, academic success, and increased exposure to advanced healthcare degrees.

The study examined how peer mentorship of an undergraduate Bachelor of Science in Nursing (BSN) affects intent to apply to a NAP. The design of the study followed a quality improvement and quality assurance design that took place on AHU's Orlando campus. Peer mentorship has been supported by literature to provide mental health benefits (Akinla et al., 2018; Kim et al., 2013; Maniam et al., 2020; Scott et al., 2019; Yuksel & Bahadir-Yilmaz, 2019). Research in determining the effectiveness of mentorship programs on subspecialty choice in undergraduate programs is currently being evaluated as well (Salerno et al. 2017; Stanfill et al., 2019).

There is an increased demand for certified registered nurse anesthetists (CRNAs) and a need to examine how to increase the pipeline to NAPs. Factors that limit BSN students is a lack of knowledge of the role of a CRNA and the requirements of NAPs. The project aim was to set up a mentorship with a student registered nurse anesthetists (SRNAs) to close the knowledge gap and provide a support system to improve intent to apply to a NAP.

Keywords: peer mentorship, undergraduate, nurse anesthesia

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Increasing the Doctorate of Nurse Anesthesia Pipeline

Anesthesiology is a growing field due to the aging population and increase in the number of elective surgeries. Elderly populations require anesthesia services for elective procedures to aid them in living a full life such as hip replacements. In the United States there is a lack of certified anesthesia providers equating to an excess demand of 10.7%, which is expected to remain present leading into 2027 (Negrusa, 2021). Mentorship programs have been studied as a way to increase the post-baccalaureate nursing pipeline. The authors hypothesized that, by implementing a mentorship program with first-year Student Registered Nurse Anesthetists (SRNAs) and Bachelor of Science in Nursing (BSN) students at AdventHealth University (AHU), this research project would increase the BSN student's intent to apply to the Doctor of Nurse Anesthesia Practice (DNAP) program.

Significance & Background

Research has found that only 2.5% of physicians chose anesthesia as their top choice for postgraduate training, while most frequent factors for not choosing anesthesiology were long work hours, high stress levels, insufficient mentorship, and low job opportunity (Chan et al., 2016). In contrast, there has been little research that shows a correlation between implementing a mentorship program and an increase in BSN students' intent to apply directly to a nurse anesthesia program (NAP).

Research shows that having a mentorship program can decrease the lack of awareness of the role (Stanfill et al., 2019; Chan et al., 2016). This lack of awareness is seen as a potential barrier for pursuing a doctoral program. Therefore, implementing a mentorship program with BSN students could alleviate these barriers by promoting more awareness and intent to pursue. The purpose of this project is to increase AHU BSN students' intent to apply to a NAP with the

implementation of a mentorship program with first-year AHU SRNAs.

PICOT Evidence Review Questions

To assess the literature on the efficacy of peer mentorship programs on increasing the applicants to postbaccalaureate studies amongst health professional studies, two questions were posed in a Problem (P), Intervention (I), Comparison (C), outcome (O), and Time (T) format. A PICOT format focuses on identifying a problem, intervention, comparison, outcome, and time to align a structured search strategy. The first question addresses our clinical problem: Among undergraduate allied health, nursing, or medical students, (P) do mentorship programs (I) increase interest in pursuing a post-baccalaureate degree (O)?

The second question addressed the innovation: Among AHU undergraduate BSN students (P), does a 3 month (T), mentorship program (I) between first-year SRNA and undergraduate BSN senior level students at AHU increase intent to apply to a DNAP within 3 years of graduation from the BSN program (O) compared to AHU Undergraduate BSN senior level students who do not participate in the mentorship program (C)?

Search Strategies

The primary search strategy used to gather information for the literature review was the use of databases and government agencies. PubMed and Google Scholar yielded 34 relevant articles to the initial PICOT question with 13 studies meeting inclusion criteria. Inclusion criteria were defined as published in English, peer reviewed, full text articles. The subjects within the articles needed to be within the medical field and participating in a mentorship program with an evaluation of the programs increased intent to pursue a higher educational degree or increased interest within the within the specific field.

The search results yielded eight descriptive studies, one cross-sectional analysis, two systematic reviews, one randomized control trial, and one pretest/posttest series. Key search terms and MeSH combinations included: graduate students AND medical AND peer mentoring AND mentoring AND pipeline AND nursing AND post baccalaureate AND anesthesiology AND certified registered nurse anesthetist.

GRADE Criteria

The research articles that met inclusion criteria were evaluated for quality based on the Grading of Recommendations Assessment, Development and Evaluation (GRADE) criteria. The overall data is given a rating of a 2 based on the limited quantity of randomized control trials and systematic reviews. A majority of the literature is based on descriptive studies and a cross sectional analysis relying primarily on survey data. The evidence was downgraded to a 1 based on methodological flaws with convenience sampling, small sample sizes, and low response rates as a common theme presented in nine of the studies. Furthermore, the evidence showed lack of consistency in the tools used to analyze success of peer mentorship and mentorship. The evidence was upgraded to a 2 based on the large magnitude of effect with peer mentorship programs showing increased positive outcomes such as career growth, academic success, and increased exposure to varying advanced healthcare degrees.

Literature Review and Synthesis of Evidence

Mentorship has been a mainstay throughout the medical community. Mentorship is a mutually beneficial partnership in which both the mentor and mentee experience personal and professional growth (Nowell et al., 2017; Sambunjak et al., 2006). Akinla et al (2018). Giannone et al. (2018) and Plyley et al. (2020) describe peer mentoring as an arrangement in which a senior student advises a junior student within the same Peer mentorship provides numerous

mental health benefits such as stress and anxiety reduction, an increase in self-optimism and confidence, and a positive influence on professional growth (Akinla et al., 2018; Kim et al., 2013; Maniam et al., 2020; Scott et al., 2019; Yuksel & Bahadir-Yilmaz, 2019). While peer mentorship is known for these mental health benefits, current research focuses on increasing exposure to subspecialties to increase the nursing post-baccalaureate pipeline and influence career specialty choice amongst graduate healthcare students (Earp et al., 2020; Salerno et al., 2017; Stanfill et al., 2019).

For this literature review, graduate healthcare students included students enrolled in a master's or doctoral degrees in various fields of healthcare, including but not limited to nursing, pharmacy, psychology, and medicine. There are no direct studies focusing on peer mentorship between an undergraduate BSN student and a SRNA as an influential factor in increasing the interest in anesthesia or the intent to apply to a DNAP program.

Factors Affecting Degree Pursual

The choice to pursue an advanced practice nursing degree is multifactorial with interpersonal factors such as marital status and age playing a role (Djukic & Fletcher, 2022). However, BSN students' decision to pursue advanced practice nursing was often made prior to or during the attainment undergraduate nursing degree (Freed et al., 2013a; Freed et al., 2013b). Student exposure to different advanced nursing degrees in undergraduate nursing students was shown to increase intent to pursue a doctoral degree (Salerno et al. 2017; Stanfill et al., 2019). The undergraduate students who lack knowledge about a particular advanced nursing degree also determined the decision to refrain from applying to a doctoral program (Salerno et al. 2017; Stanfill et al., 2019).

Peer Mentorship and Increased Field Interest

The field of nursing has numerous advanced degrees and even more specialization within each advanced degree making exposure to each specialty unlikely. According to Sambunjak et al. (2006), mentors impacted specialty and career choice by approximately 20-98%. In a peer mentorship program between undergraduate and graduate psychology students, peer mentorship was shown to aid in career growth and decision of advanced subspecialty psychology degree choice (Giannone et al., 2018).

Literature on anesthesia as a career choice amongst nurses is limited due to the population needed to conduct the study being a small, specialized segment of the medical community. A majority of the studies pertain to medical students. Amongst medical students, mentorship was shown to be one of the most influential factors in their choice of specialty (Sambunjak et al., 2006). Undergraduate medical students who participated in a preceptorship program with an anesthesiologist showed increased interest in anesthesiology and increased application to anesthesia residency programs (Murray & Wilsanen, 2016). The draw to anesthesia has been attributed to the “hands-on” and critical care aspects of anesthesiology. (Augustin et al., 2014; Chan et al., 2016). Mentorship within the medical field has been shown to increase interest within a subspecialty.

Structure of an Effective Mentorship Program

Mentorship programs that were effective in promoting advanced subspecialties had specific structural elements. Timelines were variable ranging from 3-7 months and a majority of programs required meetings once a month (Etzel et al., 2018; Giannone et al., 2018; Murray & Wilsanen, 2016). The modality of communication varied in the studies which included online via electronic emails, in-person meetings, or a mixture of both (Etzel et al., 2018; Giannone et al., 2018; Murray & Wilsanen, 2016). Communication that was conducted solely via online

modalities proved to hinder the mentor- mentee relationship (Giannone et al., 2018). While Collier (2015) noted that amongst college students, while face-to-face communication was the preferred modality, the regularity of communication was the paramount factor in success of peer mentoring programs. Success of the mentorship programs is determined by the relationship between the mentor and mentee and how the relationship affected the choice of advanced subspecialty.

Theoretical Framework

This research project utilize the Neuman Systems Model, which views an individual as a client system. The Neuman Systems Model was developed specifically for nurses to identify stress factors that can harm the wellbeing of an individual and factors that aid in resilience development. This theoretical framework was useful for this study due to the sample population of BSN students. The key concepts for the Neuman Systems Model contain five subsystems: physiological (referring to the body's response), psychological (referring to emotions), socio-cultural (referring to relationships), spiritual (referring to spiritual beliefs and influences), and developmental (referring to and related processes and variables) (Ahmadi & Sadeghi, 2017; Hannoodee & Dhamoon, 2021). These subsystems are the variables that are an individual's line of defense in coping with stress.

The researchers of this study focused on applying the socio-cultural, psychological, and developmental subsystems to this project. These three systems are specific to fostering a constructive mentor- mentee relationship. Fostering positive interpersonal relationships was an integral part for this project to increase the interests of the BSN students in graduate nurse anesthesia programs via a mentor.

The socio-cultural subsystem was achieved by creating the relationship between the mentor and mentee as they supported the BSN student in answering questions and providing an open dialogue for communication. The psychological subsystem was met by determining the impact a mentor can make on the mentee with emotional support throughout the study. The developmental subsystem assessed the mentees' current knowledge and aided them in closing the gap regarding nurse anesthesia. Utilizing these subsystems from the Neuman Systems Model promoted more interest in nurse anesthesia by establishing connections between the mentor and mentee.

Applicability to Practice

Mentorship implementation within the medical community has been shown to be effective in influencing the academic pursuits of an undergraduate student. A peer mentorship program can improve academic success as well as professional development for students wanting to pursue graduate degrees. Giannone et al. (2020) determined that peer mentorship programs between undergraduate and graduate psychology students increased the pursuit of advanced subspecialty psychology degree choice. There is sufficient evidence to support the impact peer mentorship can have towards career growth, but little evidence to show how mentorship directly improves interest of BSN students' intent to apply to NAP.

Increased exposure to a career field has been correlated with increased interest in pursuing a degree within that specialized field. (Murray & Wilsanen, 2016; Salerno et al. 2017; Sambunjak et al., 2006; Stanfill et al., 2019). This project tested if implementing a peer mentorship program was an effective way to increase BSN students' knowledge of the role of a CRNA and increased their intent to apply to a nurse anesthesia program. It also tested if

implementing a mentorship program increased the knowledge base of the current infrastructure of a nurse anesthesia program and built a stronger foundation of expectations for the future candidates.

There is an increased demand for CRNAs due to a shortage in the United States (Negrusa, 2021). The shortage of certified anesthesia providers leads to delays in care. The community will benefit from increasing the CRNA pipeline by having an increase in qualified anesthesia providers available for medical needs.

Project Aims

The primary aim of this project was to increase AHU undergraduate nursing students' intent to apply to a nurse anesthesia program through the implementation of a mentorship program. The secondary aim was for the undergraduate nursing students to gain knowledge of the role of the nurse anesthetist. With this increased knowledge and exposure through the mentorship program, the goal was to increase the undergraduate nurses' interest in pursuing nurse anesthesia as a career. The objectives were as followed:

1. Implement a mentorship program for BSN students at AHU Orlando Campus to be mentored by first year AHU SRNAs (Class of 2025).
2. Determine if mentorship increased the BSN students' knowledge of the role of the CRNA.
3. Determine if mentorship is effective in increasing the intent to apply to nurse anesthesia school within 3 years of completing a BSN degree at AHU.

Methods

Design

This project was based on a quasi-experimental research design. A pretest- posttest

design was utilized to evaluate the intervention of mentorship on the subjects. Pretest-posttest evaluations have been an effective tool in intervention-based research studies (Alessandri et al., 2017). There was no collection of demographic data as this could lead to the identification of the participants. The pre-survey and post-survey questionnaire can be found in the Appendix.

The pretest gathered baseline data from the participants prior to implementation of the mentorship program with an SRNA. While the posttest evaluated if the intervention of mentorship increased the knowledge and intent to apply to nurse anesthesia school. The statistical data was evaluated using the Wilcoxon Rank sum test.

Setting

The study was conducted at AHU in Orlando, Florida.

Sample

Researchers had face-to-face communication with BSN students at AHU Orlando campus to present the research topic. The targeted population of this study was the undergraduate nursing class of 2024 at AHU Orlando, which consists of twenty students. The participation in this study was voluntary. Eight students chose to participate in the mentorship program.

Inclusion criteria for all subjects in the project was being currently enrolled in the BSN degree at AHU, belonging to the class of 2024, and being willing to engage in a mentorship program. Exclusion criteria were BSN students that were not attending the AHU Orlando Campus.

Recruitment

Recruitment was completed on campus at AHU Orlando by the researchers. Researchers presented a PowerPoint presentation to the BSN students for the class of 2024 where an initial pre-survey was presented via QR code through Microsoft Forms. The potential participants were

educated on the purpose of the project and potential benefits they would reap from having direct communication with a SRNA. They had the opportunity to ask questions about the work experience they will need prior to applying to nurse anesthesia school, about the application process, and about what pursuing a career as a nurse anesthetist entails. Digital flyers were created and emailed to the university email addresses of BSN students from the class of 2024. This would ensure that outreach is extended to all the potential participants. Another QR code was provided where BSN students can provide their contact information to the researchers if interested in participating.

Ethical Considerations

Prior to inclusion in this study, all subjects were informed that their participation in this study was voluntary, and agreement or disagreement would not impact their educational experience at AHU while pursuing a BSN degree. Recruitment was conducted by the researchers. The AHU nursing faculty did not engage in the recruitment process; no academic benefits were provided to those who choose to participate in the study; and no disciplinary action would be taken against those who choose to forego this opportunity. The participants signed a consent to engage in the mentorship program prior to the initiation of research.

Data Collection and Storage

After BSN students were informed that their participation was voluntary, the BSN students were presented with a QR code to Microsoft Forms of the pre-survey. BSN students that were interested in the mentorship program were paired with first year SRNAs that volunteered to participate in the mentorship program. The mentorship consisted of 2 meetings between mentor and mentee via telephone, zoom or in-person at the discretion of each mentor and one skills lab to be attended by the mentee. While no time limit was specified, we predicted

each meeting to be 10-15 minutes but can go longer if desired. Topics to be covered in the initial meeting include but were not limited to: requirements to apply to the program, experience needed for the program, reasons the mentor was interested in pursuing the nurse anesthetist degree, work/life balance the mentor experience while in school. The last meeting topics included in discussion may were mentee's interest in the program, barriers to application if interested in the program and what suggestions they have to improve the mentorship program. There was a skills lab portion where mentees could participate in which involved practice of skills performed by CRNAs and SRNAs such as intubation and/or spinal and epidural placement. This skills lab was facilitated by the 2 investigators and a member of the nurse anesthesia faculty. The initial meeting was conducted within in the first month, the skills lab was held in the second month on AHU Orlando campus, and the last meeting for the mentor and mentee was conducted during the third month. After the 3-month mentorship program, the same survey was re-sent to the students' university emails and cellphone number provided. The results were collected digitally for comparison of effectiveness of mentorship on increasing knowledge of nurse anesthesia as a career and on increasing the intent to apply to a nurse anesthesia program.

The pre-survey consisted of 7 questions and the post-survey consisted of 10 questions. The survey was created originally by the researchers. The data from the pre-survey and post survey was collected and organized in a Microsoft Excel Spreadsheet. All subjects in the study did not have identifying information associated with their responses when being evaluated for data significance, which adheres to Family Educational Rights and Privacy Act (FERPA) regulations and guidelines. The participants were numbered within an Excel document. Comparison of the responses prior to and after the intervention of mentorship were evaluated. All the collected data and consent agreements will be stored on Microsoft Teams through the

AdventHealth Institutional Review Board (IRB), which after 7 years will be automatically deleted.

Planning and Procedure Limitations

Planning

The key stakeholders were Dr. Victor Pareja, Chair of the project and Vice Chair of AHU DNAP program and Dr. Marika Whitaker, a nursing instructor at AHU Orlando campus.

For Dr. Victor Pareja, Chair of the project and Vice Chair of AHU DNAP program increasing intent to apply broadens the influx of student applications yearly and thus provides increased selectivity within the program admission process. For Dr. Marika Whitaker, increasing availability of resources for undergraduate nursing students to expand their horizon of what graduate degrees are possible after attaining their bachelor's degree in nursing would be beneficial. As teachers, these above key players are invested in aiding the growth of the students' and of AHU's academic program for the nursing career.

Implementation

The participants in the study volunteered and signed their consent to participate in the study by the deadline of February 31, 2023. Participants then received a link to the pretest via SurveyMonkey in their AHU emails in February 2023. Each undergraduate BSN was randomly paired with a first year SRNA and exchanged email and telephone contact information. Mentorship was conducted for 3 consecutive months starting in April 2023 and ending in June 2023. At the conclusion of the mentorship program in June 2023, the same survey was sent as a posttest for evaluation of the mentorship program.

Barriers and Facilitators

Barriers that were anticipated within the project are limited survey responses. The survey

was made to be a 17 question survey with limited answer options to promote participant completion. Even though the survey was short and took more than 5 minutes to complete, participation in the pretest and posttest surveys are not guaranteed. The initial number of students who sign up to participate and the number that finish the 3 months of mentorship differed due to prioritization of time for nursing students.

Procedures to Sustain

To maintain involvement in the mentorship program, the researchers encouraged the first-year SRNAs to continue reaching out to the participants monthly. The SRNA's that were chosen to participate in the research project on a voluntary basis to encourage active engagement in the mentorship process. Researchers encouraged and facilitated communication throughout the entirety of the mentorship period of 3 months.

Anticipated Limitations

Anticipated limitations primarily revolved around the sample population. Participation in this project was voluntary. Based on the nature of this project, there was potential for a small sample size. Recruitment was the best way to combat this issue. The BSN students were contacted through face-to-face interaction at the school campus and a flier was sent to their university emails. Educating the students on the purpose of the project and the knowledge they can gain from participating in the project was essential in gathering the largest sample size possible.

The study is a quasi-experimental study where the pretest and posttest surveys are compared to determine if the intervention of mentorship increased intent to apply to a nurse anesthesia program within 3 years. Another anticipated limitation was incomplete participation and failure to complete the posttest. If we fail to gather data from all the participants in the

posttest survey, comparison cannot be conducted.

The tool we used to gather data from the participants was a 17-question survey provided through Survey Monkey. This is an original survey created by the researchers. This tool was validated by Betty Varghese, a licensed mental health counselor at AHU. She determined that the questions were impartial with no bias present. This initial survey measured intent to apply to nurse anesthesia school within 3 years but was not able to gather data about the follow through of the students.

Timeline

This project topic is a continuation of a previous group of students from the class of 2023. However, slight revisions to the original problem and innovation were made in PICOT format and submitted for approval to the AHU faculty in May 2022. From June 2022 to July 2022 a review of relevant literature and articles was performed, as well as interviews with key players from both AHU nurse anesthesia faculty and AHU nursing faculty. A meeting with the statistician was completed in June 2022 and a PowerPoint for the proposed methods was made in collaboration with the previous group and presented to both Dr. Sarah Snell and the Center for Academic Research Excellence team in July 2022. Submission of the project paper to the editorial review service took place in June 2022, and a subsequent submission was made to AHU faculty in July 2022. Once approved by the AHU faculty, submission to the Scientific Review Committee (SRC) and IRB took place in December 2022. After SRC and IRB approval, flyers were sent out in February of 2023 to faculty in the nursing program and a presentation to inform nursing students of the mentorship program will be completed. Additionally, in February of 2023 communication was conducted with the cohort of 2025 of the AHU DNAP program for participation as mentors. The mentorship program was completed from March of 2023 to June

2023 where a pretest survey was sent out prior to the start of the mentorship program to all nursing students and a posttest survey given to mentees at the completion of the mentorship program. Data analysis occurred in the summer of 2023.

Dissemination Plan

Dissemination will take place in Fall 2023 and Spring 2024. A PowerPoint presentation will be made and presented to key audiences which include the AHU nurse anesthesia program administrator, the program admission coordinator, and full-time AHU nurse anesthesia faculty.

Results

The pre-mentorship survey was completed by eleven BSN students. A majority of the participants correctly identified scope of practice items performed by the CRNA and the ability of CRNA's to practice without physician supervision, however only 37% correctly identified areas that CRNA's can practice. 81% of participants had plans to apply to a DNAP program in the future and the time to apply ranged from 1-5 years, with 90% of participants interested in a mentorship program. The post-mentorship survey was completed by 2 participants. Among the participants, the mentorship program changes their intent to apply to a DNAP program. 50% of participants in the post-mentorship survey attended a skills session, attended at least 1 mentorship session, and agreed that the skills session influenced their decision to pursue a graduate level nurse anesthesia program. 50% of participants did not attend a skills session nor any mentorship sessions.

Discussion and Limitations

There is a lack of certified anesthesia providers within the United States. The gap between supply and demand of anesthesia professionals is anticipated to continually get worse approaching the year 2027 (Negrusa, 2021). This increase in demand requires an increase of

interest in the career of anesthesia. The purpose of the study was to create a mentorship program between SRNAs and BSN students that sought to close the knowledge gap and provide a support system which might lead to increased intent to apply to a nurse anesthesia program.

The results from the study provided no significant data due to the lack of participation. This is attributed to the small sample size of volunteers that completed all three components of the study: meeting with mentors, attending a skills lab, and completing the pre and post participation survey. Small sample size was the primary anticipated limitation prior to conducting the study. In order for this study to provide important data in the future, it would require an increase in participation from the members. Non-participation in voluntary studies has been linked to perceived lack of time (Leick et al., 2022; Attwood et al., 2016), lack of compensation (Smith et al., 2019), and inconvenience (Browne et al., 2019).

Perceived lack of time

Time is a valuable resource, especially for students in a rigorous nursing program. Time management is a skill that is developed over time. Senior nursing students in the bachelorette program are juggling didactic and clinical rotations. The study required the students to attend two mentoring sessions and one skills lab. The hours spent engaging in the study could be perceived as time that would be better spent studying for exams or preparing for clinical hours. If the mentee does not feel that the benefit outweighs the time commitment of the study, they are less likely to participate. The immediate need for passing classes to obtain a nursing degree may precede the interest in learning about the career of a nurse anesthetist. The perceived lack of time felt by the nursing student could be an independent factor that limited participation in the study.

Lack of Compensation

Incentives have been shown to increase engagement in a study. To keep the study unbiased and prevent the potential for coercion, the study was voluntary for all participants. The lack of compensation for the time dedicated to the study could be a cause of the limited interaction with mentors and lack of response rates. This limitation was not initially anticipated but became evident throughout the duration of the study. Retention of the volume of volunteers interested in the program initially was significantly decreased at the conclusion of the three-month study period. People are more likely to participate in a study if there is a tangible reward.

Inconvenience

Inconvenience can strongly decrease study participation for a variety of reasons. Scheduling conflicts could be a problem between a BSN senior study and a first year SRNA. Both parties are in demanding academic programs that require clinicals to be completed. The challenges with finding a convenient meeting time for mentorship could lead to decreased involvement. Another potential inconvenience was the time and location of the skills labs. The two skills labs were located on the AdventHealth Orlando campus for a hands-on intubation lab. Volunteers may have been deterred from attending due to the times available and the need to be physically present to engage in this portion of the study. The inconvenience of the mentorship meetings and skills lab times and locations could have been attributed to the lack of participation.

Conclusion

The mentorship program had an increased interest during the pre-survey period, however, participation dwindled as the program progressed. Due to various limitations including lack of compensation, convenience, and a prolonged IRB/SRC approval our sample size was limited and unfortunately not statistically significant. To increase the sample size, recruitment of all BSN students regardless of years in the program should be considered as well as recruitment to other

nursing programs in the central Florida area. To expedite IRB/SRC approval, all information should be given to the students seeking to acquire this project. The mentorship program should also be limited to one month or six weeks to have increased participation. Overall, mentorship programs can increase participants' exposure to the field of nurse anesthesia and should be continued.

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Appendix

- 1) Please create a non-identifiable code by using your first pets name and your birth year.
 - a) Fill in
- 2) Choose true statements about Certified Registered Nurse Anesthetists? (Select 3)
 - a) Conduct preoperative assessment and intubate patients
 - b) Insert central lines, arterial lines, and pulmonary artery catheters
 - c) Perform emergency surgical airways
 - d) Must be under medical direction of a physician
 - e) Insertion of emergency chest tube for pneumothorax
 - f) Prescribe antihypertensive medications following surgery
- 3) In what areas can CRNAs practice?
 - a) Ambulatory Surgery Center
 - b) Ketamine Clinics
 - c) Hospitals
 - d) All of the above
- 4) CRNAs can work without physician supervision
 - a) True
 - b) False
- 5) Do you plan to apply to a graduate level nurse anesthesia educational program in the future?
 - 1-Strongly disagree
 - 2-Disagree
 - 3-Agree
 - 4-Strongly agree
- 6) If so, in how many years?
 - a) Fill in text box
- 7) Are you interested in a mentorship program with a current Student Registered Nurse Anesthetist?
 - 1-Not interested at all
 - 2-Somewhat Interested
 - 3-Interested
 - 4-Extremely Interested

The post-survey questions will be:

- 1) Please use the same non-identifiable code by using your first pets name and your birth year from the pre-survey.
 - a. Fill in

- 2) Choose true statements about Certified Registered Nurse Anesthetists? (Select 3)
 - a. Conduct preoperative assessment and intubate patients
 - b. Insert central lines, arterial lines, and pulmonary artery catheters
 - c. Perform emergency surgical airways
 - d. Must be under medical direction of a physician
 - e. Insertion of emergency chest tube for pneumothorax
 - f. Prescribe antihypertensive medications following surgery
- 3) Do you plan to apply to a graduate level nurse anesthesia educational program in the future?
 - 1-Strongly disagree
 - 2-Disagree
 - 3-Agree
 - 4-Strongly agree
- 4) If so, in how many years?
 - a. Fill in text box
- 5) Did the mentoring process change your intent to apply to a graduate level nurse anesthesia educational program?
 - 1-Yes, it decreased
 - 2-Yes, it increased
 - 3-No, it did not change
 - 4-I did not participate in mentoring
 - 5 – Not applicable at this time
- 6) How interested were you in pursuing graduate level nurse anesthesia education before we contacted you about the mentoring process?
 - 1-Not interested at all
 - 2-Somewhat Interested
 - 3-Interested
 - 4-Extremely Interested
- 7) How interested are you in pursuing graduate level nurse anesthesia education today?
 - 1-Not interested at all
 - 2-Somewhat Interested
 - 3-Interested
 - 4-Extremely Interested
- 8) How many mentorship sessions did you attend?
 - 1- 1
 - 2- 2

3- 3
4- 0

9) Did you attend the DNAP skills lab session?

1-Yes

2-No

10) The DNAP skills lab session influenced my intent to pursue graduate level nurse anesthesia education.

1-Strongly disagree

2-Disagree

3-Agree

4-Strongly agree