

**Mentoring Undergraduate Nursing Students into
Graduate Level Nurse Anesthesia Education**

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Abstract

There is minimal evidence to support or discourage the use of a mentorship program to increase the number of baccalaureate nursing students with the intent to apply to graduate level nurse anesthesia education at the time of graduation. The scholarly project aimed to evaluate the effect of a mentorship program on senior baccalaureate nursing students' intent to pursue graduate level nurse anesthesia education. The causal relationship between the mentorship program and baccalaureate nursing student intent to apply was evaluated by analyzing results from a survey at the end of the mentorship period. An 8-week mentorship program with an integrated skills lab was completed by the senior baccalaureate nursing students before the survey was completed. This scholarly project sought to provide AHU baccalaureate nursing students and faculty with a one-to-one SRNA led mentorship program. Survey results from this scholarly project are minimally significant due to a small sample size. However, due a small level of increased intent to pursue graduate level nurse anesthesia education, the project results support the need for additional implementation with an increased sample size. Positive results from future studies may prove that implementing mentorship programs can assist in growing the profession of nurse anesthesia.

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Mentoring Undergraduate Nursing Students into Graduate Level Nurse Anesthesia Education

Mentoring is characterized as an activity that includes the provision of guidance from a mentor to a mentee that takes place in either a corporate or educational setting (Merriam-Webster, 2020). Mentorship programs can be focused on academic, career, or personal development; many programs integrate goals for growth in all of these areas (Bay et al., 2015; Caruso et al., 2019; Hicks-Roof, 2018; Hicks-Roof & Beathard, 2018; Kalén et al., 2015). There is a clear deficit in research aimed at directing senior baccalaureate nursing students into graduate level nurse anesthesia education. Current exploration has focused on the integration of mentorship programs to increase admission into and success throughout other graduate level health science programs. Although there is no current data on the use of a mentoring program for baccalaureate nursing students and its effects on intention to pursue a doctoral degree in nurse anesthesia, previous studies show that there is sufficient evidence to support the benefits of its integration (Areephanthu et al., 2015; Bay et al., 2015; Caruso et al., 2019; Danner et al., 2017; Hicks-Roof, 2018; Hicks-Roof & Beathard, 2018; Kalén et al., 2015; Ng et al., 2020; Ortega et al., 2018; Sayan et al., 2019).

Significance and Background

The utilization of mentorship programs for students has collectively failed to focus on the effectiveness of these programs for students transitioning from undergraduate education into a nurse anesthesia program (Areephanthu et al., 2015; Bay et al., 2015; Caruso et al., 2019; Danner et al., 2017; Hicks-Roof, 2018; Hicks-Roof & Beathard, 2018; Kalén et al., 2015; Ng et al., 2020; Ortega et al., 2018; Sayan et al., 2019). Lack of mentoring is a problem that often involves the educational system and norms of universities. Mentoring programs are not an automatic

construct of universities that have both undergraduate and graduate programs; this is a lost opportunity not only for recruitment into graduate programs but also for the future professions represented by the graduate programs.

Mentoring has proven beneficial in effectively advancing and sustaining the nurse anesthesia profession (Areephanthu et al., 2015; Danner et al., 2016; Hicks-Roof, 2018; Maniam et al., 2020; Wenzel & Gravenstein, 2016). Nurse anesthetists perform most of their duties in areas that only allow authorized personnel, making recruiting into nurse anesthesia difficult (American Association of Nurse Anesthetists [AANA], 2019). Due to authorized personnel restrictions in the intraoperative environment, beginning the guidance process early by identifying and supporting senior baccalaureate nursing students interested in anesthesia is the best route for mentorship into the profession (Wenzel & Gravenstein, 2016). With the rising demand for certified registered nurse anesthetists (CRNAs) nationwide, mentorship capabilities may positively impact the workforce. In 2020, almost 10% of CRNAs were planning to retire within the next year. In addition, the need for nurse anesthetists was projected to grow by almost 30% by 2028 (Mahoney et al., 2020). Mentoring nursing students into anesthesia should help to support the evolving profession of nurse anesthesia by encouraging continuation of education into the field. Therefore, we proposed to initiate a mentorship program between the undergraduate nursing students and the Doctorate of Nurse Anesthesia Practice (DNAP) students at AdventHealth University (AHU).

PICOT Search Format Questions

Two questions in PICO format have assisted in the systematic review of the literature. The first question addresses the education problem: In university students within health science baccalaureate programs (P), what is the effect of a mentorship program (I) as compared to the

absence of a mentorship program (C) on the student's intention to pursue graduate level education (O)?

The second question addresses the educational innovation: In senior baccalaureate nursing students attending AHU and participating in a mentorship program (P), does participation in a one-to-one mentorship program with a DNAP student registered nurse anesthetist (SRNA) (I) as compared to nursing students not participating in a one-to-one mentorship program with a DNAP SRNA (C) change the nursing student's intention to pursue graduate level nurse anesthesia education (O) at the time of graduation from the baccalaureate nursing program (T)?

Search Strategy/Results

The search strategy for the literature included using databases, governmental agencies, and reference lists, such as PubMed, OVID, ProQuest, National Center for Biotechnology Information, and Google Scholar. A total of 1550 articles were initially retrieved. Through title, abstract, and methods evaluation, 10 studies met inclusion criteria. Inclusion criteria encompassed common themes of mentorship in the medical field and pre and post assessment of mentee perspectives. Key search terms and MESH term combinations included mentoring program AND student mentorship AND graduate education AND student, AND pursuing AND health sciences, AND mentorship in academic medicine. Mesh terms included: mentoring, education, students, college, university, mentor, mentee, graduate level, student-professional transition, undergraduate, graduate, peer-mentoring, advising, academic mentorship. The search limits were English language, research articles, full text, last 5 years, and peer reviewed.

Grade Criteria

The literature was evaluated using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) criteria. Initially, the GRADE for the supporting body of evidence was very low. The types of studies were mostly qualitative, which gave low confidence in the evidence of the effect. Being that there is no standard tool to measure qualitative outcomes, the evidence had a risk of bias. Due to the qualitative aspect, questionnaires and open-ended survey techniques were used. Inconsistencies were seen throughout the qualitative evidence due to the choice of population, and variable outcome measures, which increased the indirectness. Multiple topics and questions were focused on in each article reviewed. There was minimal imprecision due to the qualitative nature and data saturation noted in two studies. Publication bias was not seen throughout the literature.

The body of literature was graded up for the strong relationship between interventions used and positive outcomes. There was a strong correlation between the length of the intervention and the benefits to the participants. All data suggested confounders would increase the overall effect of the intervention. Consequently, increasing the GRADE to a low-2. A strong recommendation can be made on the integration of mentorship programs for nursing students into nurse anesthesia school due to the evidence of success noted in the literature as well as the low-risk nature of the intervention.

Literature Review and Synthesis of Evidence

Mentoring is a useful tool for guiding students into graduate education and enhancing their professional and clinical skills (Bay et al., 2015; Carsuo et al., 2019; Kalén et al., 2015). For the purposes of this scholarly project, mentoring is defined as a relationship between a mentor and a mentee that provides both skill enhancement and psychosocial support (Areephanthu et al.,

2015; Bay et al., 2015; Kalén et al., 2015; Sayan et al., 2019). Topics discussed in the literature review include mentoring goals, mentee satisfaction, outcome improvement, and early initiation (see Appendix A).

Mentoring Clinical and Non-Clinical Skills

Mentoring programs focused on both clinical skill development and non-clinical skill development. Concentrating on integrating oneself with one's future role as a professional helped to instill confidence in assessment skills, forming a rapport with patients, using diagnostic reasoning, and in team collaboration (Bay et al., 2015; Hicks-Roof, 2018; Kalen et al., 2015).

Addressing non-clinical skill development is also a vital part of mentoring (Bay et al., 2015; Hicks-Roof & Beathard, 2018; Kalen et al., 2015). Communication is a non-clinical skill that has an impact on the mentee's ability to perform clinically by instilling confidence and advancing them professionally (Bay et al., 2015; Hicks-Roof, 2018; Hicks-Roof & Beathard, 2018; Kalen et al., 2015; Maniam et al., 2020). Other non-clinical skills supported by mentoring include post-training career planning, networking to increase opportunities for development, sponsorship and advocacy for trainees, research productivity, and mentoring of sensitive or challenging situations (Bay et al., 2015; Caruso et al., 2019; Kalen et al., 2015). Integration of both clinical and non-clinical skills into the mentoring process assists in creating well-rounded future professionals (Bay et al., 2015; Caruso et al., 2019; Hicks-Roof, 2018; Hicks-Roof & Beathard, 2018; Kalen et al., 2015; Maniam et al., 2020).

Effect of Formal versus Informal Mentoring on Mentee Satisfaction

Formal mentoring requires a detailed outline of expectations to be provided for the mentor and mentee and results in an overall mentee satisfaction rate of 90% (Maniam et al., 2020; Ng et al., 2020; Savan et al., 2019). It has been shown to improve mentee productivity,

clinical skills, medical knowledge, and career preparation (Areephanthu et al., 2015; Maniam et al., 2020; Ng et al., 2020; Savan et al., 2019).

In contrast, self-structured, informal mentoring has demonstrated lower mentee satisfaction rates than formal mentoring programs (Areephanthu et al., 2015; Ng et al., 2020; Savan et al., 2019). Expectations of informal mentoring programs were felt to be unclear and decreased mentee satisfaction with an overall satisfaction rate of 40% (Ng et al., 2020; Savan et al., 2019).

Improved Academic Achievement

Academic improvement has been highlighted in research related to mentorship programs (Areephanthu et al., 2015; Danner et al., 2016). Students who were enrolled in mentorship showed higher rates of academic advancement with measures of academic improvement, including placement in higher level education, placement into programs related to the students' majors, and increased knowledge of the correlating specialty (Areephanthu et al., 2015; Danner et al., 2016; Hicks-Roof, 2018). Placement into advanced level education programs increased by 23% to 41% after completing a mentorship program when compared to students who did not participate (Danner et al., 2016; Hicks-Roof, 2018). For students already enrolled in graduate level health science education, mentorship programs based on research within a specialty improved overall understanding and interest in the respective field of healthcare (Areephanthu et al., 2015; Danner et al., 2016; Hicks-Roof, 2018).

Early Introduction into Mentorship

Integration of mentorship relationships early in education showed positive benefits (Banuelos & Afghani, 2016; Bay et al., 2015; Danner et al., 2017; Ortega et al., 2018). Students

who engaged in mentoring have an improved likelihood of admission into healthcare education programs (Danner et al., 2017; Ortega et al., 2018). Due to the need for clear communication and expectations between participants, many programs start early mentoring with a presentation regarding mentor-mentee relationships (Bay et al., 2015; Danner et al., 2017; Ortega et al., 2018). Presentations such as these explain the aspects of a mentoring relationship to students. Participants understand the components of mentorship at the beginning of their career and can form professional connections at many levels in the healthcare field. (Banuelos & Afghani, 2016; Danner et al., 2017; Ortega et al., 2018). Mentees were able to utilize mentors as advisors through the educational process, during assimilation into specialty rotations, and throughout the transition towards obtaining employment after completing the educational requirements (Bay et al., 2015; Danner et al., 2017; Ortega et al., 2018).

Project Aims

The primary aim of this project was to determine if the use of mentorship by SRNAs to baccalaureate nursing students affects student intention of pursuing graduate level nurse anesthesia education at the time of graduation. The project objectives were as follows:

1. Develop a face validated tool to assess the number of BSN students with intention to pursue a graduate level education in nurse anesthesia.
2. Assess the number of BSN students from the class of April 2022 that are interested in a mentorship program with a current SRNA.
3. Implement a mentorship program with an adjunct simulation lab that will be attended by each BSN student once over the course of 8 weeks.
4. Assess the number of BSN students from the class of April 2022 that have an intention to apply to graduate level nurse anesthesia education programs after completion of the

mentorship period at the time of graduation.

Methods

The scholarly project followed an experimental quantitative approach with electronic surveys distributed to participants at the participants' time of graduation. The participants were volunteers from the group of senior BSN students with a projected graduation date of April 2022. The experimental quantitative method was used to analyze causal relationships in a controlled setting. The project used this method to assess the mentoring relationship's effect on student intent to apply to graduate level nurse anesthesia education.

Permission was obtained to conduct the project at the Undergraduate School of Nursing and the Doctor of Nursing Anesthesia departments at AHU in Orlando, Florida. The institution's programs consist of future registered nurses (RNs) and current critical care RNs. There was previously no formal communication between the students in these two curriculum settings. The settings for the project included the AHU's DNAP simulation operating room (OR) and the skills simulation lab. Settings for mentor/mentee interaction included the option of phone calls, virtual meetings, or in person. The sample methodology was a non-randomized convenience sample. The target population was easily accessible and willing to participate. Additional practical criteria included a projected graduation date of April 2022 from the BSN program at AHU. Exclusion criteria included any BSN student unwilling to participate. Power analysis was performed using the G*Power calculator using a priori power analysis. The effect size was set to 0.5, the alpha probability was set to 0.05, and the power to test intervention effect was set to 0.8 to achieve an ideal sample size of 54 participants. To account for attrition, a 10% increase in the baseline number of participants was added. This increased the total sample size to 58.

Potential participants were approached on February 2, 2022 via their school emails. The mentoring program and its requirements and benefits were presented via a flyer (see Appendix B). Contact information for the co-investigators (CI) of the project was provided to the students. The participants emailed the co-investigators to express interest in the mentoring program. Participation was voluntary. A survey was provided electronically through Microsoft Forms for immediate completion via web browser at the time of graduation). This survey was available for students to complete within 2 weeks, between April 18th to May 2nd, 2022. The information collected through the survey was, and remains, stored in AHU's password protected SharePoint application. The principal investigator and CIs stored this information and have access to it. Potential SRNA mentors were also approached via email on February 2, 2022. After obtaining project approval from the AHU Scientific Review Board (SRC), a recruitment flyer was emailed to all current SRNAs enrolled in the DNAP program at AHU (see Appendix B). SRNAs interested in participating as mentors contacted the CIs via email.

No potential risks or discomfort to the participants were identified in the project. Inclusion into the mentoring program was voluntary, and the participants could withdraw participation at any time. Benefits of participation included the introduction to a mentor, increased level of education about the field of nurse anesthesia, and a growing understanding of and capability to complete introductory level, anesthesia specific interventions. There were minimal ethical principles that affected the participants of the project. A notice of voluntary participation was provided to everyone involved (see Appendix C). The privacy of participants was protected by deidentification of the data prior to data analysis. The data was only available to the investor and co-investigators prior to being deidentified for analysis purposes. However, the CIs used participants' first and last names as well as their university email addresses in order

to pair them with a mentor and to send emails regarding the survey. The SRNA mentors had access to the BSN mentee's first and last name and school email addresses. This information was available through the school's directory but was supplied directly to the mentors by the CIs.

The tool was developed by the CIs with influence from previously validated tools. To ensure the tool was reliable and valid, the tool underwent face validation by three students from the 2023 cohort, two DNAP faculty members, one faculty member from the sonography department, and one end user. Edits were made to the tool based on suggestions that improved accuracy and ease of use. The terminology was modified as needed to ensure the tool was reliable. The tool utilized a questionnaire format. There were 12 questions for BSN students to answer. The questions were answered in a Likert scale format for ease of data analysis (see Appendix D). After completion of the mentorship program, the data analysis was conducted by AdventHealth's statisticians. Due to the small sample size, they used non-parametric tests, Wilcoxon Rank Sum and Wilcoxon Signed Rank, to complete the analysis. All data received will be password protected until it is destroyed after a maximum of 5 years post completion of this scholarly project. Rigor for the project was ensured via determination of minimal and maximal communication criteria and provision of specific topics of conversation. Interactions were required at mandatory intervals of time. Communication was required to take place for 15 minutes, once a month for a period of 8 weeks. Additionally, the students were permitted to attend only one simulation lab in which every student had the same baseline experience.

Planning and Procedures

Two key players were identified and agreed to participate. Dr. Sydney Moran and Professor Marika Whitaker were interviewed to identify potential challenges, barriers, and the overall viability of the project. Dr. Moran was chosen due to her involvement within the Student

Nurse Association (SNA) and proximity to senior students in the BSN program. Professor Whitaker was chosen due to her instruction of the senior classes leading up to graduation and her overall involvement with the student population. Dr. Fowler and Dr. Rivera were integral in ensuring the BSN students were given the opportunity to observe a DNAP skills lab session. AdventHealth's statisticians, Tho Nguyen and Hong Tao, assisted with data analysis.

The scholarly project was implemented in February of 2022, after obtaining approval from AHU's SRC. The BSN students were contacted through an email containing a flyer, which was delivered to them by Dr. Sydney Moran. The flyer explained the mentoring process and the requirements and benefits associated with it. The participants emailed the CIs to express their interest in the mentoring program within 1 week of the initial flyer email. After BSN students expressed an interest in participating, an email was sent to them by the CIs containing available DNAP skills lab sessions for them to observe. This email included the date and time of the lab as well as the skill that was to be practiced. The participants emailed the CIs to confirm a skills lab session that correlated with their personal schedules. All current SRNAs at AHU received an email with an attached flyer outlining the requirements for mentors and requesting their voluntary participation in this project. SRNAs had 1 week to respond with their intent to participate. After the mentee population had been identified and the number of SRNAs participating had been obtained, each BSN student was matched with a current SRNA.

Mentoring began February 14th, 2022. The mentors were required to reach out to their mentees once a month over the period of 8 weeks. The first meeting was required to take place by March 14th, 2022. The second meeting was required to take place by April 15th, 2022. A list of topics to be discussed was provided to the participating SRNAs and included personal experience of ICU nursing, application to graduate school, overall graduate school experience,

and an open question and answer session (see Appendix E). The mentee was required to attend one DNAP simulation lab. BSN student participation was documented by the CIs who also attended the DNAP skills labs to ensure each participant had a similar experience. At the end of the mentoring process, during the time of the BSN student's graduation, the survey was sent out to the entire senior BSN class graduating in April 2022 by Dr Sydney Moran on April 18th, 2022. The project CIs also sent out the survey link to each of the project participants individually on April 18th, 2022. The survey was open for a 2-week period for completion by the senior BSN students.

Barriers to this project included the interest of the BSN students and the willingness of the current SRNAs to mentor due to the strict time constraints of the DNAP program. These barriers were addressed by ensuring the DNAP students that this is not a large time commitment. BSN program and DNAP faculty were major facilitators of this project. The sustainability of the mentorship program is difficult to evaluate due to the small sample size and inconclusive results.

The scholarly project commenced after approval from AHU's SRC was obtained. The initial data was collected in February of 2022. The implementation period for the project was from February 2022 to May 2022. In May 2022, the post-intervention data was obtained. Data analysis was completed in June, 2022. The project will be ready for dissemination in Spring 2023. The final project timeline can be found in Appendix F of this document.

Results

The final sample in the mentorship program contained 4 participants. The response rate for the survey was 3 out of the 4 participants. Two senior BSN students who did not participate in mentoring took the final survey, providing us with a total of 5 results to analyze from the

survey. Specific demographics were not included in the results because the survey was sent to all BSN students graduating in April 2022. All responses received were used in the data analysis.

Data from both mentored and non-mentored individuals was analyzed and compared. The difference between the interest level in graduate level nurse anesthesia education prior to, and after, the mentorship period was compared. The Wilcoxon Rank Sum Test and Wilcoxon Signed Rank Test were both utilized to analyze the final data. Using the Wilcoxon Rank Sum Test, it was determined that there was no difference in response to the survey question between the mentored student and the non-mentored student groups. This test found that, while there was a difference between the two groups of students, there was not a difference in the answers provided by students. The Wilcoxon Signed Rank Test was also used to analyze the final data. This test found that there was no difference in the student's interest in graduate level nurse anesthesia education prior to and after mentorship. In the final data, the 3 respondents that participated in mentoring were interested in pursuing graduate level nurse anesthesia education both before and after the mentoring process. One participant's interest level increased from "interested" to "extremely interested" after completion of the mentorship period. Two students that did not participate in the mentorship program completed the survey. One student who did not participate in mentorship answered "not interested at all" to both survey questions aimed at determining interest in graduate level nurse anesthesia education prior to and after completion of the mentorship program. The second non-participant answered "extremely interested" in response to both questions aimed at measuring interest in graduate level nurse anesthesia education.

Discussion

This scholarly project sought to provide AHU baccalaureate nursing students and faculty with a one-to-one SRNA led mentorship program. The results of the survey were severely limited due to the small sample size. The analysis of the data showed that there was no difference between the respondents that were mentored and those that were not mentored. This project may have had a different impact if the sample size had been large enough to show differences between mentored and non-mentored respondents. This data shows that more research needs to be completed on a broader scale in order to find statistically significant data. Sample size was the major limiting characteristic. Due to the inclusion criteria of the scholarly project, only senior BSN students graduating in April 2022 were able to volunteer to participate in this project.

The results show that the BSN students that participated all were either “interested” or “extremely interested” in graduate level nurse anesthesia education prior to participation in the mentoring project. The results also show that there are more students interested in graduate level nurse anesthesia education than those who volunteered to be a part of this mentoring project. One senior BSN student remained “extremely interested” in graduate level nurse anesthesia education despite their choice to forgo participating in this mentorship project. Only one student changed their answer from “interested” to “extremely interested” in graduate level nurse anesthesia education after completing the mentorship project. The data supports the idea that mentoring sessions and DNAP skills lab observation increased BSN student intent to pursue graduate level nurse anesthesia education at the time of graduation. One of the survey respondents did not participate in mentoring and was not interested in pursuing graduate level nurse anesthesia education. One explanation for the variance in results is that there were no students who chose to participate in the mentorship project that reflected a lack of interest in graduate level nurse

anesthesia education prior to their participation in the project. This factor limits the data and its results. The educational innovation PICOT question addressed the question of a possible difference in intention to pursue graduate level nurse anesthesia education before and after a mentorship program with an SRNA, compared to those who did not participate in mentoring. The data analysis did not show a clear increase in the overall intent to apply to graduate level nurse anesthesia education in the mentored group. The data was not statistically significant. The project did not yield any unanticipated outcomes.

Applicability to Practice and Contribution to Professional Development

Satisfaction throughout the educational process and in the profession of nurse anesthesia is vital to the reduction of turnover as well as the quality and cost of patient care (Conner, 2015; Mahoney et al., 2020). SRNAs withdraw from programs for various reasons, including personal and health reasons, unawareness of time commitment, and the stress that comes with the job role and responsibilities of the CRNA (Conner, 2015). Mentoring is important to the profession of nurse anesthesia as it can increase satisfaction and decrease student attrition and turnover rates for CRNAs (Conner, 2015; Mahoney et al., 2020). Utilizing the recommendations related to previous research in other healthcare specialties, a formal, early implemented mentoring program can improve student outcomes in DNAP programs and turnover in the CRNA profession (Areephanthu et al., 2015; Bay et al., 2015; Caruso et al., 2019; Danner et al., 2017; Hicks-Roof, 2018; Hicks-Roof & Beathard, 2018; Kalén et al., 2015; Ortega et al., 2018; Sayan et al., 2019; Ng et al., 2020).

There is a possibility of increased recruitment into DNAP programs and, subsequently, the nurse anesthesia profession through mentorship. Increased recruitment and retention of potential CRNAs is imperative. By beginning a formal mentoring program at an early stage of

nursing education, this scholarly project aimed to associate undergraduate mentorship with increased student satisfaction and enrollment into the DNAP program at AHU.

Limitations

Limitations of this project included a small sample size, time constraints of volunteer participants, and an unpredictable variable. The sample size was limited due to the number of BSN students and SRNAs willing to participate. The sample size was also limited to the choice to include only the senior BSN class scheduled to graduate in April of 2022. This sample could have been expanded to include all students enrolled in the BSN program at AHU. Additionally, the population of BSN students at AHU represents a minute percentage of nursing students nationwide. Due to the high number of educational engagements required for BSN students and SRNAs, there was a limited amount of time that participants had to interact with their mentors. Although there were direct parameters for interactions, the nature of mentor-mentee relationships is variable and may have resulted in better communication and interaction between some mentor-mentee pairs when compared to others. Another possible inconsistency is that each BSN student brought their own personal characteristics and background experience that may have potentially affected the skills lab experience. A major bias that was present throughout the project was due to participants already having an interest in graduate level nurse anesthesia education at the time of recruitment. It is difficult to increase interest when mentoring individuals who have a baseline interest in obtaining education focused on the field of nurse anesthesia. With a larger sample size, this information provided by the data analysis may have been applicable to additional healthcare fields.

Conclusion

This scholarly project was focused on creating and implementing a mentorship program in which senior BSN students were mentored by current SRNAs in order to assess if intent to pursue graduate level nurse anesthesia education was influenced by participation in a mentorship process. A review of current literature supports the use of mentorship in improving interest in higher education programs as well as in increasing the level of student success within those programs. Implementation of this mentorship project at AHU allowed for direct communication between senior BSN students and SRNAs within AHU's DNAP program. Results from this project, while minimally significant, support continuing a mentorship program in the future to increase BSN student interest in graduate level nurse anesthesia education. In conclusion, we suggest that upcoming scholarly projects focused on mentorship attempt to increase the sample size of BSN students in order to obtain more significant results that can support implementation of mentorship in the future.

Dissemination Plans

The scholarly project was disseminated in Spring 2023 at AHU in Orlando, Florida. Explanations of the implementation process and the data received was available to AHU students and staff in PowerPoint and poster presentation formats. Additionally, the methods and results were shared with the Physician Assistant program at AHU in hopes that it will help in improving the version of a mentorship program specific to their education program.

References

- American Association of Nurse Anesthetists. (2019, August 8). *Certified registered nurse anesthetist fact sheet* [Fact sheet]. AANA. [https://www.aana.com/docs/default-source/pr-aana-com-web-documents-\(all\)/crna-fact-sheet.pdf?sfvrsn=faeb4c2a_4](https://www.aana.com/docs/default-source/pr-aana-com-web-documents-(all)/crna-fact-sheet.pdf?sfvrsn=faeb4c2a_4)
- Areephanthu, C. J., Bole, R., Stratton, T., Kelly, T. H., Starnes, C. P., & Sawaya, B. P. (2015). Impact of professional student mentored research fellowship on medical education and academic medicine career path. *Clinical and Translational Science*, 8(5), 479-483. <https://doi.org/10.1111/cts.12289>
- Banuelos, A., & Afghani, B. (2016). An innovative programme for premedical students. *The Clinical Teacher*, 13(5), 357–362. <https://doi.org/10.1111/tct.12450>
- Bay, E. H., Binder, C., Lint, C., & Park, S. (2015). Mentoring the next generation of neuroscience nurses: A pilot study of mentor engagement within an academic-service partnership. *The Journal of Neuroscience Nursing*, 47(2), 97-103. <https://doi.org/10.1097/JNN.000000000000123>
- Caruso, T. J., Kung, T., Piro, N., Li, J., Katznelson, L., & Dohn, A. (2019). A sustainable and effective mentorship model for graduate medical education programs. *Journal of Graduate Medical Education*, 11(2), 221-225. <https://doi.org/10.4300/JGME-D-18-00650.2>
- Danner, O. K., Lokko, C., Mobley, F., Dansby, M., Maze, M., Bradley, B., Williams, E., Matthews, L. R., Harrington, E., Mack, L., Clark, C., Wilson, K., Beech, D., Heron, S., & Childs, E. (2017). Hospital-based, multidisciplinary, youth mentoring and medical exposure program positively influences and reinforces health care career choice: “The reach one each one program early experience”. *The American Journal of Surgery*, 213(4),

611-616. <https://doi.org/10.1016/j.amjsurg.2016.12.002>

Hicks-Roof, K. (2018). Growing the dietetics profession via a mentorship program between dietitians and dietetics students. *Nutrition Today* (Annapolis), 53(2), 89-91.

<https://doi.org/10.1097/NT.0000000000000264>

Hicks-Roof, K. & Beathard, K. (2018). Development of a sustainable mentorship program: registered dietitian nutritionists mentoring undergraduate dietetics students. *Journal of Allied Health*, 47(2), E49-E51.

Kalén, S., Ponzer, S., Seeberger, A., Kiessling, A., & Silén, C. (2015). Longitudinal mentorship to support the development of medical students' future professional role: A qualitative study. *BMC Medical Education*, 15(1), 97. <https://doi.org/10.1186/s12909-015-0383-5>

Mahoney, C. B., Lea, J., Schumann, P. L., & Jillson, I. A. (2020). Turnover, burnout, and job satisfaction of certified registered nurse anesthetists in the United States: Role of job characteristics and personality. *AANA Journal*, 88(1), 39-48.

Maniam, G., Dean, R., Urban, R. S., & Williams, S. (2020). Implementation of a pilot medical student mentoring program for premedical students and its effects on premedical student attitudes. *Proceedings - Baylor University Medical Center*, 33(3), 346-349.

<https://doi.org/10.1080/08998280.2020.1743603>

Merriam-Webster. (2020). *Mentorship*. Merriam Webster Dictionary. <https://www.merriam-webster.com/dictionary/mentorship>

Ng, K. Y. B., Lynch, S., Kelly, J., & Mba, O. (2020). Medical students' experiences of the benefits and influences regarding a placement mentoring programme preparing them for future practice as junior doctors: A qualitative study. *BMJ Open*, 10(1), 1-8.

<https://doi.org/10.1136/bmjopen-2019-032643>

Ortega, G., Smith, C., Pichardo, M. S., Ramirez, A., Soto-Greene, M., & Sánchez, J. P. (2018).

Preparing for an academic career: The significance of mentoring. *MedEdPORTAL*, 14(1),

1-7. https://doi.org/10.15766/mep_2374-8265.10690

Sayan, M., Ohri, N., Lee, A., Abou Yehia, Z., Gupta, A., Byun, J., Jabbour, S. K., Wagman, R.,

Haffty, B. G., Weiner, J., & Kim, S. (2019). The impact of formal mentorship programs

on mentorship experience among radiation oncology residents from the

northeast. *Frontiers in Oncology*, 9, 1-4. <https://doi.org/10.3389/fonc.2019.01369>

Wenzel, V., & Gravenstein, N. (2016). Anesthesiology mentoring. *Current Opinion in*

Anesthesiology, 29(6), 698-702. <https://doi.org/10.1097/ACO.0000000000000397>

<p>Kristen K Hicks-Roof, & Karen Beathard. (2018). Development of a Sustainable Mentorship Program: Registered Dietitian Nutritionists Mentoring Undergraduate Dietetics Students. <i>Journal of Allied Health</i>, 47(2), E49-E51. https://search.proquest.com/docview/2054134196</p> <p>Hicks-Roof, K. (2018). Growing the Dietetics Profession via a Mentorship Program Between Dietitians and Dietetics Students. <i>Nutrition Today (Annapolis)</i>, 53(2), 89-91. https://doi.org/10.1097/NT.0000000000000264</p>					
Purpose	Variables	Setting/Subjects	Measurement and Instruments	Results	Evidence Quality
<p>Study One: Create a framework for mentorship program that can be adapted into any university didactic program in dietetics (DPD) program.</p> <p>Study Two: Determine the personal effects of mentorship programs for DPD students Determine the effect of enrollment into mentorship on entrance to internship programs</p>	<p>Study One: Primary outcome: Evaluate the satisfaction and success of a project based, hands-on mentorship program Secondary outcome: Development of involvement, higher experience level in the profession, and allow registered dietitian nutritionists (RDNs) to serve in leadership roles</p> <p>Study Two: Primary outcome: Evaluate satisfaction of participants and determine if participation in mentorship programs assists in placement into internship programs after graduation Secondary Outcome: Professional development, understanding of career scope/roles</p>	<p>Study One: Subject: 39 DPD students and 18 RDNs Setting: Universities in Jacksonville FL and College Station, TX</p> <p>Study Two: Subject: 15 DPD students and RDNs Setting: Mid-East Texas Academy of Nutrition and Dietetics (METAND)</p>	<p>Study One: Scale of 1-10 survey (10= highest level of satisfaction) -Chance of continued participation -Overall satisfaction -Satisfaction with variety of options for RDN/project</p> <p>Study Two: Opened-ended questions, for mentors and mentees, related to the way the participant found the program, how they benefited from it, and highlighting one aspect of the program that they would take with them into future education process or practice.</p>	<p>Study One: Successful – 8.7/10 average satisfaction. Study Two: -All involved reported benefit -15 students (1-yr follow-up): 5 matched into an internship 6 matched into an internship/masters combination 4 did not reply or were still in undergraduate education process</p>	<p>Study One: Methodological flaws: mentoring process was not structured. Dieticians choice of project and no direction on how to mentor Inconsistency: none Indirectness: none Imprecision: none Publication bias: none</p> <p>Study Two: Methodological flaws: Small sample size. No objectives for mentoring process. No formal teaching to ensure good mentoring practice by provider. Inconsistency: none Indirectness: none Imprecision: none Publication bias: none</p>
<p>Design</p> <p>Same for both studies: Not clearly stated, appears to be case study</p>				<p>Implications</p> <p>Study One: Mentorship programs are positive experiences that allow for growth of undergraduate professionals. Study Two: Mentorship programs offer increased likelihood of acceptance into an internship program after graduation with a bachelors in dietetics.</p>	

<p>Areephanthu, C. J., Bole, R., Stratton, T., Kelly, T. H., Starnes, C. P., & Sawaya, B. P. (2015). Impact of professional student mentored research fellowship on medical education and academic medicine career path. <i>Clinical and Translational Science</i>, 8(5), 479-483. https://doi.org/10.1111/cts.12289</p> <p>Kalén, S., Ponzer, S., Seeberger, A., Kiessling, A., & Silén, C. (2015). Longitudinal mentorship to support the development of medical students' future professional role: A qualitative study. <i>BMC Medical Education</i>, 15(1), 97. https://doi.org/10.1186/s12909-015-0383-5</p>					
Purpose	Variables	Setting/Subjects	Measurement and Instruments	Results	Evidence Quality
<p>Study one: Explore both short- and long-term effects of The Professional Student Mentored Research Fellowship (PSMRF) on medical students and compare these results to medical students not in this program</p> <p>Study two: To explore how formal longitudinal mentoring can contribute to medical students' professional development</p>	<p>Study one: Primary outcome: To compare the effect of a mentored research fellowship versus no mentored fellowship on the success of medical students</p> <p>Secondary outcome: Standardized exam scores, publications, honor society enrollment, and overall grades</p> <p>Study two: Primary outcome: To assess the experience of medical student who attended a structured workshop based on non-clinical skills</p> <p>Secondary outcome: Development and mentorship experiences</p>	<p>Study one: Subjects: 119 medical students who completed PSMRF from 2007 to 2012 Comparison group of 898 matriculates who did not participate in the fellowship</p> <p>Setting: University of Kentucky College of Medicine</p> <p>Study two: Subjects: 16 students and 16 mentors of varying age and gender</p> <p>Settings: Medical program. At Karolinska Institutet, Sweden</p>	<p>Study one: Undergraduate GPA (science and nonscience), Medical College Admission Test (MCAT) score, publication record, Alpha Omega Alpha (AOA) academic honor society status, Steps 1 and 2 (CK) of the United States Medical Licensing Exam (USMLE), and residency placement ranking variables.</p> <p>Study two: Individual semi-structured interviews covering students' experiences of the different parts of the workshop days, their development and their mentorship experiences</p>	<p>Study one: PSMRF participants had higher standardized test scores, AOA status, and more publications</p> <p>Study two: The mentorship enabled the students to create a view of their future professional role and to integrate it with their own personalities</p> <p>Implications</p> <p>Study one: Mentor guided research yields positive associations with selected indicators of success</p> <p>Study two: Non-medically focused mentoring aids in professional development</p>	<p>Study one: Methodological flaws: Group size being sampled increased over time, unable to assess additional students for as long Inconsistency: None Indirectness: None Imprecision: Not stated Publication bias: None</p> <p>Study two: Methodological flaws: No control group interviewed to compare the non-clinical skills of medical students to the students who participated in structured mentoring Inconsistency: None Indirectness: None Imprecision: None Publication bias: None</p>
<p>Design</p> <p>Study one: Longitudinal survey</p> <p>Study two: Longitudinal qualitative</p>					

<p>Bay, E. H., Binder, C., Lint, C., & Park, S. (2015). Mentoring the next generation of neuroscience nurses: A pilot study of mentor engagement within an academic-service partnership. <i>The Journal of Neuroscience Nursing</i>, 47(2), 97-103. https://doi.org/10.1097/JNN.0000000000000123</p> <p>Ortega, G., Smith, C., Pichardo, M. S., Ramirez, A., Soto-Greene, M., & Sánchez, J. P. (2018). Preparing for an academic career: The significance of mentoring. <i>MedEdPORTAL</i>, 14(1), 10690. https://doi.org/10.15766/mep.2374-8265.10690</p>					
Purpose	Variables	Setting/Subjects	Measurement and Instruments	Results	Evidence Quality
<p>Study one: To describe the implementation of a mentoring model on a neurology and neurosurgery unit and highlight the mentoring process between student, mentor, and faculty through case exemplars.</p> <p>Study two: To describe an educational workshop for medical students and residents on mentoring.</p>	<p>Study one: Primary outcome: To describe the mentorship experiences and preparedness of prospective nurses to enter the neuroscience field.</p> <p>Secondary outcome: Confidence and advocacy Team collaboration and cultural sensitivity</p> <p>Study two: Primary outcome: To evaluate medical students' and residents' awareness of the importance of mentoring for an academic career and how to establish initial effective meetings with prospective mentors.</p> <p>Secondary outcome: Role of mentors Effective communication skills</p>	<p>Study one: Subjects: 8 neuroscience nurse mentors and 8 sophomore nursing students</p> <p>Setting: University of Michigan associated healthcare system</p> <p>Study two: Subjects: 71 medical students and 16 residents</p> <p>Settings: Nine regional medical conferences</p>	<p>Study one: Opened ended questions related to student's anxiety, confidence, and learning experiences.</p> <p>Study two: Pre and post workshop survey evaluating the learning objectives graded on a strongly agree to strongly disagree scale</p>	<p>Study one: Providing mentorship to students built confidence, teamwork, and communication skills, while mitigating fear, anxiety, and disorganization</p> <p>Study two: Significant increase in confidence to finding a mentor (2.29 vs. 3.26, $p < .001$) and having a successful relationship with a mentor (2.52 vs. 3.38, $p < .001$)</p>	<p>Study one: Methodological flaws: Small sample size, did not take into consideration environmental factors of the nursing students or previous experience Inconsistency: None Indirectness: None Imprecision: Small sample size Publication bias: None</p> <p>Study two: Methodological flaws: No control group used Inconsistency: None Indirectness: None Imprecision: Not stated Publication bias: None</p>
Design				Implications	
<p>Study one: Design not stated but appears to be, Phenomenological qualitative model</p> <p>Study two: Design not stated but appears to be, case study</p>				<p>Study one: Mentoring nursing students can develop nurses for the future.</p> <p>Study two: Maintaining a successful relationship with a mentor instills confidence in medical students</p>	

<p>Danner, O. K., Lokko, C., Mobley, F., Dansby, M., Maze, M., Bradley, B., Williams, E., Matthews, L. R., Harrington, E., Mack, L., Clark, C., Wilson, K., Beech, D., Heron, S., & Childs, E. (2017). Hospital-based, multidisciplinary, youth mentoring and medical exposure program positively influences and reinforces health care career choice: "The reach one each one program early experience". <i>The American Journal of Surgery</i>, 213(4), 611-616. https://doi.org/10.1016/j.amjsurg.2016.12.002</p> <p>Ng, K. Y. B., Lynch, S., Kelly, J., & Mba, O. (2020). Medical students' experiences of the benefits and influences regarding a placement mentoring programme preparing them for future practice as junior doctors: a qualitative study. <i>BMJ Open</i>, 10(1), e032643. https://doi.org/10.1136/bmjopen-2019-032643</p>					
Purpose	Variables	Setting/Subjects	Measurement and Instruments	Results	Evidence Quality
<p>Study One: Study One: testing hypothesis: Reach One Each One (ROEO) Pipeline Program will positively influence early health care choice of minority high school students</p> <p>Study Two: Study student opinions on mentoring program focused on preparing them for future practice in obstetrics and gynecology (O&G)</p>	<p>Study One: Primary outcome: Increase admission of minority populations into college healthcare programs → decrease healthcare provider disparities Secondary outcome: Measure effect of ROEO program on minority student enrollment into healthcare education</p> <p>Study Two: Primary outcome: Medical students' perceptions of having a mentor for 8 weeks in O&G rotation Secondary Outcome: Determine themes of student feedback surrounding the experience in order to direct the program further</p>	<p>Study One: Subject: 26 high school seniors who were in ROEO (and 260 who were not) that graduated high school between May 2013 and May 2015</p> <p>Settings: Atlanta, GA public school system & Morehouse School of Medicine</p> <p>Study Two: Subject: 13 fourth-year medical students from University of Southampton who completed 8-week O&G placement with mentorship</p> <p>Setting: Single-center UK teaching hospital</p>	<p>Study One: -Evaluation of data obtained from Atlanta Public Schools' Accountability and Research Dashboard – attrition rates & seamless college enrollment (SEA) statistics -retrospective analysis (via phone call) of ROEO program participants' status in applying or attending college with major in healthcare sciences Vs. survey monkey for other high school graduates Study Two: Focus groups asking open ended questions with groups of 5-6 students in each. Use of a flow chart to provide visual of determined themes</p>	<p>Study One: 92.3% in college → 87.5% health science majors SCE 92% : 51% for ROEO : nonROEO Study Two: -integration of mentorship in clinical rotation settings is beneficial for students -themes noted: integration, feedback, seniority and expectations</p> <p>Implications Study One: Pipeline programs are needed to fix disparities in health care members. Study Two: Mentorship program is doable and widely accepted by medical students to heighten clinical education</p>	<p>Study One: Methodological flaws: did not have a true control group. Stats for students not within ROEO came from public school records, not specific to minority groups Inconsistency: none Indirectness: none Imprecision: none Publication bias: none</p> <p>Study two: Methodological flaws: small group interviews rely more on socially comfortable participants opinions. Quiet students' opinions are not heard Inconsistency: none Indirectness: none Imprecision: small sample size Publication bias: none</p>
Design					
<p>Study One: Not clearly stated, appears to be quasi-experimental</p> <p>Study Two: Qualitative employing focus groups and thematic analysis</p>					

<p>Sayan, M., Ohri, N., Lee, A., Abou Yehia, Z., Gupta, A., Byun, J., Jabbour, S. K., Wagman, R., Haffty, B. G., Weiner, J., & Kim, S. (2019). The impact of formal mentorship programs on mentorship experience among radiation oncology residents from the northeast. <i>Frontiers in Oncology</i>, 9, 1-4. https://doi.org/10.3389/fonc.2019.01369</p> <p>Caruso, T. J., Kung, T., Piro, N., Li, J., Katznelson, L., & Dohn, A. (2019). A sustainable and effective mentorship model for graduate medical education programs. <i>Journal of Graduate Medical Education</i>, 11(2), 221-225. https://doi.org/10.4300/JGME-D-18-00650.2</p>					
Purpose	Variables	Setting/Subjects	Measurement and Instruments	Results	Evidence Quality
<p>Study one: To evaluate resident satisfaction with structured vs unstructured mentorship within their radiation oncology residency programs</p> <p>Study two: To assess the sustainability of mentor relationships in graduate medical education (GME) and determine effectiveness of the established mentor-mentee relationships</p>	<p>Study one: Primary outcome: To describe the rate of successful structured mentorships programs</p> <p>Secondary outcome: Mentorship characteristics, overall satisfaction, structured vs unstructured</p> <p>Study two: Primary outcome: To measure sustainability and usefulness of mentor-mentee relationship</p> <p>Secondary outcome: clinical skill enhancement, career planning, networking, sponsorship and advocacy for trainees, research productivity, and mentoring on sensitive situations</p>	<p>Study one: Subjects: 53 radiology oncology residents</p> <p>Setting: The Northeast USA (Massachusetts, New Jersey, New York, and Pennsylvania)</p> <p>Study two: Subject: Group 1 - 6 GME programs Group 2 - 10 GME programs</p> <p>Setting: Stanford University and associated hospitals</p>	<p>Study one: The Munich Evaluation of Mentoring Questionnaire (MEMeQ)</p> <p>Study two: Group 1- yes/no question related to current contact with mentor after 2 years of initiation of mentorship relationship Group 2-Likert Scale rating 6 aspects of usefulness of mentor relationship</p>	<p>Study one: Found that residents within a formal mentorship program were much more satisfied (90% vs. 9%) with their mentorship experience</p> <p>Study two: Increase in reporting of mentor relationship in both groups Mentorship usefulness in group 1 increased significantly in 4 or 6 sections while group 2 showed increase in 2 of 6 sections</p> <p>Implications</p> <p>Study one: Formal mentorship programs increase mentee satisfaction</p> <p>Study two: The sustainability and usefulness of mentor relationships makes them relevant for all GME programs</p>	<p>Study one: Methodological flaws: Small sample size, only sampled in the Northeast US Inconsistency: None Indirectness: None Imprecision: Small sample size Publication bias: None</p> <p>Study two: Methodological flaws: Lack of comparison groups Inconsistency: None Indirectness: None Imprecision: did not allow for measuring sustainability long-term Publication bias: None</p>
<p>Design</p> <p>Study one: Design was unclear: appears to be descriptive quantitative</p> <p>Study two: Design was unclear: appears to be descriptive quantitative</p>					

<p>Maniam, G., Dean, R., Urban, R. S., & Williams, S. (2020). Implementation of a pilot medical student mentoring program for premedical students and its effects on premedical student attitudes. <i>Proceedings - Baylor University. Medical Center</i>, 33(3), 346-349. https://doi.org/10.1080/08998280.2020.1743603</p> <p>Banuelos, A., & Afghani, B. (2016). An innovative programme for premedical students. <i>The clinical teacher</i>, 13(5), 357–362. https://doi.org/10.1111/tct.12450</p>					
Purpose	Variables	Setting/Subjects	Measurement and Instruments	Results	Evidence Quality
<p>Study one: To describe the implementation of a mentoring program between pre-medical students and medical students and measure the effects on pre-medical students' attitudes</p> <p>Study two: To determine the effectiveness of interactive program aimed at exposing diverse population of high school students to medical education</p>	<p>Study one: Primary outcome: To describe the mentorship process and its effects on pre-medical students' attitudes towards medical school</p> <p>Secondary outcome: Anxiety and nervousness, doubts and insecurity</p> <p>Study two: Primary outcome: To assess how the program improved student goals and profession development plans</p> <p>Secondary outcome: Exposure to medical profession, confirmed career choice, motivation</p>	<p>Study one: Subjects: 96 premedical students, 30 freshman, 27 sophomores, 23 juniors, 16 seniors Setting: School of Medicine, Texas Tech University</p> <p>Study two: Subjects: 2014 cohort: 91 high school students - African Am (5), Asian (35), Hispanic (44), White (7) Unclear number of medical students and resident doctors staffing workshops</p> <p>Settings: University of California, Irvine School of Medicine: Department of Urology High School Outreach, Center for Future Health Professionals, & Latino Medical Student Association</p>	<p>Study one: Pre and post mentorship surveys with a 1 to 5 scale graded on "I do not identify with this at all" to "I strongly identify with this"</p> <p>Study two: Open ended question regarding the helpfulness of the 2-week program. A list of items to rate on a scale of 1 to 5 graded on increased or decreased program success as well as individual professional development</p>	<p>Study one: Providing mentorship to pre-medical students significantly improved feelings of anxiety and doubt or insecurity regarding medical school</p> <p>Study two: Strong introduction into the medical field for ambitious, interested students.</p>	<p>Study one: Methodological flaws: Fluctuating sample size Inconsistency: Sample size Indirectness: None Imprecision: fluctuating sample size Publication bias: None</p> <p>Study two: Methodological flaws: none Inconsistency: None Indirectness: None Imprecision: One setting is for Latino population only – may skew results causing higher rate of Hispanic students to be enrolled in program. Publication bias: None</p>
Design				Implications	
<p>Study one: Design not stated but appears to be, case study</p> <p>Study two: Quantitative descriptive</p>				<p>Study one: Mentoring pre-medical students can help ease anxiety of intent to apply to medical school</p> <p>Study two: Hands-on pre-med programs are useful for exposing diverse populations of high school students to medical school</p>	

Appendix B: Recruitment Flyers for BSN Students and SRNAs



MENTORING UNDERGRADUATE NURSING STUDENTS INTO GRADUATE LEVEL NURSE ANESTHESIA EDUCATION

ADVENTHEALTH UNIVERSITY DOCTOR OF NURSE ANESTHESIA PRACTICE (DNAP) PROGRAM

DR. AMANDA BRACKEN, DNP, CRNA & MELISSA DERRINGER, BSN, SRNA & GABRIELLA MCINTYRE, BSN, SRNA

Introduction to the Project

Mentoring has been proven to show increased recruitment into many medical specialties. Additionally, it has benefits related to the application and admission processes for graduate education placement. We are completing a study to assess the effects of mentoring on undergraduate nursing student intent to apply to graduate-level nurse anesthesia education. We are reaching out to senior nursing students in AHU's April 2022 cohort to enroll in a mentorship program with current student registered nurse anesthetists (SRNAs) from AHU. We are implementing this project to connect the nursing and nurse anesthesia programs at AHU.

Participation

- Participation in an 8-week mentorship period beginning in January 2022
- Attend 1 DNAP simulation lab
- Completion of a 12-question survey after mentorship period

How to Get Involved



**2 MENTORING
SESSIONS
PLUS
1 DNAP SIM LAB**

MENTORING
2 SESSIONS
1 PER MONTH
15 MINUTES EACH
(VIA PHONE/VIDEO CALL
OR IN PERSON)

DNAP SKILLS LAB
LAB DATES WILL BE ON
FRIDAYS - MULTIPLE
DATES AVAILABLE

CONTACT INFO

melissa.derringer@my.ahu.edu

gabriella.mcintyre@my.ahu.edu

amanda.bracken@ahu.edu



MENTORING UNDERGRADUATE NURSING STUDENTS INTO GRADUATE LEVEL NURSE ANESTHESIA EDUCATION

ADVENTHEALTH UNIVERSITY DEPARTMENT OF NURSE ANESTHESIA

DR. AMANDA BRACKEN, DNP, CRNA & MELISSA DERRINGER, BSN, SRNA & GABRIELLA MCINTYRE, BSN, SRNA

Introduction to the Project

Mentoring has been proven to show increased recruitment into many medical specialties. We are completing a scholarly project assessing the effect of mentoring on senior BSN student intent to apply to graduate level nurse anesthesia education. We are reaching out to DNAP students from the 2022, 2023, and 2024 cohorts to become mentors for senior students in AHU's nursing program. We are implementing this project to connect the nursing and nurse anesthesia programs at AHU.

Participant Requirement's and How to Get Involved

- 8-week mentorship period, beginning in February 2022.
- See "Mentorship Process" to the right for details and time commitment

Interested? Email Melissa Derringer or Gabby McIntyre.

You will be matched with a senior BSN student.

You will receive the BSN student's contact information.

You will initiate contact with the BSN student in February.

MENTORSHIP PROCESS

2 SESSIONS

ONE PER MONTH
15 MINUTES EACH

VIA PHONE CALL,
VIDEO CALL, OR IN
PERSON

A LIST OF TOPICS TO
DISCUSS WILL BE
EMAILED TO YOU

CONTACT INFO

Co-Investigators
melissa.derringer@my.ahu.edu
gabriella.mcintyre@my.ahu.edu

Primary Investigator
amanda.bracken@ahu.edu

Appendix C: Notice of Voluntary Participation for BSN Students and SRNAs

Dear Students,

We are Melissa Derringer and Gabriella McIntyre, registered student nurse anesthetists (SRNAs). We are in the Department of Nurse Anesthesia at AdventHealth University (AHU). We are working with Dr. Amanda Bracken, an Assistant Professor at AHU. We are completing a project on the use of mentorship between current undergraduate nursing students and nurse anesthesia students at AHU. We are inviting you to take part in this project.

Before you choose to be a part of the project, we want you to know why we are doing it and what is included. Mentorship has been used by many medical specialties to increase professional growth and the number of people entering the profession. Mentorship also helps to improve clinical skills, non-clinical skills, and academic success. We are planning to use our findings to show the need for a mentorship program at AHU. Our aim is to measure the current intent of nursing students to apply to nurse anesthesia education at the time of graduation. We will compare findings between students who did and did not take part in mentorship.

We want you to know that your participation is completely voluntary. You can withdraw from this project at any time. It is not part of your schoolwork and will not be for a grade. If you do take part, we will ask that you complete an 8-week mentorship with a current SRNA and a 12-question posttest. You will come to one lab provided by DNAP staff. We expect that the total time you will spend on these requirements will be 1 hour and 30 minutes.

Please email Melissa or Gabriella to express your interest in the mentorship program. You will then be paired with a current SRNA and a schedule with options for a lab day will be sent to you. Please review this information carefully. If you do not wish to take part, please ignore this email.

Your participation in this project will be kept confidential. All information used will be kept secure and will be deleted within 5 years of the end of the project. Your information and responses will be kept secure. Your name and contact information will not be available to anyone other than the researchers and your mentor. Any information published or presented will be in summary format without any identifying data.

If you have questions or comments, please email Melissa or Gabriella. Our contact information is listed below.

Amanda Bracken, DNP, CRNA
Amanda.bracken@mv.ahu.edu

Melissa Derringer, BSN, SRNA
Melissa.derringer@mv.ahu.edu

Gabriella McIntyre, BSN, SRNA
Gabriella.mcintyre@mv.ahu.edu

Dear Students,

We are Melissa Derringer and Gabriella McIntyre, registered student nurse anesthetists (SRNAs). We are in the Department of Nurse Anesthesia at AdventHealth University (AHU). We are working with Dr. Amanda Bracken, an Assistant Professor at AHU. We are completing a project on the use of mentorship between current undergraduate nursing students and nurse anesthesia students at AHU. We are inviting you to take part in this project.

Before you choose to be a part of the project, we want you to know why we are doing it and what is included. Mentorship has been used by many medical specialties to increase professional growth and the number of people entering the profession. Mentorship also helps to improve clinical skills, non-clinical skills, and academic success. We are planning to use our findings to show the need for a mentorship program at AHU. Our aim is to measure the current intent of nursing students to apply to nurse anesthesia education at the time of graduation. We will compare findings between students who did and did not take part in mentorship.

We want you to know that your participation is completely voluntary. You can withdraw from this project at any time. It is not part of your schoolwork and will not be for a grade. If you do take part, we will ask that you participate in an 8-week mentorship with a current BSN student. The topics to be discussed will be supplied to you via email. We expect that the total time you will spend on these requirements will be 30 minutes.

Please email Melissa or Gabriella if you are interested in being a part of this scholarly project. Please review this information carefully. If you do not wish to take part, please ignore this email.

Your participation in this project will be kept confidential. All information used will be kept secure and will be deleted within 5 years of the end of the project. Your information and responses will be kept secure. Your name and contact information will not be available to anyone other than the investigators and your assigned mentee. Any information published or presented will be in summary format without any identifying data.

If you have questions or comments, please email Melissa or Gabriella. Our contact information is listed below.

Amanda Bracken, DNP, CRNA
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Melissa Derringer, BSN, SRNA
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Gabriella McIntyre, BSN, SRNA
Gabriella.mcintyre@my.ahu.edu

Appendix D: Survey Tool

Tool: Effect of Mentoring on Intent to Continue to Graduate Level Nurse Anesthesia Education

1. Please create a non-identifiable code by using your first pets name and your birth year.
 - a. Fill in
2. 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
3. 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
4. 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
5. 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
6. How many mentorship sessions did you attend?
 - 1- 1
 - 2- 2
 - 3- 3
 - 4- 0

7. The first mentoring session influenced my intent to pursue graduate level nurse anesthesia education.
1-Strongly disagree
2-Disagree
3-Agree
4-Strongly agree
8. The second mentoring session influenced my intent to pursue graduate level nurse anesthesia education.
1-Strongly disagree
2-Disagree
3-Agree
4-Strongly agree
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
11. Do you feel like the mentoring sessions conveyed pertinent information regarding the nurse anesthesia program?
1-Strongly disagree
2-Disagree
3-Agree
4-Strongly agree
5-I did not participate in mentoring
12. Do you agree that there is a need for a mentorship program between the BSN program and the DNAP program?
1-Strongly disagree
2-Disagree
3-Agree
4-Strongly agree

Appendix E: List of Topics to be Discussed with BSN Students

List of Topics to Discuss with BSN Students

- **Session One:** Personal experience of ICU nursing
 - Experience as a new nurse in the ICU
 - ICU skills that transferred to CRNA school
 - Learning experiences helpful with CRNA school
- **Session Two:** Application to graduate school and overall graduate school experience
 - GRE experience
 - Shadowing experience
 - Application requirements to AHU's DNAP program (see excerpt from current DNAP handbook below)
 - Simulation experience
 - Academic experience
 - Clinical experience
- **Each session:** Open question and answer session
 - BSN student led

DNAP PROGRAM – ADMISSION PROCESS

DNAP Application – Admission Requirements, prior to Admission Interview

(Effective for applicants to the cohort anticipated to enroll in 2021)

The program enrolls only students who by academic and experiential achievement are of the quality appropriate for the profession and who have the ability to benefit from their education. *(The ability to benefit refers to the integrity of a college/university or education program to enroll only those individuals with the capacity to succeed and gain value from the education.)*

Prior to an admission interview, applicants to the DNAP Program must:

1. **Submit** an application through the Nursing's Centralized Application Service (NursingCAS), www.nursingcas.org, which is only applicable for the annual application cycle in which it is submitted. The online application cycle opens December 1.
2. **Submit** a non-refundable \$100 supplemental application fee, which is only applicable for the annual application cycle in which it is submitted. The supplemental application fee may be paid online, by check, or over the phone at (407) 303-1631.
3. **Submit** a **current**, unencumbered **license** to practice as a professional registered nurse (RN) and/or an advanced practice registered nurse (APRN) issued through one of the states of the United States or its territories or protectorates. *If that RN and/or APRN license is not issued through Florida, the applicant must be eligible for Florida licensure at the time of application.*
4. **Submit** evidence of at least one of the following **degrees** from a regionally accredited institution:
 - Bachelor of Science degree (or higher) in Nursing (BSN, MSN, DNP, etc.)
 - Bachelor of Science degree (or higher) in another appropriate related major (i.e. Biology, Chemistry, etc.)
 - *While a BSN is preferred, the AHU DNAP Program also considers applicants who have a BS in a related field and an AS in Nursing. Related fields may include biology, chemistry, exercise physiology, or respiratory therapy. Degrees must have been obtained from regionally accredited institutions.*

(If an applicant is currently enrolled at a regionally accredited institution and is scheduled to complete a degree prior to the anticipated enrollment at AHU's DNAP program, he or she must provide a current transcript prior to an admission interview, and then provide a final official transcript upon completion of the degree and prior to enrollment.)
5. **Submit** evidence of completion of all pre-requisite courses. All pre-requisite courses must be at least three credits and completed with a grade of B or better within ten years prior to the application deadline (unless noted otherwise).
 - **Pre-requisites for 2020-2023 DNAP Cohort and beyond:**
 - STAT 215 Elementary Statistics (or equivalent; at least 3 credits), with a grade of B or better, within 10 years prior to application deadline
 - Chemistry – a Chemistry course (at least 3 credits), with a grade of B or better, within 10 years prior to application deadline, ***and*** subsequently, completion of
 - ANES 500 – Chemistry and Physics for Nurse Anesthesia (online through AHU) by December 31 of the year prior to enrollment in the DNAP program
6. **Submit** current official **transcripts** from all undergraduate and/or graduate institutions attended, in accordance with the guidelines in the current AHU *Academic Catalog*. Admission GPAs will be calculated based on credits and grades from regionally accredited institutions only. Failure to disclose all colleges or universities previously attended could result in denial or dismissal. Transcripts from institutions outside the United States must be evaluated by WES (refer to AHU *Academic Catalog*). *(If an applicant is currently enrolled in any course at a regionally accredited institution at which he or she has previously taken any other courses, he or she must provide an updated transcript prior to an admission interview and then provide an official transcript upon completion of the course and prior to enrollment.)*

7. Present a minimum cumulative grade point average, inclusive of both undergraduate and graduate coursework, of 3.00 on a 4.00 scale.
8. Submit an official copy of a satisfactory score on the Graduate Record Examination (GRE) taken within the last 5 years. GRE scores on college transcripts are also acceptable. The program requires that one official copy of the GRE scores be sent directly from the Education Testing Service (ETS) to AHU's NursingCAS code – 1951. The GRE requirement may be waived for applicants who have earned a prior graduate degree from a regionally accredited institution. The MAT is not accepted.
9. Complete a minimum of one year of recent (*within the last 3 years*) critical care nursing experience, prior to program enrollment. The time during orientation to the critical care area cannot be considered toward the one year minimum. *Two or more years of recent intensive critical care nursing experience is preferred. It is also preferred that at least a portion of this experience is with the adult patient population.* Critical care experience is defined by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA) as follows:

Critical care experience must be obtained in a critical care area within the United States, its territories, or a US military hospital outside of the US. During this experience, the registered professional nurse has developed critical decision making and psychomotor skills, competency in patient assessment, and the ability to use and interpret advanced monitoring techniques. A critical care area is defined as one where, on a routine basis, the registered professional nurse manages one or more of the following: invasive hemodynamic monitors (such as pulmonary artery catheter, CVP, arterial); cardiac assist devices; mechanical ventilation; and vasoactive infusions [*such as norepinephrine, epinephrine, vasopressin, dobutamine, nicardipine, nitroglycerin*]. Examples of critical care units may include but are not limited to: Surgical Intensive Care, Cardiothoracic Intensive Care, Coronary Intensive Care, Medical Intensive Care, Pediatric Intensive Care, and Neonatal Intensive Care. Those who have experiences in other areas may be considered, provided they can demonstrate competence with managing unstable patients, invasive monitoring, ventilators, and critical care pharmacology.
10. Submit current Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) certification through the American Heart Association.
11. Meet the mental and physical requirements for the DNAP program, as follows:
 - Have sufficient visual acuity to observe and assess a patient, discriminate color and depth, read and accurately complete reports, and visualize diagnostic/monitoring equipment in dim light.
 - Have sufficient hearing to monitor and assess patient health needs, to monitor various equipment and background sounds, and to communicate by telephone.
 - Be able to speak English in a clear and concise manner.
 - Have English communication abilities sufficient to interact professionally with others in verbal and written form, and have reading skills appropriate to understand patient charts, reports, and orders.
 - Be able to lift patients to accomplish bed/chair/stretchers transfer.
 - Be able to stand and walk without difficulty and be able to push a gurney or wheelchair.
 - Be able to stand and/or sit for an extended period of time.
 - Be able to perform fine and gross motor skills with both hands.
 - Possess critical thinking skills sufficient to think clearly and act appropriately in stressful situations.
 - Possess interpersonal skills sufficient to interact with individuals, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds.
 - Have mobility sufficient to move from room to room and maneuver in small spaces.
 - Have tactile ability sufficient to perform palpation functions of physical examination and/or those related to therapeutic intervention.
12. Submit a current professional resume. (*Resumes are only effective for the annual application cycle in which they are submitted. Re-applicants must submit updated current resumes.*)
13. Submit the completed *AHU DNAP Practice Survey* form. (*DNAP Practice Survey forms are only effective for the annual application cycle in which they are submitted. Re-applicants must submit new, current DNAP Practice Survey forms.*)

14. Submit an essay outlining reasons for choosing to become a nurse anesthetist, for choosing to attend a Christian faith-based institution, and for choosing AdventHealth University, specifically.
15. Submit at least three letters of recommendation through NursingCAS.org. One recommendation must be from a licensed CRNA that the applicant has shadowed; one recommendation should be from the immediate supervisor, and one recommendation should be from a current RN/APRN co-worker. Recommendations from friends or family members are not accepted. *(Recommendation forms are only effective for the annual application cycle in which they are submitted. Re-applicants must submit new, current reference letters.)*
16. Provide evidence of English language proficiency for applicants whose native/primary language is not English (see English Language Proficiency section in the current AHU *Academic Catalog*).

It is assumed that the applicant is computer literate and familiar with the use of computers at home, on the job, or in school.

After submission of all application documentation, the CRNA faculty will review all completed application files to determine which applicants to invite to interview. Interviews are by invitation only. Any applicants who are invited to enroll in the DNAP program must successfully complete the interview process.

NOTE:

Prior acceptance to AHU for Graduate Non-Degree Studies and/or taking graduate courses at AHU does not alter the admission requirements for the DNAP Program. Even if one has previously been accepted to Graduate Non-Degree Studies and/or taken graduate courses at AHU, s/he must still complete the entire DNAP program application process. Prior acceptance to Graduate Non-Degree Studies and/or taking graduate courses at AHU does not guarantee an invitation to interview or acceptance/admission to the DNAP program.

Admission Interview

All applicants who are invited for an Admission Interview will be required to complete the online Health Sciences Reasoning Test (HSRT), which takes up to 50 minutes, as instructed by the DNAP Program Admission Coordinator. The HSRT is designed to assess the critical thinking skills of health science students and professionals, to include measurement of high-stakes reasoning and decision-making processes.

Prior to a determination regarding acceptance, there will be a brief (10-15 minute) personal interview with the DNAP Admission Committee (about 6-10 members). The personal interview helps to provide a realistic evaluation of eligibility for admission into the program, as it may assess oral communication skills, professional behaviors and attitudes, ability to interact in a group, knowledge of the profession, ability to solve problems, and motivation to pursue a career in nurse anesthesia. The Admission Committee membership may consist of CRNA faculty, clinical anesthesia providers (Physician Anesthesiologist and CRNA), AHU didactic faculty, an SRNA representative, and a public member. The primary requirement for admission into the DNAP program is the applicant's ability to benefit, as appraised by the DNAP Admission Committee, to successfully complete the 36-month curriculum. Applicants should have strong academic records as evidenced by their cumulative grade point average and GRE scores, demonstrated consistency of academic performance, and strong clinical experience. The committee is interested in determining the candidates' base knowledge of physiology, invasive monitors, care of ventilated patients, and knowledge of the drugs they commonly administer in ICU. A firm and clear commitment to the nurse anesthesia profession and to fulfilling the missions of AHU and the NAP are additional criteria which are assessed through the interview process and the personal essay. Qualities such as maturity and effective interpersonal relationships, as determined from the letters of

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recommendation and the interview, are also important admission criteria. Each member of the DNAP Admission Committee is given the responsibility to score conscientiously after each applicant's interview. Scores are collected immediately following the interview. Justification by the DNAP Admission Committee for acceptance or denial of a candidate is not required nor noted in the applicant's file. All applicants should dress in professional attire for the interview with the DNAP Admission Committee. All applicants who are offered letters of acceptance must successfully complete the interview process. (Interviews are by invitation only.)

Non-refundable Deposit (applicable to ALL accepted applicants)

After an admission interview and upon notification of acceptance to the DNAP Program, each applicant accepted to the DNAP Program must pay a non-refundable deposit of \$500.00 to reserve his/her place in the program. The applicant's written acceptance notification will contain a deposit amount and deadline indicating when the deposit must be received by the University. Once the applicant enrolls in the program, this deposit will be applied toward the student's account. Applicants who have paid the deposit, but decide not to enroll in the DNAP Program, will forfeit the deposit. If that applicant is admitted to the DNAP Program at a later date, he or she will be required to pay the full deposit amount again.

After applicants have interviewed, been accepted, and reserved their positions in the DNAP Program, and prior to enrollment, all accepted applicants must:

1. Continue to meet the mental and physical requirements as listed in the DNAP Application – Admission Requirements.
2. **Submit** evidence of at least one of the following **degrees** from a regionally accredited institution:
 - Bachelor of Science degree (or higher) in Nursing (BSN, MSN, DNP, etc.)
 - Bachelor of Science degree (or higher) in another appropriate related major (i.e. Biology, Chemistry, etc.)
 - *While a BSN is preferred, the AHU Nurse Anesthesia Program also accepts applicants who have a BS in a related field and an AS in Nursing. Related fields may include biology, chemistry, exercise physiology, or respiratory therapy. Degrees must have been obtained from regionally accredited institutions.*

(If an applicant is currently enrolled at a regionally accredited institution and is scheduled to complete the degree prior to the anticipated enrollment at AHU's DNAP program, he or she must provide a current transcript prior to an admission interview, and then provide a final official transcript upon completion of the degree and prior to enrollment.)
3. **Submit** current official transcripts from all undergraduate and/or graduate institutions attended, in accordance with the guidelines in the current AHU *Academic Catalog*, if final official transcript had not been previously available, due to the rationale noted here in italics. *(If an applicant is currently enrolled in any course at a regionally accredited institution at which he or she has previously taken any other courses, he or she must provide an official transcript to date prior to an admission interview, and then provide another official transcript upon completion of the course and prior to enrollment at AHU's DNAP Program.)* Transcripts from institutions outside the United States must be evaluated by WES (refer to AHU *Academic Catalog*).
4. **Submit** a current, unencumbered **Florida license** (or Nurse Licensure Compact (NLC) RN license) to practice as a professional registered nurse (RN) and/or an advanced practice registered nurse (APRN). (This requirement specifically for an RN and/or APRN license through the state of Florida may be deferred until notification of acceptance to the DNAP Program, but it must be fulfilled before enrollment to the DNAP Program.)
5. Pass satisfactory criminal background checks, as required by AHU and the DNAP Program. *A student may encounter potential problems with clinical education placement and/or licensure as an Advanced Practice Registered Nurse (APRN) if he or she has a criminal record. For specific information, contact the Florida Board of Nursing, and the Board of Nursing in the state in which the*

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Appendix F: Project Timeline



Doctor of Nurse Anesthesia Practice

DNAP Project Timeline Recommended Checklist
(Revised April 2021 and Subject to Change as Necessary)

Task	Recommended Target Trimester	Date Completed
1. Determine topic for DNAP Project	4th and 5th Trimester Summer/Fall 2021	
1.1 Assignment of DNAP Scholarly Project Chair and the identification of one or two areas of focus	3 rd trimester	4/8/2021
1.2 Review the AHU Scholarly Repository to ensure your project of interest has not previously been completed.	3 rd trimester	4/8/2021
1.3 Review relevant literature and evaluate feasibility	4 th trimester	6/4/2021
1.4 Discuss and refine best idea with 2023 cohort and DNAP faculty	4 th trimester	6/25/2021
1.5 Develop and Complete Scholarly Project Initial Presentation	4 th trimester	6/20/2021
2. Identify scholarly project site for DNAP Project	4th and 5th Trimester Summer/Fall 2021	
2.1 Discuss site options with DNAP Scholarly Project Chair	4 th trimester	6/15/2021
2.2 Consult with key site personnel for the Analysis and Comparison of Key Players Assignment and gain preliminary approval from DNAP Scholarly Project Chair to continue with the proposed project	4 th trimester	6/15/2021
2.3 Once assignment three has been graded, and faculty member and key player preliminary approval have been obtained:	4 th trimester	7/2/2021

<p>A. <i>Complete the Study Site Director Approval Letter Template</i> and have it signed by an authorized representative from the project site. This form must be completed if the scholarly project is to be conducted on students, or at sites other than within the NAP.</p> <p>B. Once signed, please submit the signed Study Site Director Approval Letter, via e-mail to the DNAP department chair (Dr. Devasher) to obtain approval. When completed submit to Canvas</p> <p>C. Submit to Canvas contact information for someone at the project site familiar with your proposed project. Preferably the individual signing the study site director's approval letter.</p> <p>D. Submit Study Site Director Approval Letter, when completed, to CANVAS DROPBOX</p> <p>Note: This form must also be submitted with the IRB/SRC application</p>	4 th trimester	7/28/2021
<p>3. Form DNAP Scholarly Project Committee (SPC)</p>	4 th and 5 th Trimester Summer/Fall 2021	
<p>3.1 Review requirements for SPC composition In the Student Scholarly Project Guidelines</p>	4 th trimester	6/15/2021
<p>3.2 Identify committee members, consider alternatives, select members in consultation with your assigned Scholarly Project Chair and obtain their approval.</p>	4 th trimester	6/15/2021
<p>3.3 Obtain approval from the NAP Program Administrator for proposed project mentor(s) and reviewer (graded in Canvas)</p>	4 th trimester	7/29/2021
<p>3.4 Complete <i>DNAP Scholarly Project Committee form</i> by obtaining project chair, mentor and project reviewer signatures</p>	4 th trimester	8/3/2021

3.5 Submit completed form, scholarly project chair approval e-mail and department chair approval e-mail thread to CANVAS DROPBOX	4 th trimester	8/3/2021
4. Develop DNAP Scholarly Project Proposal Paper	4th and 5th Trimester Fall 2021	
4.1 Prepare draft of DNAP scholarly project proposal paper	4 th trimester	6/14/2021
<p>4.2 Revise the draft until a score of 95% has been obtained and the student has been notified of their eligibility for SRC/IRB submission</p> <p>A. Note: You may be required to submit multiple drafts and/or attend appointment(s) with the AHU writing center prior to obtaining approval</p> <p>B. Determine instrumentation and obtain permission for use or complete face validation process. Note: Some revisions to the second PICOT statement may be required.</p> <p>C. Consult with statistician (Roy.Lukman@ahu.edu) to refine proposed analysis.</p> <p>D. Complete voluntary participation notification or informed consent.</p> <p>E. Obtain written verification of your Project Mentors' approval of your proposal by having him/her sign the <i>NAP Scholarly Project Proposal Approval Form</i> prior to submission to the Scholarly Project Chair.</p> <p>F. Your Scholarly Project Chair will then submit the form to the NAP department chair (program administrator) for approval and signature</p>	5 th trimester	<p>A:10/13/21</p> <p>B:10/21/21</p> <p>C:10/21/21</p> <p>D: 9/23/21</p> <p>E:11/30/21</p> <p>F: 12/1/21</p>
4.3 Submit the completed and signed NAP	5 th trimester	12/6/21

Scholarly Project Concept/Plan Approval Form to CANVAS DROPBOX		
5. Obtain AHU Institutional Review Board Approval	5th and 6th Trimester Fall 2021-Spring 2022	
<p>5.1 Once the student group has received a 95% or greater on the Scholarly Project paper and have been notified of their eligibility for SRC/IRB submission, the <i>appropriate IRB forms and or templates</i> and the <i>Department Chair Letter of Support</i> must be completed.</p> <p>A. A thumb or Google drive containing multiple required documents (See DNAP 793 Syllabus for list) should be prepared and submitted to the Scholarly Project Chair</p> <p>B. The chair, will review the documents, sign the <i>DNAP Scholarly Project Proposal Approval Form</i> and will submit it to the Department Chair for his/her signature. It will then be returned once completed and uploaded to CANVAS by the students.</p> <p>C. In the application to SRC/IRB, The Scholarly Project Chair must be designated as the Principal Investigator. Students will be designated as Sub-Investigators</p>	5 th Trimester	12/16/21
5.2 Once the working document is completed, submit to Scholarly Project Chair for review and approval.	5 th Trimester	12/16/21
<p>5.3 The Scholarly Project Chair (or the students under the direction of the chair) will then complete and submit the IRB/SRC Web-based Scholarly Project Application</p> <p>A. The Research Office will notify the investigators about the summary of the SRC review within 13 working days</p>	5 th Trimester	Approval as NOT RESEARCH → SRC Approval: 2/1/22

<p>B. Following the SRC review, the Scholarly Project Chair will be responsible to submit the study proposal to IRB and will notify the investigators about the summary of the IRB review.</p> <p>C. The total time to complete the “AHU Web-based Research Project Submission Process” with Scientific Review Committee (SRC) and Institutional Review Board (IRB) approvals is approximately 36 working days</p> <p>D. IMPORTANT: this timeline is almost always exceeded. Please submit projects as soon as possible to prevent a delay in the scholarly project completion date and subsequent graduation</p>		
<p>5.4 The student MUST SUBMIT the AHU IRB NOTICE of Not Research (at minimum) Exemption or Approval (if required) TO the designated DROPBOX in Canvas BEFORE proceeding with any aspect of project IMPLEMENTATION</p>	6 th Trimester	1/30/22
<p>6. Implement the DNAP Project Plan</p>	<p>6th and 7th Trimester Spring and Summer 2022</p>	
<p>6.1 Create database and data dictionary in Excel for project data entry and analysis. Obtain the Scholarly Project Chair’s approval for data dictionary via e-mail</p>	6 th Trimester	1/25/22
<p>6.2 Implement your Project Proposal’s plan per the SRC/IRB approved methodology</p>	6 th Trimester – ending during break prior to 7 th	4/2022
<p>7. Develop final manuscript for professional dissemination</p>	<p>8th and 9th Trimester Fall 2022-Spring 2023</p>	
<p>7.1 Write results/findings, conclusion/limitations, and application to CRNA practice sections</p>	8 th Trimester	10/28/22
<p>7.2 Revise the wording in all prior sections of your proposal to now utilize past tense as appropriate</p>	8 th Trimester	10/28/22

7.3 Complete your final Scholarly Project paper per the posted rubric	8 th Trimester	11/11/22
<p>7.4 Submit the completed Scholarly Project final draft to your Project Mentors and Scholarly Project Chair for their review, recommendations for revision and editing.</p> <p>A. Obtain verification of your Project Mentor and Project Reviewer's approval of the Scholarly Project Final Manuscript by having him/her sign the <i>NAP Scholarly Project Final Manuscript Approval Form.</i></p> <p>1. Include all project components such as informed consent form, questionnaire/survey, power point presentation if applicable, analysis charts, etc. in the final manuscript after the reference section. Each component should be labeled as a separate appendix.</p> <p>B. Submit the NAP Scholarly Project Final Manuscript Approval Form (signed by mentor and reviewer), to the Scholarly Project Chair for his/her approval.</p> <p>C. If further revisions are not required, the Scholarly Project Chair will submit the NAP Scholarly Project Final Manuscript Approval Form to the NAP Department Chair (Program Administrator) for approval and signature.</p>	8 th Trimester	11/11/22
7.5 Submit the completed and signed NAP Scholarly Project Concept/Plan Approval Form to CANVAS DROPBOX	8 th Trimester	11/11/22
7.6 Prepare a research status report and submit via e-mail to the Scholarly Project Chair. This should be a comprehensive report communicating information on the findings and dissemination, changes, and issues.	8 th Trimester	1/10/23
8. Develop and revise poster presentation	8th and 9th Trimester Fall 2022-Spring 2023	
8.1 Develop an electronic PowerPoint version of your proposed poster about your project,	9 th Trimester	1/20/23

using the Scholarly Project Poster Guidelines. This PowerPoint slide must be submitted for review and feedback.		
8.2 The AHU logo A. If presenting outside of AHU, the student must obtain the electronic version of the logo from the AHU Marketing department's website portal. B. The student must also email the electronic version of the poster with logo to the AHU Marketing department (eric.cadiente@ahu.edu) (& cc the email to the Scholarly Project Chair), to obtain approval from Marketing for the appropriate use of the logo. Once approved please do not alter the shape or placement of the logo without follow up approval. C. The AHU logo must be placed in the upper left-hand corner.	n/a	n/a
8.3 Submit the <u>FINAL (NOT Draft)</u> electronic PowerPoint slide of your Poster to your Scholarly Project Chair via AHU email and to DROPBOX. A. After the Scholarly Project Chair has given their approval for the electronic version of the final poster, it is the student's responsibility to have the poster printed professionally, in compliance with the Scholarly Project Poster Guidelines B. Final posters will be presented at the <u>AHU NAP Scholarship/Poster Presentation Day.</u>	9 th Trimester	2/19/23
9. Submit final electronic copy of completed documents to library archive	9th Trimester Spring 2023	
9.1 Submit a complete electronic copy (including all appendices) of the final approved documents to the AHU library (Neal.Smith@ahu.edu).	9 th Trimester	3/31/23

10. Prepare for and complete professional Dissemination	8th and 9th Trimester Fall 2022-Spring 2023	
10.1 Prepare a faculty – approved manuscript for submission to a professional journal	n/a	n/a
10.2 In addition to professional journal submission, the following are considered appropriate methods of dissemination: A. Submission of abstracts for oral presentation and poster presentations at professional meetings B. Executive summaries (as part of a business plan) C. Professional web page D. Guest editorials, news releases in print or on public radio/television	n/a	n/a
10.3 Revise article or other appropriate method of dissemination as needed based on committee and other feedback	n/a	n/a
10.4 Obtain official submission/completion documentation and submit to DNAP Scholarly Project Chair and to Canvas DROPBOX	n/a	n/a
11. Prepare for Final Oral Presentation and/or Voice Over PowerPoint	9th Trimester Spring 2023	
11.1 Review guidelines and course schedule for conduct of presentation sessions A. Project Presentation (within DNAP 893) – Select AHU community members invited B. Clinical Site/Project site presentation	9 th Trimester	4/6/23
11.2 Obtain and complete the DNAP Final Project Presentation form with committee signatures and submit to DNAP Scholarly Project Chair	9 th Trimester	2/19/23
12. Complete final requirements for Scholarly Project Completion	9th Trimester Spring 2022	

<p>12.1 Submit to CANVAS completed Scholarly Project documentation (All documents in one PDF)</p> <p>A. Completed Project Final presentation (date and time completed only)</p> <p>B. <i>DNAP Project Final Presentation form</i> completed</p> <p>C. DNAP Project Hours Log</p> <p>D. E-copy of final manuscript</p> <p>E. Proof of journal submission or official completion document for project dissemination</p> <p>F. Student Data Declaration – where is your project data stored, when it will be destroyed and who will be responsible for it (i.e. at the clinical site or at AHU per IRB documents)</p> <p>G. IRB disposition-Students must close their projects with IRB after proof of submission or official completion documents are obtained</p>	9 th Trimester	4/14/23
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