

Marian University
Leighton School of Nursing
Doctor of Nursing Practice
Final Project Report for Students Graduating in May 2022

The Effect of Formal Online Peer Mentor Training on Mentor Self-Confidence

Angelica Hughes
Marian University
Leighton School of Nursing

Chair: Dr. Lee Summerlin-Grady

X

Dr. Lee Summerlin-Grady

First Reader: Dr. Beth Townsend

X

Dr. Beth Townsend

Date of Submission:

Table of Contents

Abstract.....	4
Introduction	5
Background.....	5
Problem Statement	7
Organizational “Gap” Analysis of Project Site	7
Review of the Literature	8
Literature Themes	9
Peer Support	9
Training and Mentor Confidence.....	10
Formal Training.....	11
Training Format.....	11
Other Training Themes.....	12
Theoretical Framework Model.....	13
Matched Dyads.....	14
Goals and Purpose.....	14
Solidifying the Relationship.....	15
Advocacy and Guidance.....	15
Culture Integration.....	15
Resource Mobilization.....	16
Objectives.....	16
Project Design	16
Project Site and Population	17

Methods	17
Measurement Instrument(s)	18
Data Collection Procedure	19
Ethical Considerations/Protection of Human Subjects	19
Timeline	19
Data Analysis and Results.....	20
Demographics.....	20
Descriptive Statistics	20
Inferential Statistics	21
Discussion.....	22
Conclusion	23
References.....	25
Appendices.....	30
Appendix A	30
Appendix B.....	31
Appendix C.....	33
Appendix D.....	35
Appendix E.....	36
Appendix F.....	38
Appendix G.....	39

Abstract

The stress levels experienced by student registered nurse anesthetists (SRNAs) make them excellent candidates to experience the benefits of peer mentoring. Many students assigned as mentors lack the necessary skills to support an adequate mentoring relationship. Mentor training programs have proven successful in providing mentors with the skills, knowledge, and self-confidence to support the next generation of SRNAs. The purpose of this quality improvement project was to determine if DNP nurse anesthesia peer mentors, who have undergone formal online mentor training, experience higher levels of confidence after participating in formal mentor training. Thirty-eight students from two cohorts of the nurse anesthesia program were invited to enroll in the online Mentor Training Workshop via *Canvas*. The mentor training workshop featured education about mentorship best practices for developing a successful mentoring relationship. Participants began by assessing their pre-workshop confidence level through an adapted version of the Mentor Competency Assessment survey. Participants were granted self-guided access to the workshop modules with a deadline of three weeks. The workshop entitled “SRNA Mentor Training” consisted of four education modules based on objectives criterion. Participants then completed the same survey after completion of the workshop. Participant’s responses indicated improved overall confidence with mentoring and in their ability to meet the needs of their mentees. These results were found to be statistically significant with a value of 0.018 and 0.009, respectively ($P < 0.05$).

Keywords: SRNA mentors, effective mentors, peer mentor training, student mentor training, mentor self-confidence, formal mentor training, online peer mentor training, Mentor Competency Assessment, graduate nursing mentor

The Effect of Formal Online Peer Mentor Training on Mentor Self-Confidence

This project is submitted to the faculty of Marian University Leighton School of Nursing as partial fulfillment of degree requirements for the Doctor of Nursing Practice, Nurse Anesthesia track. The existing peer mentor program supports Doctor of Nursing Practice (DNP) essential VIII which requires advanced practice nurses to “guide, mentor, and support other nurses to achieve excellence in nursing practice” (Marian University, 2019, p. 84). However, the skills of mentoring are not inherently possessed by all graduate students. Development and adoption of a formal peer mentor training program within the nurse anesthesia track could provide student mentors with the knowledge, tools, and resources necessary to build better mentoring relationships and improve mentors’ confidence level with mentoring.

Background

According to Chipas et al. (2012), most student registered nurse anesthetists (SRNAs) report stress levels that they believe negatively affect their general well-being. These stress levels are related to academic and clinical performance, financial burdens, adapting to preceptor teaching styles, and information overload. SRNAs have listed peer support as a top suggestion for improvement in anesthesia programs to increase well-being (Chipas et al., 2012). Peer mentoring has been shown to reduce student stress and anxiety and improve student engagement and satisfaction (Andre et al., 2017; Sprengal & Job, 2004). Several studies consider mentor training to be best practice for the development of a successful mentoring relationship (Fornari et al., 2014; Kibbe et al., 2016; Nick et al., 2012; Straus et al., 2013) and improved mentor confidence (Feldman et al., 2012; Kibbe et al., 2016; Lau et al., 2016; Nick et al., 2012; Osman & Gottlieb, 2018; Pfund et al., 2015; Sheri et al., 2019; Spiva et al., 2017; Tsen et al., 2012; Tuomikoski et al., 2020; Yau et al., 2020).

Mentoring allows for the development of a relationship where the mentor advises based on personal experience. A mentor is a person who supports, advises, and guides another individual, usually regarding a career path. Mentoring can provide mentees with resources, education, emotional support, social inclusion, and networking (Sprengel & Job, 2004). Mentors are a relatable resource that can provide the mentee with information about norms, values, beliefs, assumptions, and myths in a profession (Grossman, 2012). Nurses who seek a graduate degree in anesthesia can benefit from this type of relationship with a more experienced student. However, each peer mentor brings their own unique skills and experience to the relationship which may not include mentor training. Even naturally skilled mentors can benefit and improve mentor skills by training and studying the qualities of successful mentorships (Straus et al. 2013).

The mentorship relationships can be formal or informal depending on personal preferences and the presence of institutional programs. Informal, also known as unstructured, mentoring programs have been associated with poor mentoring relationships due to lack of tools for developing the mentor-mentee relationship (Fornari et al., 2014). This is particularly important among minorities, especially if the campus is primarily a single culture. Structured programs have the potential to provide culturally aware mentors that are more equipped to work with minority students (Grossman, 2012). Mentor training could assist mentors with developing cultural competence and provide the tools necessary for maintaining a structured mentor-mentee relationship (Sheri, 2019).

Straus et al. (2013) utilized qualitative research to explore the reasons for failed mentoring relationships which include poor communication skills, lack of commitment, and lack of mentor experience. Mentor training can equip mentors with the skills and resources needed to mitigate these challenges (Sheri, 2019). According to Pallaria et al. (2019), those that utilized

structured mentor training experienced increased mentor knowledge. Long-term benefits of mentor training were increased effectiveness and academic productivity, improved mentoring skills, enthusiasm and confidence, and increased occurrence of promotions, awards, and grants (Sheri, 2019).

Problem Statement

Mentorship provides an opportunity to reduce student stress by providing an empathetic resource who is experienced with the academic and clinical environment. However, students assigned as mentors may lack the knowledge, skills, and attitudes to be an effective, confident peer mentor. Providing mentors with formal training could help guide the relationship, improve mentor confidence, and create more meaningful relationships between mentors and mentees. Peer mentoring provides benefits to both the mentor and the mentee. The purpose of this quality improvement project is to determine if DNP nurse anesthesia peer mentors, who have undergone formal online mentor training, experience higher levels of confidence after participating mentor training.

Organizational “Gap” Analysis of Project Site

A peer mentor program for student registered nurse anesthetists (SRNAs) exists at a small midwestern university; however, it lacked the structure and resources needed to develop and support the mentor-mentee relationship. There was an opportunity to improve the mentor program to achieve excellence within this graduate requirement. A formal, structured mentor training program improves mentors’ confidence with diversity, mentoring relationships, communication, and knowledge of how to address difficult circumstances and conversations (Sheri et al., 2019). Developing these mentoring skills will increase the number of quality nursing mentors within the university and the workforce.

Review of Literature

The goal of the literature review was to explore the characteristics of successful mentors and mentorship programs. Specifically, the focus was on the use of formal peer mentor training to improve the mentors' self-confidence with being a mentor and providing support to the mentee. The search also highlighted some common themes and evidence-based features of mentoring programs and mentor training.

Keywords and phrases searched for this review include *mentor training, mentor education, mentor competency, mentor characteristics, peer mentoring, mentor knowledge, mentor development, formal mentor program, formal mentor training program, and structured mentor program*. Boolean searches include *mentor training and confidence; mentor education and confidence; anesthesia and mentorship; peer mentoring and training and confidence*. Keyword and Boolean searches yielded 47,548 results. 360 duplicate articles were excluded. 25 were excluded based on the afore mentioned criteria. 109 articles were screened for inclusion. The remaining articles were collected through review of references from selected articles.

Primary studies and systematic reviews that discussed mentor training in relation to mentor confidence levels were ranked highest for selection. The search yielded 20 articles, spanning from 2004 to 2020, which were most relevant to the focal points of mentor training and confidence. The PICO (population, intervention, comparison, outcome) inclusion criteria was utilized for selection of relevant studies. Mentorship programs best-practices and consensus is lacking which is a likely explanation for criteria variation. Fortunately, many aspects of mentoring are applicable across a wide range of disciplines. However, a lack of studies specific to the PICO resulted in the expansion of search criteria. The literature review criteria expansion featured the population of SRNAs in addition to medical students, registered nurses, surgical

department chairs, nursing students, research mentors, and faculty mentors. Interventions of included studies featured various teaching methodologies such as workshops, online learning, seminars, and discussion. Excluded studies featured topics of preceptor training, preceptor studies, disease related mentorship programs (i.e. HIV, spinal cord injury, substance use disorder, diabetes, breast cancer), mentee training, and peer teaching.

Sources were primarily obtained from the PubMed database with supplemental use of Google Scholar and EBSCOhost. A Microsoft Excel based literature matrix was used for article summary, organization, and comparison. The articles were scanned for recurring themes and mentor teaching programs were compared. Selected articles were saved on a computer hard drive.

Literature Themes

The characteristics of mentorship programs vary widely across institutions and professions. These variations span the topics of training, structure, institutional support, peer matching, and resource availability (Nick et al., 2012). Literature describing the effects of peer mentor training on mentor confidence is limited. Few studies have explored the effects of formal mentor training on student registered nurse anesthetists' (SRNAs') (Pallaria et al., 2019; Chipas et al., 2012). This demonstrates a gap in literature specific to improving mentor confidence levels through mentor training for SRNAs. Despite this gap, the review of literature supports the claim that mentor confidence is essential to a successful mentoring relationship. The literature also supports formal mentor training as an effective means to improve mentor confidence and competence.

Peer Support

SRNAs have suggested peer support within anesthesia programs as a mechanism to reduce anxiety and improve overall well-being (Chipas et al, 2012). Peer support can be achieved through peer mentoring. Andre et al. (2017) utilized a vertical, or peer mentoring program that featured senior medical students mentoring junior medical students. Studies with similar mentoring structures showed reduced anxiety levels, increased student satisfaction, and improved mentee confidence with peer mentorship programs (Andre et al., 2017; Lewis et al., 2016; Sprengel & Job, 2004). However, attitudes, biases, prejudices, and lack of mentor confidence, assertiveness, communication, and defined expectations have been cited as reasons for failure in the peer-to-peer relationship (Lewis et al., 2016; Pallaria et al., 2014; Pfund et al. 2015; Sprengel & Job, 2004; Yau et al., 2020). Mentor training can enhance the mentor-mentee relationship by equipping the mentor with the tools and knowledge to avoid the common reasons for failed relationships. Training programs that focus on the qualities of effective mentors have been successful at helping navigate these challenges (Straus et al, 2013).

Training and Mentor Confidence

Eleven studies demonstrated improved mentor confidence as a result of mentor training. Improved confidence levels varied across several topics such as mentee professional development, facilitating mentee learning, carrying out difficult discussions, providing constructive feedback, expectation alignment, diversity, mentor skills, understanding, efficacy, knowledge, and readiness, and overall confidence (Feldman et al., 2012; Feldman et al., 2017; Kibbe et al., 2016; Lau et al., 2016; Nick et al., 2012; Osman & Gottlieb, 2018; Pfund et al., 2015; Sheri et al., 2019; Spiva et al., 2017; Tsen et al., 2012; Tuomikoski et al., 2020; Yau et al., 2020). All studies showed improved confidence levels with each of the respective topics as a result of mentor training programs.

Formal Training

Formal, also referred to as structured, mentor programs have been associated with better mentor-mentee relationships and overall program success (Fornari et al., 2014). A more regulated form of mentor teaching can prevent lapses in professionalism. Institutional support for formal mentoring programs has also been shown to improve retention rates (Nick et al., 2012). Many literature reviews and studies listed mentor training as a feature of formal programs (Fornari et al., 2014; Kibbe et al., 2016; Lau et al., 2016; Nick et al., 2012; Pallaria et al., 2019; Sheri et al., 2019; Spiva et al., 2017). Mentor training is considered an essential, best practice feature to improve the number of quality mentors within mentorship programs (Fornari et al., 2014; Kibbe et al., 2016; Nick et al., 2012; Straus et al., 2013).

Training Format

Several common themes for training formats were presented throughout the literature. The most popular training format utilized was workshops ranging from a single session to ten sessions (Johnson et al., 2015; Lau et al., 2016; Nick et al., 2012; Osman et al., 2018; Pfund et al., 2015; Straus et al., 2013; Varma et al., 2016; Yau et al., 2020). One study of SRNA mentor training utilized a written mentor handbook to increase mentor knowledge of roles and responsibilities (Pallaria et al., 2019). Feldman et al. (2012; 2017) and Kibbe et al. (2016) utilized the Mentor Development Program (MDP) as a method of training. This program provides uniform workshop curricula that was developed from evidence and literature review. Objectives and topics of the MDP include defining roles, rewards and challenges in mentorship, communication skills, work-life balance, diversity, academic advancement, and leadership (Feldman et al., 2012; Feldman et al., 2017; Kibbe et al., 2016). Distance and online learning were cited as other mechanisms to provide training (Nick et al., 2012; Sood et al., 2016;

Tuomikoski et al., 2020). The online format was effective in increasing confidence with assuming the mentor role (Tuomikoski et al., 2020). Across the literature, the length of workshops or training session varied greatly from as little as three hours to several months.

Other Training Themes

Other recurring mentor training themes across the literature included defining role expectations, group discussion formats, and cultural competence training. Orientation to the mentor role is an essential step in the mentor education process (Nick et al., 2012; Pallaria et al., 2019; Sprengel & Job et al., 2004; Tuomikoski et al., 2020). Sprengel & Job (2004) also listed learning the qualities of a role model as an important part of mentor education. Group discussion formats were a recurring theme within the literature. Several workshops featured an interactive group setting to allow participants to discuss mentoring topics and common dilemmas (Lau et al., 2016; Pfund et al., 2015; Tsen et al., 2012; Varma et al., 2016). Problem solving, case discussions, and role play were common features of the group sessions (Pfund et al., 2015; Tsen et al., 2012; Varma et al., 2016).

A lack of cultural competence is a common barrier to mentorship success and professional development (Osman & Gottlieb, 2018). Understanding cultural differences and developing cultural competency is an essential guideline to mentor training (Johnson & Gandhi, 2015; Osman & Gottlieb, 2018; Sheri et al., 2019). The Mentoring Competency Assessment (MCA) is a 26-item survey that was developed and validated by Flemming et al. (2013) to measure six core competencies of mentors. The six competencies include maintaining effective communication, aligning expectations, assessing understanding, addressing diversity, promoting professional development, and fostering independence. The MCA was utilized by Johnson & Gandhi (2015) and Lau et al. (2016) to help mentors assess their personal diversity competence,

biases, and prejudices. Participating in Mentoring Across Differences training provided mentors with a greater sense of awareness of their own assumptions and biases, as well as increased their confidence in carrying out difficult conversations (Osman & Gottlieb, 2018).

Mentoring can provide benefits to the mentor and the mentee. Training can develop the beneficial skills associated with mentorship. Potential benefits of mentoring include increased confidence, satisfaction, communication and academic productivity (Andre, et al., 2017, Feldman et al., 2012; Lewis et al., 2016; Sheri et al., 2019). Peer mentors have reported the mentoring experience as rewarding (Andre et al., 2017). It boosts mentors' self-confidence by allowing them to see their progression from novice to expert (Sprengel & Job 2004). Long-term benefits for mentors include increased effectiveness, promotions, awards, and grants (Sheri et al., 2019). Feldman et al. (2012) found that graduates of the MDP program had sustained confidence in their mentoring skills after three years.

The mentoring relationship is a highly complex relationship that has the potential to be beneficial to both the mentor and mentee. However, many potential obstacles threaten successful mentorships. Implementation of a formal mentor training program could equip mentors with the skills and resources to recognize and navigate these threats. Institutional support, mentor participation and mentee cooperation are important considerations in the development and implementation of such training programs. However, all these stakeholders could reap the benefits of a well-developed mentorship with a formal training program.

Theoretical Framework Model

The National League for Nursing and Johnson and Johnson provided funding for the development of a model for mentoring in nursing education (Nick et al., 2012). Nick et al. (2012) defined mentoring as a paired, reciprocal relationship between an experienced, knowledgeable

mentor and a less experienced mentee. The model titled “Best Practices in Academic Mentoring: A Model for Excellence,” provides best practice guidelines for the development of formal mentorship programs (Nick et al., 2012). The model features a multifaceted approach to program development through six best practices identified as matched dyads, establishment of goals and purpose, relationship solidification, advocacy and guidance, culture integration, and resource mobilization. Mentoring program best practices provide the foundation and support to the four pillars of excellence for academic nurse mentoring outcomes. The responsibilities and outcomes of mentorship are encompassed within the four pillars of excellence. Outcome pillars include orientation to the role, socialization, skill development, and growth of future leaders in nursing and education (Nick et al., 2012). See *Appendix A*. This model was selected as a framework for development and implementation of a formal mentor training program.

Matched Dyads

Matching mentors and mentees to provide an appropriately fitting relationship is an important aspect of mentorship programs. However, the evidence is lacking about the best method for pair matching. Matching can occur through specific or arbitrary criteria, mentee preference, mentor preference, or random assignment (Nick et al., 2012). When mentoring programs obtain input from mentorship participants, mentor relationships have better communication, commitment, perceived relationship quality, and understanding of the mentor program (Nick et al., 2012). Consideration of background, age, personality, and interests may prove useful when pairing to prevent mismatched perceptions (Nick et al., 2012).

Goals and Purpose

Nick et al. (2012) emphasized goal establishment early in the mentorship relationship to provide clarity and direction for both participants. The goals should be specific to the needs and

outcomes of the mentee. The most important expectations to address in the goals are reciprocity, time commitment, and planning growth activities (Nick et al., 2012). Reciprocity is important to give each member of the relationship the opportunity to provide feedback and experience the benefits of the relationship. Both parties should be given the opportunity to identify their goals and identify their purpose in mentorship. Defining these characteristics of the relationship will foster commitment from both individuals. Specifying the time commitment clarifies expectations and provides a realistic timeline for goals to be met. Regular interaction and mentorship activities performed over time solidifies the relationship engagement and commitment.

Solidifying the Relationship

The mentorship pair should strive to deepen the relationship through four main strategies: collaboration, regular communication, feedback exchange, and building a mutually supportive environment. Establishing a mutual trust and respect are essential to the application of these strategies. A sense of connection is highly important to a successful mentoring relationship and can be best achieved through regular communication (Nick et al., 2012).

Advocacy and Guidance

Mentors are in a unique position to support the mentee through advocacy. They can represent the mentees perspective and provide a global view of the situation through their own experience and organizational understanding (Nick et al., 2012). Advocacy and guidance can be achieved through providing psychosocial support, encouraging work-life balance, and career advising. Providing motivation and moral support have proven to be important in the psychosocial support of mentees and is highly valued by mentees.

Culture Integration

Nick et al. (2012) have discovered that integration into the culture can be achieved through two activities. Firstly, the mentor should teach the mentee networking skills to help them establish relationships and contacts. Networking can provide the mentee with opportunities to advance his or her career and provide knowledge of the various available resources. Secondly, the mentor can facilitate socialization through orientation to the social structure and culture of the environment or organization.

Resource Mobilization

Institutional resources are essential to the success of the mentorship relationship. Administrative commitment and support are critical to the development of formal mentoring programs and lack of support may be detrimental to the program and its participants. Training programs are a resource that can increase the knowledge and efficacy of mentors. Institutionally driven mentor training workshops are considered a best practice in effective mentoring. These workshops increase the number and quality of mentors available within the institution (Nick et al., 2012).

Objectives

The goal of this quality improvement project was to provide a self-guided, formal online mentor training program. Objectives of the training program were to improve mentors' overall confidence by providing training about mentor skills including effective communication, aligning expectations, assessing the mentees' level of understanding and independence, navigating diversity and cultural competency, and professional development strategies. The expected outcome was improvement of mentors' self-confidence level overall and with each of these skills.

Project Design

Using the theoretical model as a guide, the goal was to design and implement a quality improvement project through an online learning workshop. Pre and post workshop intervention surveys were issued to participants to collect quantitative data and compare the participants' confidence levels pre and post intervention. Due to the COVID-19 pandemic, online workshop module development was the most efficient, safe, and practical way to educate participants.

Project Site and Population

The culture of the mentoring program, prior to the implementation of the quality improvement project was student-run, self-guided, and informal with minimal institutional input or support. The quality improvement project was conducted at a small, privately funded, Midwestern university. Prior to the improvement project, dyad matching and an informal introduction were provided through the current mentoring program. All students in this doctoral program were expected to mentor unless they express an explicit wish to opt out of the mentorship program. The population was comprised of 38 graduate students enrolled in the Doctor of Nursing Practice, Nurse Anesthesia program. These 38 students spanned two cohorts of nurse anesthesia student mentors. All 38 were invited to participate in the voluntary mentor training workshop. Due to the self-guided and voluntary nature of the quality improvement project, active participation and attrition were two barriers to the project. Weekly reminder emails were sent to the population to recruit learners and keep enrolled students on track to finish within the three-week course period.

Method

Thirty-eight students from two cohorts of the nurse anesthesia program were invited to enroll in the online Mentor Training Workshop via *Canvas*. The mentor training workshop featured education about mentorship best practices for developing a successful mentoring

relationship (Nick et al., 2012). Participants began by assessing their pre-workshop confidence level through an adapted version of the MCA survey. The survey link was accessed through a hyperlink at the end of the informed consent letter (*Appendix B*) and directed volunteer participants to the Qualtrics survey site. Quantitative data was collected through the Qualtrics software. Participants were granted self-guided and self-paced access to the workshop modules with a deadline of three weeks. The workshop entitled “SRNA Mentor Training” consisted of four education modules based on objectives criterion. The four modules were centered on best practice mentoring skills including communication and expectations, assessing expectations and understanding, diversity, and professional development. Learning was augmented through videos, graphics, handouts, external resource websites, two discussion boards, and one self-reflection activity. Upon completion of the workshop, participants were asked to take the post-survey. Pre and post-survey data was analyzed to determine if the workshop intervention improved the participants self-confidence levels.

Measurement Instruments

Self-awareness is an essential component of effective mentors. Understanding biases, levels of cultural competency and other potential barriers is the first step in becoming a successful mentor. In order to measure the outcomes for this project, the Mentoring Competency Assessment tool was used to measure these competencies and assist mentors’ assessment of their personal diversity competence, biases, and prejudices (Johnson & Gandhi, 2015; Lau et al., 2016). The original MCA survey was adapted to specifically assess mentors’ confidence level with the various mentoring skills. It was also adapted to be applicable to peer mentors instead of research mentors. The pre and post workshop survey MCA adaptation entitled “Mentor Competency Assessment - SRNA adaptation” (*Appendix C*) was used to determine participants

confidence level with various mentoring skills. These skills were categorized by the key concepts of maintaining effective communication, assessing expectations and understanding, fostering independence and navigating differences, and professional development. Survey measurement of confidence on a Likert scale provided qualitative data measurement for each criterion. The Likert scale ranged from 1 being “not confident at all”, 4 being “moderately confident with this skill”, and 7 being “extremely confident with this skill.”

Data Collection Procedure

Anonymous online survey data was collected through the *Qualtrics* platform which was utilized for data collection and analysis. Qualtrics is an online survey platform utilized to design, distribute, and analyze survey questionnaires. Exported data was sent to Microsoft Excel and IBM SPSS software for further data analysis and storage. SPSS provides a platform for advanced statistical analysis and descriptive statistics. Data collection and analysis was primarily performed by this author. Due to the ordinal data from the Likert scale, a non-parametric version of the T-test was utilized. The Wilcoxon paired test examines the null hypothesis which states there is no difference in the median of the pre and post surveys. The mean confidence scores for each mentoring skill, as reported by participants on a Likert scale, was calculated and analyzed for changes between pre and post survey. Demographic information was also compared and analyzed for tendencies and correlations.

Ethical Considerations/Protection of Human Subjects

This is a quality improvement educational project within one institution; therefore, it features minimal risk to the participants. It was unnecessary to access protected personal health information and vulnerable populations were not included in the study. Due to the nature of the project, Marian’s Institutional Review Board granted exempt status approval (*Appendix D*).

Participants were informed of the risks and benefits of participation through the informed consent letter that was sent upon invitation to the project.

Timeline

An Excel adapted version of the Gantt chart was utilized to keep a project timeline and meet important deadlines. The timeline spanned initial approval of the topic, project development, implementation, data analysis, and final revisions.

Data Analysis and Results

Demographics

Of the 38 individuals invited to participate in the SRNA Mentor Training Workshop, 14 mentors completed the training and required surveys. However, two sets of survey data had to be excluded because errors in data entry by the participant would not allow the pre and post survey data to be matched. This yielded a sample size of twelve mentors ($n=12$). Eight participants were from the 2022 cohort and the remaining four were from the 2023 cohort. Seven participants had never received any type of formal mentor training in the past. Those who had received formal mentor training reported an average of 9.2 hours of training. The average years of experience for those who had mentoring experience was 1.3 years.

Descriptive Statistics

The mean scores for each of the mentoring skills measured pre and post is reported in *Appendix E*. The mean results show participants reported improvement in their confidence with all mentoring skills across the four main concepts of mentoring that was addressed in the mentor training workshop. The skills that showed the largest improvement in the mean scores include helping others acquire resources, helping others navigate a path to independence, helping others network, stimulating the creativity of others, and recognizing your own biases and prejudices

(improvement of +1.58, +1.41, +1.37, +1.33, and +1.25 respectively). The standard deviations across these five skills were less than or equal to 1.25 indicating a relative similarity among participants' self-reported confidence score. Helping others acquire resources and helping others network were skills addressed in the professional development module of the course. The skills of helping others navigate a path to independence and stimulating other's creativity were addressed in the assessing understanding and independence module. Biases and prejudice recognition was addressed in the diversity module. Although the mean score difference between pre and post results were not as drastic, several other skills displayed improvement and a standard deviation <1.00 in the post mean score. These skills were helping others navigate a path to independence, building the confidence of others, utilizing strategies to enhance others' knowledge, stimulating others' creativity, acknowledging others' independence, and working with others from different backgrounds (standard deviation of 0.89, 0.89, 0.9, 0.94, 0.95, 0.97 respectively). These standard deviations suggest that respondents post workshop scores were distributed closely around the same rating on the Likert scale of seven. This could suggest that the training brought all participants to a certain level of confidence with these skills regardless of their experience level prior to the training.

Inferential Statistics

A Wilcoxon paired test was performed to assess the statistical significance between the participants overall confidence with mentoring and overall confidence in their ability to meet the mentees expectations pre and post workshop. See *Appendix F*. Regarding participants overall confidence level with mentoring, the pre survey mean was 4.00 with a standard deviation of 1.414. The post survey mean was 4.92 with a standard deviation of 0.996. An initial analysis of the mean indicates a positive improvement of 0.92 between pre and post intervention. According

to the ranks data, eight individuals displayed improved overall confidence levels when comparing pre and post data. There were three individuals who showed no difference, and one who showed a decline in their pre and post scores when responding to this question. The statistical significance for this question was 0.018. Because this value is less than 0.05, the null hypothesis is rejected indicating that there is a statistical difference between participants overall confidence level pre and post formal online mentor training.

The mean for participants overall ability to meet mentees expectations was 4.00 pre survey with a standard deviation of 1.414. The post survey mean for this question was 5.17 with a standard deviation of 1.193. The difference in means pre and post (+1.17) indicates an improvement in the mean for this question. Ranks data indicated nine individuals displayed improved confidence scores in response to their overall ability to meet mentee's needs. There were two reports of no improvement, and one report of a decline between pre and post intervention for this question. The statistical significance was 0.009 indicating rejection of the null hypothesis. There is a strong statistical significance in the participants overall confidence in their ability to meet the expectations of their mentees when comparing pre and post intervention results.

Discussion

This quality improvement project has several limitations. The literature and concepts utilized for project design displayed variations in the studied program groups such as medical residents, nursing, faculty, etc. making it difficult to generalize findings and apply them to this discipline. Findings in the literature were rarely specific to peer mentors, SRNAs, or graduate students. This project was designed for and implemented at a single university. Learning was self-guided, and the level of learner participation was not measured. Few individuals participated

in the reflection and discussion portions of the training. Due to a small sample size, it may be difficult to generalize results across other universities. Mentors' prior participation in formal mentor training could have also partially skewed results. Further study among other, larger cohorts at this and other universities could provide more generalizable results. However, most aspects of mentorship are applicable across various fields of study. Further studies could select participants who have never undergone formal mentor training. The MCA was originally designed for mentors who were already professors mentoring students. The MCA was adapted with permission from University of Wisconsin- Madison for use during this quality improvement project. A copy of this permission letter is found in *Appendix G*. Adaptation to specifically meet the needs of this quality improvement project compromised the validity of the MCA scale. Many measures of mentorship success are qualitative which makes them difficult to study and measure. Mentorship is complex and can be tailored the needs and preferences of the mentor and mentee. More research needs to be done to determine if a streamlined formal training could benefit mentors across disciplines.

Several strengths of the quality improvement were also noted. The study measured 25 skills across four competency categories. Most individuals showed a positive improvement in their confidence with one or more mentoring skills. Most participants displayed improved overall confidence levels between pre and post intervention.

Conclusion

Although a peer mentor program for SRNAs was present, it lacked the structure and resources needed to develop and support the mentor-mentee relationship. This mentoring relationship is often underdeveloped and underutilized. This is likely because students assigned as mentors often lack the knowledge, skills, and confidence to be an effective peer mentor.

Providing mentors with formal online workshop demonstrated the ability to provide an education about the basics of mentoring as a means to improve mentor confidence levels. The hope is through this improved confidence mentors will be empowered to create more meaningful relationships with their mentees. These relationships provide long-lasting benefits for both parties as they progress through their graduate degree and their anesthesia career.

References

- Andre, C., Deerin, J., & Leykum, L. (2017). Students helping students: Vertical peer mentoring to enhance the medical school experience. *BMC Research Notes*, 10(1), 176.
<https://doi.org/10.1186/s13104-017-2498-8>
- Chipas, A., Cordrey, D., Floyd, D., Grubbs, L., Miller, S., & Tyre, B. (2012). Stress: Perceptions, manifestations, and coping mechanisms of student registered nurse anesthetists. *AANA Journal*, 80(4), 49–55. <http://web.b.ebscohost.com/forward.marian.edu/ehost/pdfviewer/pdfviewer?vid=2&sid=8023ff7a-c10e-425b-8274-6154cf52362c%40pdc-v-sessmgr01>
- Feldman, M.D., Steinauer, J.E., Khalili, M., Huang, L., Kahn, J.S., Lee, K.A., Creasman, J., & Brown, J.S. (2012). A mentor development program for clinical translational science faculty leads to sustained, improved confidence in mentoring skills. *Clinical and Translational Science*, 5(4), 362–367. <https://doi.org/10.1111/j.1752-8062.2012.00419.x>
- Feldman, M. D., Huang, L., Guglielmo, B. J., Jordan, R., Kahn, J., Creasman, J. M., Wiener-Kronish, J. P., Lee, K. A., Tehrani, A., Yaffe, K., & Brown, J. S. (2009). Training the next generation of research mentors: The University of California, San Francisco, Clinical & Translational Science Institute Mentor Development Program. *Clinical and Translational Science*, 2(3), 216–221. <https://doi.org/10.1111/j.1752-8062.2009.00120.x>
- Fleming, M., House, S., Hanson, V. S., Yu, L., Garbutt, J., McGee, R., Kroenke, K., Abedin, Z., & Rubio, D. M. (2013). The Mentoring Competency Assessment: Validation of a new instrument to evaluate skills of research mentors. *Academic medicine: Journal of the Association of American Medical Colleges*, 88(7), 1002–1008.
<https://doi.org/10.1097/ACM.0b013e318295e298>
- Fornari, A., Murray, T. S., Menzin, A. W., Woo, V. A., Clifton, M., Lombardi, M., & Shelov, S.

- (2014). Mentoring program design and implementation in new medical schools. *Medical Education Online*, 19, <https://doi.org/10.3402/meo.v19.24570>
- Grossman, S.C. (2012). *Mentoring in nursing: A dynamic and collaborative process* (2nd ed.). Springer Publishing Company. <https://ebookcentral.proquest.com/lib/marianuin-ebooks/reader.action?docID=1026842>
- Johnson, M.O., & Gandhi, M. (2015). A mentor training program improves mentoring competency for researchers working with early-career investigators from underrepresented backgrounds. *Advances in Health Sciences Education: Theory and Practice*, 20(3), 683–689. <https://doi.org/10.1007/s10459-014-9555-z>
- Kibbe, M. R., Pellegrini, C. A., Townsend, C. M., Jr, Helenowski, I. B., & Patti, M. G. (2016). Characterization of mentorship programs in departments of surgery in the United States. *JAMA Surgery*, 151(10), 900–906. <https://doi.org/10.1001/jamasurg.2016.1670>
- Lau, C., Ford, J., Van Lieshout, R. J., Saperson, K., McConnell, M., & McCabe, R. (2016). Developing mentoring competency: Does a one session training workshop have impact? *Academic Psychiatry: The Journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry*, 40(3), 429–433. <https://doi.org/10.1007/s40596-016-0537-8>
- Lewis, V., Martina, C. A., McDermott, M. P., Trief, P. M., Goodman, S. R., Morse, G. D., LaGuardia, J. G., Sharp, D., & Ryan, R. M. (2016). A randomized controlled trial of mentoring interventions for underrepresented minorities. *Academic Medicine: Journal of the Association of American Medical Colleges*, 91(7), 994–1001. <https://doi.org/10.1097/ACM.0000000000001056>
- Marian University. (2019). *Graduate nursing student handbook 2019-2020*.

file:///C:/Users/angih/AppData/Local/Packages/microsoft.windowscommunicationsapps
8wekyb3d8bbwe/LocalState/Files/S0/1024/Attachments/19_20%20Graduate%20Nursing
%20Student%20Handbook[4436].pdf

- Nick, J.M., Delahoyde, T.M., Del Prato, D., Mitchell, C., Ortiz, J., Ottley, C., Young, P., Cannon, S.B., Lasater, K., Reising, D., & Siktberg, L. (2012). Best practices in academic mentoring: A model for excellence. *Nursing Research and Practice*.
<https://doi.org/10.1155/2012/937906>
- Osman, N. Y., & Gottlieb, B. (2018). Mentoring across differences. *MedEdPORTAL*, 14.
https://doi.org/10.15766/mep_2374-8265.10743
- Pallaria, T.J., Meringer, P., Brander, R., & McLaughlin, M. (2019). Effects of a structured mentorship program handbook on student knowledge within a nurse anesthesia program. *International Journal of Nursing and Health Care Research*, 7.
<https://doi.org/10.29011/IJNHR-090.100090>
- Pfund, C., Spencer, K.C., Asquith, P., House, S.C., Miller, S., & Sorkness, C.A. (2015). Building national capacity for research mentor training: An evidence-based approach to training the trainers. *CBE Life Sciences Education*, 14(2), <https://doi.org/10.1187/cbe.14-10-0184>
- Pramila-Savukoski, S., Juntunen, J., Tuomikoski, A. M., Kääriäinen, M., Tomietto, M., Kaučič, B. M., Filej, B., Riklikienė, O., Vizcaya-Moreno, M. F., Perez-Cañaveras, R. M., De Raeve, P., & Mikkonen, K. (2020). Mentors' self-assessed competence in mentoring nursing students in clinical practice: A systematic review of quantitative studies. *Journal of Clinical Nursing*, 29(5-6), 684–705. <https://doi.org/10.1111/jocn.15127>
- Sheri, K., Too, J., Chuah, S., Toh, Y. P., Mason, S., & Radha Krishna, L.K. (2019). A scoping review of mentor training programs in medicine between 1990 and 2017. *Medical*

- Education Online*, 24(1). <https://doi.org/10.1080/10872981.2018.1555435>
- Sood, A., Tigges, B., & Helitzer, D. (2016). Mentoring early-career faculty researchers is important-but first "Train the Trainer". *Academic Medicine: Journal of the Association of American Medical Colleges*, 91(12), 1598–1600.
- Spiva, L., Hart, P. L., Patrick, S., Waggoner, J., Jackson, C., & Threatt, J. L. (2017). Effectiveness of an evidence-based practice nurse mentor training program. *Worldviews on Evidence-Based Nursing*, 14(3), 183–191. <https://doi.org/10.1111/wvn.12219>
- Sprenkel, A. D., & Job, L. (2004). Reducing student anxiety by using clinical peer mentoring with beginning nursing students. *Nurse Educator*, 29(6), 246–250. <https://doi.org/10.1097/00006223-200411000-00010>
- Straus, S. E., Johnson, M. O., Marquez, C., & Feldman, M. D. (2013). Characteristics of successful and failed mentoring relationships: A qualitative study across two academic health centers. *Academic medicine: Journal of the Association of American Medical Colleges*, 88(1), 82–89. <https://doi.org/10.1097/ACM.0b013e31827647a0>
- Tsen, L.C., Borus, J.F., Nadelson, C.C., Seely, E.W., Haas, A., & Fuhlbrigge, A.L. (2012). The development, implementation, and assessment of an innovative faculty mentoring leadership program. *Academic Medicine: Journal of the Association of American Medical Colleges*, 87(12), 1757–1761. <https://doi.org/10.1097/ACM.0b013e3182712cff>
- Tuomikoski, A. M., Ruotsalainen, H., Mikkonen, K., Miettunen, J., Juvonen, S., Sivonen, P., & Kääriäinen, M. (2020). How mentoring education affects nurse mentors' competence in mentoring students during clinical practice: A quasi-experimental study'. *Scandinavian Journal of Caring Sciences*, 34(1), 230–238. <https://doi.org/10.1111/scs.12728>
- Varma, J. R., Prabhakaran, A., Singh, S., Singh, P., Ganjiwale, J., & Pandya, H. (2016).

Experience of a faculty development workshop in mentoring at an Indian medical college. *The National Medical Journal of India*, 29(5), 286–289.

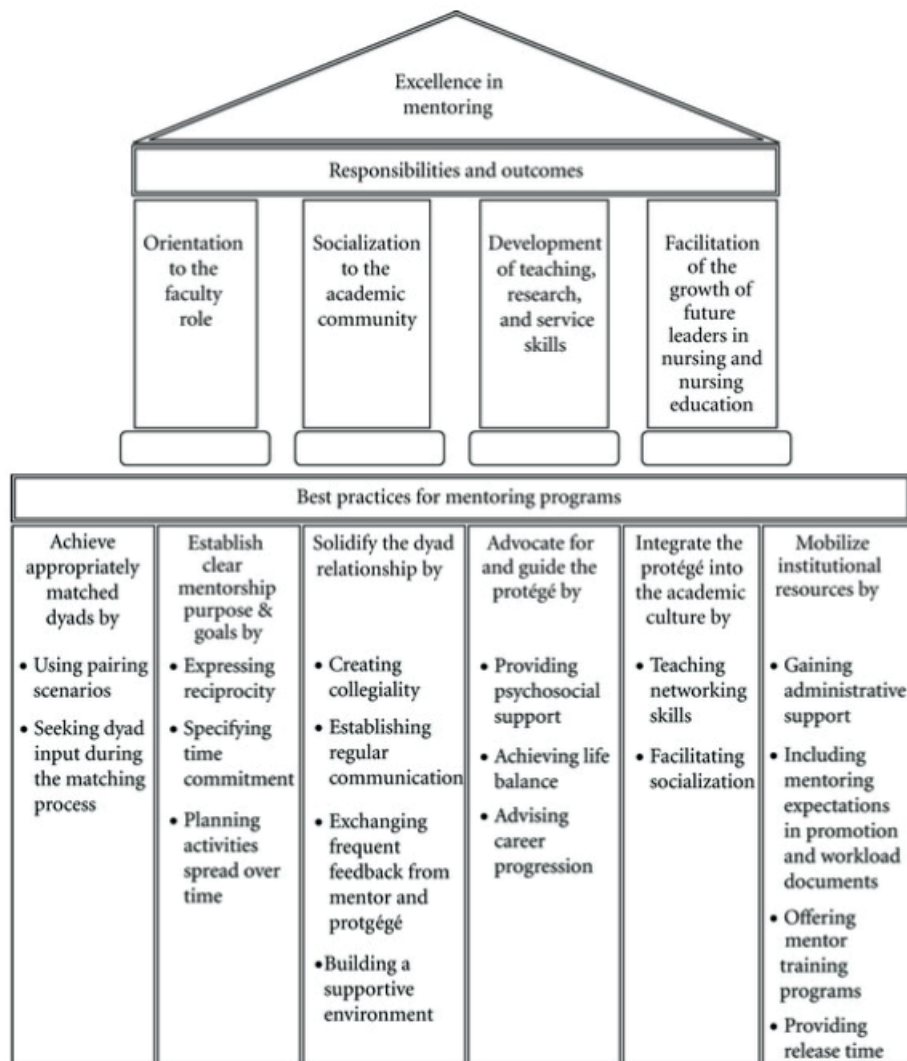
http://www.nmji.in/temp/NatlMedJIndia295286-521249_142844.pdf

Yau, B. N., Chen, A. S., Ownby, A. R., Hsieh, P., & Ford, C. D. (2020). Soliciting feedback on the wards: A peer-to-peer workshop. *The Clinical Teacher*, 17(3), 280–285.

<https://doi.org/10.1111/tct.13069>

Appendix A Theoretical Model

The model: Best Practices in Academic Mentoring: A Model for Excellence. Fourth Cohort, NLN/Johnson & Johnson Faculty Leadership and Mentoring Program.



(Nick et al., 2012)

Appendix B

Online Survey Informed Consent Form

You are invited to participate in a research study titled “The Effect of Online Formal Peer Mentor Training on Mentor Self-Confidence.” This study is being conducted by Angelica Hughes, a doctoral student in the nurse anesthesia track at Marian University. As a DNP-Nurse Anesthesia student of Marian University, you are invited to participate in this study. This form is part of a process called “informed consent” to allow you to understand the study before deciding whether to take part.

Background

Most student registered nurse anesthetists (SRNAs) report stress levels that they believe negatively affect their general well-being. SRNAs have listed peer support as a top suggestion for improvement in anesthesia programs to increase well-being. Mentorship provides an opportunity to reduce student stress by providing an empathetic resource who is experienced with the academic and clinical environment. Students will be mentoring their peers during the SNRA program and later, as part of the CRNA role. However, students assigned as mentors may lack the knowledge, skills, and attitudes to be an effective, confident peer mentor. The purpose of this research study is to determine whether a formal, online educational experience in mentoring will improve mentors’ confidence in their mentoring abilities by providing them with a formal, online education experience. It will provide a variety of resources and exercises to improve the mentors understanding, skills, and confidence with the mentoring relationship.

Procedures

If you agree to be in this study, you will be asked to:

- Complete a 15-question, online survey related to your experience as a mentor. You will be asked to rate your confidence in your abilities to perform various mentoring skills.
- Complete an online training workshop. This workshop is self-paced, however please complete the full workshop **August 6, 2021**. Completion of the workshop will take about 45 minutes.
- After completion of the training, you will complete a second version of the survey. This version of the survey has the demographic questions removed and will take less time to complete.

Voluntary Nature of the Study:

This study is voluntary. Everyone will respect your decision of whether you choose to participate in the study or not. No one at Marian University or in the DNP Program will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of being in the Study:

Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life such as fatigue. Being in this study would not pose risk to your safety or wellbeing. Potential benefits include improved confidence with mentoring skills and improved mentoring relationships. The knowledge gained through mentor training will contribute to the advancement of your professional development. These professional development benefits may

include increased effectiveness, academic productivity, satisfaction, and confidence. Study results will also assist in preparing future mentors and further development of the mentorship program at Marian University. All students and instructors in the DNP program will have access to the summary of the results of the study.

Payment:

You will not receive payment for your participation in the study.

Privacy:

Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. Data will be kept secure by storing it in a password-protected computer hard-drive kept in the home of the researcher in addition to a flash-drive that will be retained in a fire-proof lock box which can be accessed by the researcher alone. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions

If you have any questions, you may contact the researcher via phone at (765) 592-1580 or email at ahughes734@marian.edu. If you want to talk privately about your rights as a participant, you may contact Dr. Amanda Egan, Chair of the Marian University Institutional Review Board, to discuss this with you. Please print or save this consent form for your records.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By proceeding with the pre-workshop survey, you are indicating that you are at least 18 years old, have read, understand the consent form, and agree to participate in this study.

Appendix C

Please enter the last 4 digits of your cell phone number. This will be used for internal data tracking only and will not be shared.

What type of advanced degree(s) do you hold?

- ☐ Bachelors
- ☐ Masters
- ☐ PhD
- ☐ Other

Please enter your projected graduation year from the anesthesia program (please use format: 2020).

How many years of experience do you have as a formal mentor? Please enter a numeric value.

Have you ever participated in, or facilitated any formal mentor training?

- ☐ Yes
- ☐ No

Please rate your confidence level with your skills in the following areas on a Likert scale of 1-7 (with 1 being "Not confident at all", 4 being "Moderately confident with this skill", and 7 being "Extremely confident with this skill")

[illegible]

[illegible][illegible][illegible]

Appendix D*Institutional Review Board*

DATE: 02-22-2021
TO: Angelica Hughes
FROM: Institutional Review Board
RE: IRB #S21.237
TITLE: The Effect of Formal Online Peer Mentor Training on Mentor Self-Confidence
SUBMISSION TYPE: New Project
ACTION: Determination of Exempt Status
DECISION DATE: 02-22-2021

The Institutional Review Board at Marian University has reviewed your protocol and has determined the procedures proposed are appropriate for exemption under the federal regulations. As such, there will be no further review of your protocol and you are cleared to proceed with your project. The protocol will remain on file with the Marian University IRB as a matter of record. Please be mindful of the importance of reporting only de-identified, HIPAA-compliant information about the patient in any exhibit or publication.

Although researchers for exempt studies are not required to complete online CITI training for research involving human subjects, the IRB **recommends** that they do so, particularly as a learning exercise in the case of student researchers. Information on CITI training can be found on the IRB's website:

<http://www.marian.edu/academics/institutional-review-board>.

It is the responsibility of the PI (and, if applicable, the faculty supervisor) to inform the IRB if the procedures presented in this protocol are to be modified or if problems related to human research participants arise in connection with this project. Any procedural modifications must be evaluated by the IRB before being implemented, as some modifications may change the review status of this project. Please contact me if you are unsure whether your proposed modification requires review. Proposed modifications should be addressed in writing to the IRB. **Please reference the above IRB protocol number in any communication to the IRB regarding this project.**

A handwritten signature in black ink, appearing to read 'Amanda C. Egan'.

Amanda C. Egan, Ph.D.
Chair, Marian University Institutional Review Board

Appendix E
Mean Scores – All Mentoring Skills

Maintaining Effective Communication	Pre survey Mean score (Standard deviation)	Post survey Mean score (Standard deviation)	Difference (change in pre vs post mean)
Active listening	5.42 (1.31)	5.58 (1.16)	+0.16
Providing constructive feedback	4.83 (1.19)	5.50 (1.09)	+0.67
Establishing a trusting relationship	5.25 (1.29)	5.67 (0.98)	+0.42
Accommodating communication styles	4.50 (0.97)	5.25 (1.31)	+0.7
Employing strategies to improve communication	4.58 (1.31)	5.50 (1.00)	+0.9
Coordinating with others effectively	5.25 (1.14)	5.50 (1.00)	+0.2
Communicating clear expectations within a professional relationship	5.33 (1.23)	5.58 (1.16)	+0.25
Assess Expectations and Understanding			
Aligning expectations	4.42 (1.24)	5.58 (1.00)	+1.16
Considering personal and professional differences	4.50 (1.38)	5.58 (0.79)	+1.08
Working with other to set goals	5.42 (1.24)	5.83 (1.27)	+0.41
Helping others develop strategies meet goals	4.83 (1.34)	5.17 (1.03)	+0.34
Estimating others level of knowledge	3.92 (1.62)	5.00 (1.13)	+1.08
Employing strategies to enhance others knowledge and abilities	4.00 (1.35)	5.08 (0.90)	+1.08
Fostering Independence and Navigating Differences			
Motivating other	4.50 (1.17)	5.58 (1.08)	+1.08
Building others' confidence	4.75 (1.14)	5.33 (0.89)	+0.58
Stimulating others' creativity	3.67 (1.61)	5.00 (0.95)	+1.33

Acknowledging others' contributions	5.17 (0.94)	5.83 (0.94)	+0.66
Helping others navigate a path to independence	3.92 (1.44)	5.33 (0.89)	+1.41
Recognizing your own biases and prejudices	4.00 (1.41)	5.25 (1.22)	+1.25
Working effectively with others from different backgrounds	4.92 (1.56)	5.75 (0.97)	+0.83
Professional Development			
Helping others network	3.33 (1.56)	4.70 (1.14)	+1.37
Helping others set career goals	4.08 (1.73)	5.25 (1.06)	+1.17
Helping others balance work/life	4.08 (1.24)	5.17 (1.40)	+1.09
Understanding your impact as a role model	4.50 (1.24)	5.58 (1.00)	+1.08
Helping others acquire resources	3.92 (1.51)	5.50 (1.00)	+1.58

Appendix F
Wilcoxon Test Inferential Statistics

Overall confidence level

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
pretestoverall	12	4.00	1.414	2	7
posttestoverall	12	4.92	.996	3	7

Ranks

		N	Mean Rank	Sum of Ranks
posttestoverall - pretestoverall	Negative Ranks	1 ^a	3.00	3.00
	Positive Ranks	8 ^b	5.25	42.00
	Ties	3 ^c		
	Total	12		

a. posttestoverall < pretestoverall

b. posttestoverall > pretestoverall

c. posttestoverall = pretestoverall

Test Statistics^a

	posttestoverall - pretestoverall
Z	-2.373 ^b
Asymp. Sig. (2-tailed)	.018

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Overall ability to meet mentees expectations

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
pretestexpectations	12	4.00	1.414	2	7
posttestexpectations	12	5.17	1.193	3	7

Ranks

		N	Mean Rank	Sum of Ranks
posttestexpectations - pretestexpectations	Negative Ranks	1 ^a	2.50	2.50
	Positive Ranks	9 ^b	5.83	52.50
	Ties	2 ^c		
	Total	12		

a. posttestexpectations < pretestexpectations

b. posttestexpectations > pretestexpectations

c. posttestexpectations = pretestexpectations

Test Statistics^a

	posttestexpectations - pretestexpectations
Z	-2.626 ^b
Asymp. Sig. (2-tailed)	.009

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Appendix G

Permission Letter from University of Wisconsin- Madison

From kenspencer2@wisc.edu

1/14/2021 12:40 PM

Dear Angelica,

Thanks for contacting our team! Yes, you have permission to use our pre and post instruments. We just ask that you acknowledge our work by providing the citation to the Mentor Competency Assessment (MCA) manuscript and indicating that the instrument was adapted, if applicable.

Fleming M, House S, Shewakramani Hanson V, Yu L, Garbutt J, McGee R, Kroenke K, Abedin Z, Rubio D.M. [The mentoring competency assessment: Validation of new instrument to evaluate skills of research mentors.](#) *Acad Med.* 2013;88(7):1002-1008.

The MCA in its current form has been validated; while you may remove and/or edit items, doing so will invalidate the scale. If you are planning to create asynchronous educational modules, I would also like to share a link to the online course developed by our colleagues at the University of Minnesota: Optimizing the Practice of Mentoring.

<https://www.ctsi.umn.edu/education-and-training/mentoring/mentor-training>

This online module is freely available (you just need to create a guest account with the university) and may be useful as you develop your project.

Best regards,

Kim

Kim Spencer, MS

Assistant Director, Research & Evaluation

National Research Mentoring Network Coordination Center

<https://nrmnet.net>

Center for the Improvement of Mentored Experiences in Research (CIMER)

<http://cimerproject.org/>

Institute for Clinical and Translational Research (ICTR)

<https://ictr.wisc.edu/mentoring/>

University of Wisconsin-Madison

School of Medicine and Public Health

2112 Health Sciences Learning Center

750 Highland Avenue | Madison, WI 53705