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The Value of an Established Nursing Mentorship Program for Novice Pre-Licensure Undergraduate Nursing Students

Christina Morgan

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THE VALUE OF AN ESTABLISHED MENTORSHIP
PROGRAM FOR NOVICE PRE-LICENSURE
UNDERGRADUATE NURSING STUDENTS

An Evidence-based Practice Capstone Project

Submitted to the Faculty of the

Graduate Program in Nursing

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Nursing

Christina Morgan

Messiah College

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Messiah College
School of Graduate Studies
Graduate Program in Nursing

We hereby approve the Capstone Project of

Christina Morgan

Candidate for the degree of Master of Science in Nursing

Louann B Zinsmeister, PhD, RN, CNE
Professor of Nursing
Director of Graduate Program in Nursing
Capstone Advisor

August 18, 2018

Anne B. (Nancy) Woods, PhD, MPH, RN
Professor of Nursing
Chairperson, Department of Nursing

August 18, 2018

Title of Capstone Project: The Value of an Established Nursing Mentorship Program for
Novice Pre-Licensure Undergraduate Nursing Students

Author: Christina Morgan

Capstone Advisor: Dr. Louann Zinsmeister

Capstone Approvers: Dr. Louann Zinsmeister
Dr. Anne B. Woods

The purpose of this literature review is to discover the effect that a mentor relationship can have on novice pre-licensed undergraduate nursing students and provide recommendations for future mentor programs. The studies reviewed had to meet specific criteria including: found in scholarly peer reviewed journals, original research studies or systematic reviews, and current literature, completed within or near five years. There were ten pieces of evidence reviewed which included one randomized-controlled trial, four quasi-experimental studies, four qualitative studies and one integrative review. Participants in the primary studies included undergraduate nursing students (mentees) and the mentors which were the more experienced nursing students or graduate nursing students. The pieces of evidence were analyzed and critiqued and given both a level and quality rating. There were three major themes that emerged from the evidence. The first theme that emerged was peer mentoring having a considerable decrease in stress and anxiety and an increase in self-efficacy for mentee nursing students. The second theme was the improvement in academic and clinical performance of undergraduate mentee students enrolled in a mentor program and the role of mentors as role models. The last theme that surfaced was the need for both the mentor and mentee to be better organized, encouraged and supported in their roles within the mentorship program. This literature review provided evidence that can be used to promote and grow mentorship programs within nursing school facilities. Further research is

needed to investigate how to best implement mentor programs into an undergraduate nursing program.

Keywords: mentoring, nursing mentor, mentor program, undergraduate nursing mentorship

DEDICATION

I dedicate this Capstone project to my husband Troy who has supported and inspired me throughout this entire process of gaining my Master's degree. I would also like to thank both of my parents for always encouraging me through all of my educational endeavors.

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I want to thank Louann Zinsmeister, my Capstone advisor, professor and superb coach for all of the time and effort put into teaching and helping me to succeed with my Capstone project. Louann has been an extremely positive influence in my life and I am forever grateful.

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CHAPTER I

INTRODUCTION

Students that attend a college or university for nursing may or may not realize the rigorous work and elevated standards of academic performance that must be attained to earn a nursing degree. Students have reported increased stress when entering into nursing programs due to difficult courses and the high status of achievement (Demir, Demir, Bulut, & Hisar, 2014). Because of this extreme workload and difficult coursework, students must learn the importance of time management, critical thinking, organizational and study skills to name a few. To ease this transition for nursing students into the college and clinical setting of undergraduate nursing school, mentorship programs are being developed. Mentorship programs have been shown to decrease stress and loneliness for novice nursing students as well as to help students prepare and feel supported (Raymond & Sheppard, 2017). It has been suggested that mentorship could help to increase student's sense of belonging and sense of self-efficacy. By incorporating a peer mentor program into a nursing program, students have a contact person whom they may feel more comfortable approaching, easing their anxieties and perceived stressors.

Background and Need

Undergraduate nursing school is a time for students to develop their nursing skills and practice, but also, develop their emotional and spiritual selves as well. Students may experience stress, lack of self-efficacy and other psychosocial factors that affect their academic performance and well-being. Although literature summarizing the benefits of a peer mentor program has shown that such a program is effective, especially in the clinical setting, a better understanding of how a mentor program functions and affects students' stress in the educational setting is needed (Grobecker, 2015).

Peer mentoring is an available resource that is often untapped in nursing education despite the use of mentoring in other academic disciplines (Raymond & Sheppard, 2017). Nursing students often lack preparation for the difficult nursing coursework and stressors that go along with the everyday difficulties of being in a new nursing program (Wong et al., 2016). The concept of mentoring has been around for many years, but not all nursing programs have initiated it into their curricula (Dennison, 2010). Mentoring programs have been shown to reduce undergraduate students' anxiety and improve academic performance (Kim, Oliver, Riingen, Taylor, Rankin, 2013). Mentoring has been shown to help increase student's confidence in academics and to feel better understood and less intimidated (Zentz, Kurtz & Alverson, 2014).

Despite these key findings on the benefits of implementing a nursing mentorship program, there is still a lack of knowledge as to how to go about implementing a mentor program. A knowledge-gap noted is the need for collaboration among faculty, student bodies and project coordinators to successfully complete a mentor program design to promote professional development (Wong et al., 2016). In addition, evaluating a mentor program by the key stakeholders (mentees, mentors, faculty) is crucial in gathering data for improving the nursing program as a whole in both the academic and clinical arenas (Wong et al., 2016).

Another knowledge-gap identified is a need for updating the outdated mentor training programs already implemented into a nursing program. If a program is in place, one must continue to update the knowledge and skills for all mentors trained. Overall, Gray and Brown (2016) suggested that mentoring may be most effective when incorporated into a nursing program's strategic plan which included managerial support. Some have suggested that implementation of a mentor program into a pre-licensure undergraduate nursing program will not

only provide insight as to how a mentor program benefits the college, but will empower novice pre-licensed nursing students with the available tools to succeed when enrolled into a nursing program (Raymond & Sheppard, 2017).

Statement of the Problem

Undergraduate nursing students are at an increased risk for stress, anxiety and other challenges that accompany undergraduate school due to the many stressors of beginning a nursing program (Demir et al., 2014). To assist with these stressors, it may be important to implement a way for improving students' satisfaction with nursing as a career, which might allow for better academic performance (Kim, Oliveri, Riingen, Taylor & Rankin, 2013). A mentor program may be a method for students to cope with the stressors of coursework, and therefore is worthy of further investigation.

Purpose of the Study

The purpose of this evidence-based practice synthesis project was to critically appraise the best evidence available to find best practice with regards to establishing an effective mentorship program and the influence on students' perceived stress, anxiety and sense of self-efficacy within the undergraduate setting.

Conceptual Framework

This evidence-based practice synthesis project was grounded in Travelbee's conceptual framework of the "Human to Human Relationship" model (Travelbee, 1963). This model provided a perspective for the needs of nursing students entering into the undergraduate setting with little to no knowledge of what to expect. Travelbee's model strived to bring awareness to the compassion that a nurse often has for caring the patients themselves, but in this case, other nursing students. Travelbee's main goal was to assist individuals in coping with life experiences

and being a presence of hope. Travelbee also described the importance of communication in her model, which can also be transferred into a mentor-mentee relationship (Travelbee, 1963). An effective method to abide by Travelbee's human-to-human relationship model is to equip novice nursing students with the tools they need to succeed in their area of study.

Evidence Based Practice Question

The evidence-based practice question used to guide this synthesis investigation is: "Among pre-licensure undergraduate nursing students, does participation in a mentorship program versus no participation in a mentorship program influence the transition into an undergraduate nursing program?"

Significance to Nursing Education

Stress is a common occurrence for novice nursing students entering into the academic setting due to difficult courses, academic standings, lecturers and future endeavors. In implementing a mentor program for students with increased stress, increased coping, sense of belonging and self-efficacy was noted. Also included in a mentor program were motivating study strategies and information on other resources to assist with mentee's studying and research (Demir et al., 2014). Students enter into the college setting with little life experience, many having just graduated from high school. Finding a method to help students with this transition into the nursing education setting may be of help for both the students and the nursing program as a whole. Equipping students with the necessary tools to succeed in a nursing program, especially within the first or second year, may allow students to increase their sense of self-efficacy and decrease their feelings of anxiety, which in turn may help to increase academic performance and a higher satisfaction with nursing as a degree choice (Raymond & Sheppard, 2017). Mentoring also may help to foster a nurturing environment for students, benefiting

students for continued academic success. Mentoring could have the potential to guide students through role modeling, coaching and counseling (Kim et al., 2013).

Despite the suggested thought that a mentor program assists students with coping with stress and a variety of other positive outcomes, there has been no set standard in nursing curricula to suggest implementing mentor programs. There is also limited published research as to how to structure and produce a mentor program that is effective. This evidence-based practice change of implementing a mentor program could be the pivotal ground for opening up many opportunities that are both financially reasonable and valuable for nursing students. This evidence-based practice synthesis project aimed to gather and synthesize current evidence to uncover best practices to accomplish effective mentoring.

Definitions

Anxiety. An overcoming feeling of unease or worry in an uncomfortable or stressful situation.

Case study. A detailed examination of a situation found within medical practice.

Mentee. An inexperienced, unlicensed personnel in training to become a nurse.

Mentor. An experienced practitioner within the nursing field or with years of experience as a nursing student.

Mentor program. An organized arrangement for facilitating a mentor/mentee relationship.

Novice nursing student. Inexperienced personnel that is new to the nursing field.

Peer mentorship. A relationship that involves an experienced practitioner (mentor) and a less-experienced practitioner, a student (mentee) working together to facilitate a positive experience in the educational setting (Botma, Hurter & Kotze, 2012).

Pre-licensure undergraduate nursing students. Students enrolled in a diploma, associate degree, or baccalaureate nursing program who have not yet received their license to become a registered nurse.

Self-efficacy. An individual's belief about oneself to perform or attain a goal that was set forth.

Stress. A state of mental or emotional strain resulting from a difficult situation.

Transition. Adapting from an environment that one is familiar with, to an environment that one has not experienced before.

Chapter Summary

In this chapter, the knowledge gap regarding the implementation of mentor programs into college or university nursing programs was discussed. The evidence-based practice question was identified, along with the significance that a mentorship program has with regards to nursing education. Definitions for key words used throughout this evidence-synthesis project were given.

CHAPTER II

METHODS

Undergraduate nursing students are at an increased risk for stress, anxiety and other challenges that accompany undergraduate nursing school due to the many stressors of beginning a nursing program (Demir et al., 2014). According to Raymond and Sheppard (2017), many students that enter into a nursing program are unprepared for the rigorous coursework which includes the high demand of nursing courses and long hours of necessary study. In addition, there are many challenges to being a novice nursing student with regard to increased stress and maintaining a positive self-efficacy. To assist with these stressors, it may be important to implement a method for improving students' satisfaction with nursing as a career, which might allow for better academic performance (Kim, Oliveri, Riingen, Taylor & Rankin, 2013).

A mentor program may be a beneficial method for students to cope with the stressors of coursework. Mentoring involves a relationship between a mentor (typically more experienced) and a mentee (typically less experienced) with the intention of supporting and encouraging a positive experience in the educational setting. This readily available, and yet untapped resource, may be a successful strategy to benefit the mentor, the mentee, and the education program as a whole (Raymond & Sheppard, 2017).

The evidence-based practice question guiding this synthesis project was: "Among pre-licensure undergraduate nursing students, does participation in a mentorship program versus no participation in a mentorship program influence the transition into an undergraduate nursing program?"

An evidence-synthesizing design was used to address mentorship within the undergraduate nursing setting. There were pieces of evidence available on this topic, but few

conclusions had been drawn to suggest a practice change. An extensive review of the most up-to-date literature was the method for collecting the data and information. Peer reviewed articles that were recent and relevant to mentoring within the undergraduate setting were gathered. The evidence was selected, critically appraised and organized into themes.

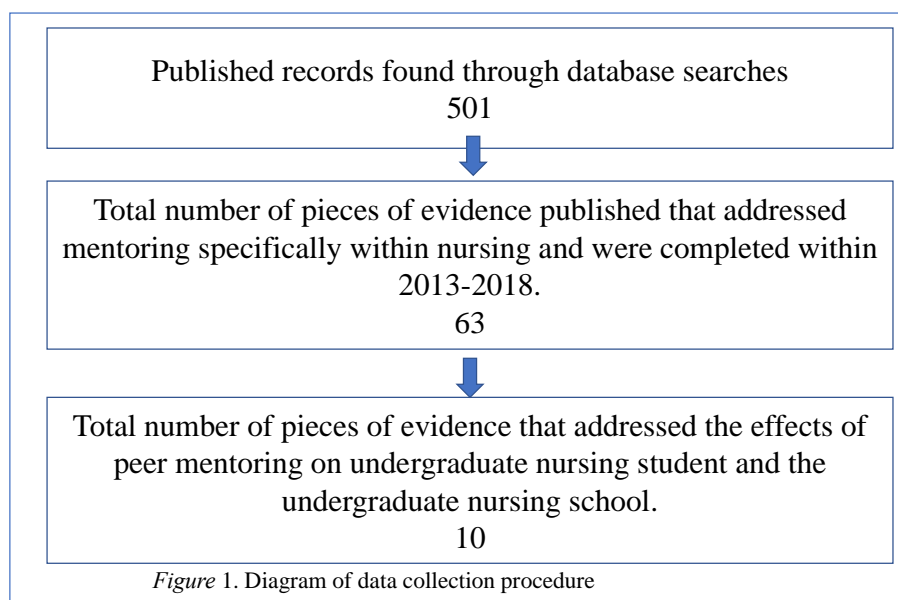
Data Collection

The published pieces of evidence were collected using three databases: CINAHL, PubMed and Cochrane. Published journal articles were found using keywords to guide the search including: mentoring, nursing student, undergraduate, mentor, stress and self-efficacy. From all three databases used, there were 501 published records found. Of those 501 records, 63 addressed mentoring, and specifically mentoring within nursing which were studied between the years 2013 to 2018. There were 10 pieces of evidence that fit the inclusion criteria for this evidence-based synthesis project (Figure 1). The 10 remaining pieces of evidence were chosen and analyzed as they addressed the effects of peer mentoring on undergraduate nursing students within the undergraduate nursing school setting.

Sample

The data chosen by the researcher for this evidence-based synthesis project was determined by the following inclusion and exclusion criteria.

Inclusion criteria. Evidence chosen needed to be relevant research which had been published within five years, if possible. The pieces of literature included keywords such as mentor, mentee, peer mentoring and nursing students. The evidence also addressed the effects of peer mentorship on undergraduate nursing students within the academic and/or clinical setting.



Exclusion criteria. Evidence was not chosen to be analyzed if it included mentoring within the post-graduate setting only, as the focus of this evidence-based synthesis review is on mentorship within the undergraduate nursing setting.

Data Analysis

After reviewing all of the pieces of evidence that addressed the evidence-based synthesis research question, the data were then analyzed using the Johns Hopkins Evidence Based Practice (JHEBP) model and tool. This model was created to organize and foster research into evidence after being critically appraised and can in turn be put into nursing practice (Dearholt & Dang, 2012). Both the non-research and the research JHEBP tool were used to analyze the pieces of evidence.

The JHEBP tool categorizes studies into five different levels. Level I studies are randomized controlled trials or experimental studies. These are the most rigorous studies available to researchers. Level II studies are quasi-experimental studies. Level III studies are

non-experimental studies (descriptive, comparative, or correlational) or qualitative pieces of evidence. Level IV studies are systematically developed recommendations from experts or based on research of a particular subject. Level V studies consist of published literature without a systematic appraisal of evidence quality or strength.

The JHEBP tool also includes a quality guide that rates the quality of the published piece of evidence. The quality guide includes ‘A, B, and C.’ An “A” quality article is a high-quality published article that gives consistent and generalized results. A sufficient sample size of the study design is indicated, there is adequate control, and there are consistent recommendations based on a comprehensive literature review that is based on scientific evidence. Evidence with “B” quality is considered good quality and includes reasonably consistent results, has an adequate sample size for the study design, and there is some control. The recommendations are reasonably consistent and there is a fairly comprehensive literature review included. Evidence “C” is considered low quality or having major flaws. Evidence with “C” quality gives little evidence with inconsistent results, an inadequate sample size for the study design and there are little to know conclusions that can be drawn (Dearholt & Dang, 2012). Overall, the JHEBP tool has been a useful instrument to help organize the evidence and synthesize the findings for this evidence-based practice research project.

Chapter Summary

This chapter summarized the methods used to critically research and analyze the most up-to-date literature available with regard to mentoring undergraduate nursing students. The data collection methods, sample, inclusion and exclusion criteria and the method for data analysis

were all described in detail. Lastly, the Johns Hopkins Evidence-Based Practice tool was described and explained.

CHAPTER III

LITERATURE REVIEW AND ANALYSIS

Undergraduate nursing school is a time for students to develop their nursing skills and practice, but also to develop their emotional and spiritual selves as well. Students may experience stress and other psychosocial factors that affect their academic performance and well-being. Fortunately, the concept of initiating mentor programs has been investigated in the last several years which may help to promote personal and professional development for undergraduate nursing students. Mentoring refers to a nurturing and trusting relationship between two people. This relationship involves an experienced personnel (mentor) and a less-experienced personnel or in this case, a student (mentee), working together to facilitate a positive experience in the education setting (Botma, Hurter & Kotze, 2012).

The evidence-based practice question guiding this evidence synthesis project was: “Among pre-licensure undergraduate nursing students, does participation in a mentorship program versus no participation in a mentorship program influence the transition into an undergraduate nursing program?”

Both the non-research and the research tools of the Johns Hopkins Evidence-Based Practice Model were used to analyze the evidence (Appendix A). Each piece of evidence was critiqued and analyzed to determine the level and quality rating of the evidence (Appendix B).

Three major themes emerged from the evidence in this literature review regarding how a mentorship program can influence student satisfaction and improve overall development. The first theme that emerged was the relationship between peer mentoring and stress, anxiety and self-efficacy in novice pre-licensed undergraduate nursing students. The second theme was the effect of academic and clinical performance of undergraduate mentee students enrolled in a

mentor program and the role that mentors have as role models. The last theme that surfaced was the need for both the mentor and mentee to be better organized, prepared, encouraged and supported in their roles within the mentorship program in a university or college setting.

Stress, Anxiety and Self-Efficacy in Novice Pre-Licensure Undergraduate Nursing Students

Mentoring has been shown to assist with decreasing nursing students' levels of perceived stress and anxiety, along with improving students perceived self-efficacy. Raymond and Sheppard (2017) completed a quasi-experimental study on peer mentorship among nursing students. The purpose of the study was to describe the effects of the mentorship experience on the perceived stress levels of nursing students, sense of belonging, self-efficacy, and feelings of loneliness. A study was conducted at an applied arts and technology school in Canada. The mentee participants included 70 first year female students of a baccalaureate nursing program (n = 34 in experimental group; n = 36 in control group). These students were all Caucasian and were 18 to 21 years of age. The mentees were recruited by direct solicitation in an undergraduate psychological elective class as predetermined by the researcher. Third year mentors were purposefully selected by professors within the nursing program.

The study performed by Raymond and Sheppard (2017) identified first year baccalaureate nursing students' perceived stress and self-efficacy levels, sense of belonging, and loneliness prior to being involved in a mentor program. Secondly, the study indentified the impact that mentoring has on stress, self-efficacy, sense of belonging, and feelings of loneliness. Questionnaires were administered before and after the quasi-experimental design and used to analyze the research questions. The students were introduced to the peer mentoring program and the program was implemented over a six-week period of time. The mentors were assigned five

to seven mentee students. Mentors were selected based on a number of factors, including academic performance and interpersonal skills (Raymond & Sheppard, 2017).

The instruments used included, the Perceived Stress Scale (PSS), the College Self-Efficacy Inventory (CSEI), Sense of Belonging-Psychological, Sense of Belonging-Antecedents, and the Revised UCLA Loneliness Scale (LS). The 10-item Perceived Stress Scale assessed students' perception of stress (Zajacova, Lynch & Espenshade, 2005). The 26-item College Self-Efficacy Inventory (CSEI) explored student's self-efficacy or confidence related to various aspects of college. The Sense-of Belonging Instrument (SOBI) was a 27-item tool that looked at the student's sense of belonging and motivation (Cohen, Kamarch & Mermelstein, 1983). Lastly, the Loneliness Scale was a 20-item scale designed to measure one's feelings of loneliness. Both the PSS and the SOBI tools were found to have internal consistency with a Cronbach alpha of > 0.85 (Russell, Peplau & Ferguson, 1978). The CSEI tool revealed a good model fit with an incremental fit index of ($f > 0.95$). After the pre and post questionnaires were administered, the data was analyzed using the IBM SPSS statistics for Macintosh, Version 22.0. A Chi square test was used to show the differences between the experimental and control groups. Most of the variables showed no significant demographic difference between both groups. The Wilcoxon matched paired signed rank test was used for comparing the pre and post test scores following the six-week peer mentoring sessions. The results reviewed from the Wilcoxon matched paired signed ranks test showed a statistically significant ($p < .05$) difference for the experimental group in all of the scales. PSS had a $p < .000$, SCEI had a $p < .000$, SOBI had a $p < .002$ and the LS scale had a $p < .000$. Both PSS and SOBI were statistically significant in the control group with a $p < .000$ and $.001$ respectively (Raymond & Sheppard, 2017).

The results indicated that the mentorship program delivered by third-year nursing students to first-year nursing students decreased their perceived stress and loneliness, and increased their sense of belonging and sense of self-efficacy. Raymond and Sheppard (2017) described how self-efficacy and stress are known predictors of academic outcomes. Furthermore, a statistically significant increase in students' self-efficacy was found.

This quasi-experimental research study is a Level II, Quality B. This quasi-experimental study lacked random assignments to groups posing a threat to the internal validity of the study beneath the category of selection bias. Also, no power analysis was performed or described in the study. In addition, the participants were only from one nursing program which posed a threat to the external validity of the study with regards to selection effects. This in turn affects the generalizability of the study. The study occurred for one school year which may or may not have posed a threat to maturation as the process was occurring over a year timeframe, posing a threat to the internal validity of the study. The authors described the mentorship experience as not specifically prescribed, allowing for varying degrees of contact between mentors and mentees and posing a threat to the measurement effects of the study. Overall, the study used surveys and questionnaires which showed statistically significant data. Raymond and Sheppard (2017) clearly included and discussed the steps towards performing this quasi-experimental study in detail.

Demir, Demir Bulut, and Hisar (2014) performed a quasi-experimental study in which the stress of nursing students was investigated. This piece of evidence by Demir et al. (2014) examined how nursing students in their early years of nursing school dealt with much stress and unease in starting a new program at an unfamiliar school. The study was conducted between the years 2010 to 2011 at a university in Turkey. The study was designed as a quasi-experimental

study with 66 first-year mentee students and 66 fourth year mentor students. The mentor program lasted 14-weeks. Study data were collected through a student information form, a mentoring assessment form, a locus of control scale and an inventory on the ways of coping. The student data form collected information on the mentees at the beginning of the mentoring program. The “Ways of Coping” inventory asked questions on specific stressful situations and how mentees would cope with this (Folkman & Lazarus, 1980). The “Locus of Control” scale assessed the individual’s beliefs on varying situations that may or may not be under one’s control (Dag, 2002). Lastly, the Mentoring Assessment form was completed at the end of the mentoring program, asking questions about strengths and barriers to the program (Demir et al., 2014).

The data was analyzed using the SPSS for Windows 16.0. The pre-test and post-tests were compared by a paired *t* test with a *p* value less than .05 as being statistically significant. After the data was analyzed, it was noted that the nursing students experienced less stress and an increased sense of internal locus of control. Students noted perceived benefits such as, “I was able to find answers to all of my questions.” Students also mentioned how their mentors became role models for them and listened attentively and were supportive (Demir et al., 2014).

Demir et al. (2014) found that the problem-focused/active coping increased and the emotion-focused/passive coping decreased for the students. Stress was approached in a more optimistic way rather than in a negative, defeated way. Overall, the results showed an increase in internal locus of control which paralleled with the students’ behaviors of seeking social support. Demir et al. (2014) concluded that mentoring programs should be used as an additional program within a nursing program as it supports the mentees for problem solving, self-confidence, adaptation, self-awareness and establishes positive relationships.

This study is a Level II, Quality B rating. The results were limited to a mentor program in only one nursing school which posed a threat to the internal validity, specifically, selection bias. This study also lacked random assignments to groups which posed a threat to the internal validity, specifically selection bias, and therefore the results cannot be generalized. Furthermore, the mentee students were not interviewed during the program to gain insight as to their experience. The mentees were asked limited feedback before and after the program which could lend a threat to the internal validity category of maturation. Lastly, the mentor and mentee weekly meetings were not structured the same and therefore lacks a controlled research setting, lending itself to a threat in the external validity of the study, specifically the measurement effects.

Overall, the conclusions given were definitive and related back to the purpose statement of the article. The literature review was fairly comprehensive and the study was clear and concise with regards to the methods, analysis and discussion sections.

Another study related to perceived stress within the undergraduate nursing setting was conducted by Grobecker (2015). The rigorous workload and increased responsibility of nursing students is a source of concern and stress for many nursing students. Grobecker (2015) used a descriptive correlational research design to examine the relationships between nursing students' sense of belonging and perceived stress among baccalaureate nursing students, specifically in the clinical setting. The study took place in Boston, Massachusetts in 2015. There were 1,296 volunteer nursing students enrolled in a baccalaureate of science in nursing (BSN) program that participated and were gathered through convenience sampling. The sample was taken from a nation-wide broadcast e-mail sent out to any nursing student who was a part of the National Student Nurses Association (NSNA) database. The sample included pre-licensure, baccalaureate

nursing students who were 18 years of age or older. Three measurement tools were used including the Belongingness Scale-Clinical Placement Experience (BES-CPE) which was a 34-item survey measuring belongingness of students, evaluating their feelings, cognition and behaviors (Levett-Jones, 2007). The perceived Stress Scale was also used which included 14-question related to students' perceived stress and anxiety (Cohen et al., 1983). Lastly, a demographic questionnaire was also given. The students were instructed to thoroughly complete the e-mailed survey. The data was analyzed using the IBM SPSS 21. After careful deletion of respondent's surveys that were either not completed fully or not meeting the inclusion criteria, a final analysis of 1,296 surveys was made (81% of the responding sample). Findings revealed a statistically significant low inverse relationship, ($r = -.277$) between sense of belonging and perceived stress. This indicated that as the sense of belonging variable increased, the perceived stress variable decreased. Some conclusions can be made from the results of this study, including the concept of a sense of belonging as a need for nursing students. This concept has a positive influence and impact on students. In addition, the sense of belonging aids in motivating, encouraging learning, and improving confidence of students. Lastly, perceived stress was shown to have a negative influence on student's overall well-being (Grobeck, 2015).

This study is a Level III, Quality B. The sample of students was selected using convenience sampling which is considered to be selection bias and posed a threat to the internal validity of the study. The total response rate from the database was 1595, with 286 respondents removed as they had more than 20% of the survey data missing, affecting the mortality rate which is a threat to the internal validity of the study. This study had threats to external validity, including an email distribution that had little control on reaching the intended group of subjects. It is also unclear as to the type of entry level BSN students that took the survey. Due to the

limitations, and the varying demographic findings from the various nursing programs and curriculums, these results cannot be generalized.

The expertise of the subject matter appears to be credible and draws definitive conclusions. A valid argument is presented from the survey response opinions of the nursing students. There was also a thorough explanation of the measurement instruments used in this study.

Kim, Oliveri, Riingern, Taylor, and Rankin (2013) conducted a similar study designed as a randomized controlled trial. This study aimed to evaluate the effects of graduate-to-undergraduate student mentoring on anxiety, self-efficacy, academic performance and satisfaction with nursing as a career. The study was done between 2009 and 2010 at a university in San Diego, California. Undergraduate nursing students were randomly assigned to the experimental or control groups. The experimental group received 20 hours of mentoring by registered nurses enrolled in a graduate program versus the control group who were undergraduate nursing students not enrolled in any mentor program. The instruments used included a State-Trait Anxiety inventory, which was a 20-item trait anxiety scale evaluating how the respondents felt on a 4-point Likert scale. This scale had a Cronbach's alphas of .92 (Spielberger, Gorsuch, Luchene, Vagg & Jacobs, 1983). A Baccalaureate Student Self-Efficacy Questionnaire (Goldenberg et al., 1997), and a demographic data form were also administered (Kim et al., 2013). All of the undergraduate nursing student participants completed a pre-questionnaire and a post-questionnaire.

Data were collected using SPSS version 18.0 and double checked for accuracy with a second person. The comparisons of the pretest topics of anxiety, self-efficacy and cumulative grade point average between both groups were made by an independent *t* test. One-way analysis

of covariance (ANCOVA) was used to evaluate the effect of mentoring on trait anxiety, nursing fundamentals score satisfaction, and career choice. After the data were analyzed, the results showed that the experimental group had lower trait anxiety, higher academic performance and satisfaction with nursing as compared to the control group. Conversely, the students' perceived self-efficacy was not significantly improved with the experimental group. In conclusion, the graduate-to undergraduate student mentorship in the experimental group had multiple positive effects, including improved satisfaction, lowered anxiety about nursing school and better academic performance (Kim et al., 2013).

Kim et al. (2013)'s piece of evidence is a Level I, Quality C rating. First, due to the nature of mentoring as an intervention, carrying out a blind randomized controlled trial was impractical as a study option. Secondly, there was a 33% dropout rate at the posttest which poses a threat to the internal validity of the study with regard to attrition. Next, there was a small sample size with an experimental group of $n = 34$ and a control group of $n = 17$. This small sample size poses a threat to the external validity of the study, specifically selection effects, and decreases the generalizability of the study. Also, the quality of mentoring throughout the study may not have been consistent, posing a threat to internal validity (Kim et al., 2013). Also, the study lasted for over one year (September 2009 to December 2010) possibly posing a threat to the internal validity of the study with regard to maturation. Lastly, the study was conducted at a single nursing institution, also limiting the generalizability of the study findings. Overall, a C rating for this study was given as it had a limited sample size, and generally was not the appropriate study design conducted for mentorship as the subject matter.

Mentorship - Academic and Clinical Performance

Zentz, Kurtz, and Alverson (2014) performed a quantitative descriptive study focusing on mentorship within the clinical setting. The purpose of the study was to evaluate the effectiveness of a peer-assisted mentor program with regard to learning in the clinical arena. The authors defined “peer-assisted learning” as learning between a more experienced student and a less experienced student. The authors of this descriptive study aimed to discover the outcomes from peer-learning and understand the students’ perceptions of fulfilling the roles of a nurse while in the clinical setting. This study began in 2014 at a university in Valparaiso, Indiana and lasted for two years. There were 342 student participants in the peer-assisted learning program. Senior nursing students as mentors were paired with students in the sophomore class and asked to participate in the sophomore clinical fundamentals course. The mentors were assigned to eight to ten students in the clinical setting, and upwards of 25 students in the academic setting when mentoring. Both the sophomore and senior nursing students completed a pre-and post-survey that included rating different questions using a Likert scale along with open-ended responses. The quantitative data was analyzed using the SPSS version 18 statistical software. The qualitative data were reviewed by experts in the field of nursing education (Zentz, Kurtz & Alverson, 2014).

Zentz, Kurtz and Alverson (2014) stated that the post experience survey was completed by 342 students which represented a response rate of 86.9% for the sophomore students and 81.9% for the senior participants. Zentz, Kurtz and Alverson (2014) described the most helpful and least helpful themes that emerged from the students’ experiences in this peer-assisted learning program. Sophomore students described beneficial experiences within the mentor relationship such as sharing knowledge and clinical stories. Students described having decreased

anxiety levels and increased confidence in their clinical skills. The sophomore students also found that the senior students were easily accessible to them which aided in improved academic and clinical performance. Major ideas that came from the senior students post questionnaires included feelings of accomplishment and encouragement. Seniors described how their confidence in their own clinical skills increased as they felt knowledgeable enough to teach sophomore students certain skills and protocols. Students also expressed that they felt helpful during this entire process and they noticed their leadership and teaching skills improved after being given this opportunity (Zentz, Kurtz & Alverson, 2014). In general, peer-assisted learning was shown to be an effective strategy for learning in the clinical setting and improving nursing student outcomes. The study also explained the importance of properly preparing students and faculty for their roles in a mentor relationship. In addition, the study suggested future research examine the impact of diversity on learning styles and the impact that peer-mentoring can have on relieving faculty burn-out (Zentz, Kurtz & Alverson, 2014).

This study is a Level III, Quality B rating. Peer debriefing of open-ended responses and themes that emerged was used to enhance creditability, dependability and confirmability of the study. This qualitative descriptive study had a high response rate for both sophomore and senior participants in the survey with vivid and descriptive open-ended responses and themes leading to a more transferable and authentic study. In the study, however, there was a lack of orientation to the peer-assisted learning program which may have had an effect on the outcomes measured (students' survey responses), decreasing the dependability of the study findings. In addition, there was no detailed description given to explain the survey measurement tools also decreasing dependability of the study. Overall, the outcomes were consistent and recommendations were given based on the study findings.

Wong, Stake-Doucet, Lombardo, Sanzone & Tsimicalis (2016) conducted an integrative review of peer mentorship programs for undergraduate nursing students. Eleven qualitative, quantitative and mixed method studies were reviewed for information regarding mentorship. All but two articles were from 2010 or earlier. The authors searched using six electronic databases for pieces of evidence. The program design, program implementation and evaluation were reviewed in all eleven studies and were placed in a table for comparison. Wong et al. (2016) reported that mentoring programs were developed from a desired need from the faculty and students within those particular nursing programs. Although there are needs that the mentor programs can work towards, the articles overall showcased the positive academic and clinical outcomes associated with peer mentorship programs. Some positive outcomes from all of the studies showed benefits in academic settings, social and mental health, professional and personal benefits. Some positive outcomes included improved collaboration, problem solving and improved communication skills. In addition, organizational and time management skills were also recognized as being benefits of students enrolled in mentorship programs. Wong et al., (2016) noted that many of these positive outcomes fortunately could transfer over into the professional nursing role and be of benefit to students in the role of a registered nurse. It was also described that challenges in designing and evaluating mentorship programs, such as the structure of the program or the orientation process of participants, was an issue. The researchers concluded that further research is necessary to demonstrate the effect of mentor programs in today's time. The development of these programs must be taken into careful consideration as a poorly organized mentorship program may not be beneficial. In addition, other potential benefits of peer mentorship should be researched, such as cost-effectiveness of peer mentorship programs and the potential for decreasing faculty office hours with a mentorship program in place.

This integrative review is a Level III, Quality B rating. This integrative review had two independent reviewers extracting data on characteristics of each study which enhanced the dependability of the review findings. The data analysis was completed based on vote counting and themes emerged from the coding process which gave more credibility to this integrative review. Peer review and debriefing was done with themes that were not prevalent but were found to be important giving the integrative review more credibility and confirmability. The integrative review included studies with poor rigor, validity and trustworthiness. The studies had limited explanations for methods used to illustrate how the authors produced the sample of data in many of the studies. Also, few studies derived were from within the past five years limiting the understanding of peer mentor programs to the current time (Wong et al., 2016). The authors concluded that, despite the limitations found in the studies, the findings support a design and implementation of peer mentor programs in undergraduate nursing education settings. Both mentors and mentees gave feedback in favor of implementation of mentorship within nursing programs (Wong et al., 2016).

Lombardo, Wong, Sanzone, Filion and Tsimicalis (2017) conducted a qualitative descriptive study exploring mentees' perceptions of an undergraduate mentorship program. The study was conducted in 2014 at a University Health Center in Quebec, Canada. The study was conducted using 41 mentees who had enrolled in the nurse peer mentorship program (NPMP) which involved being mentored by a nursing student who was at least one academic year above the mentee. The participants were gathered using convenience sampling, followed by snowball sampling. Ten women and one man participated in the interview process. These were full-time nursing students in varying years of education but all were being mentored at the time. Semi-structured interviews were conducted and member checking was done to confirm the findings.

The data were analyzed using the interview audio recordings which were transcribed verbatim, verified, coded and compared for consistency. The authors ensured that an inductive approach was used to generate emerging themes (Lombardo et al., 2017).

There were five major themes that emerged from this study and the first was the theme of transitioning through the uncertainties of life. Participants voiced their concerns over the competition that they noted between students and the lack of confidence in themselves with starting an intense nursing program. The second theme was the motivation to join the program. Mentees wanted to participate in NPMP to learn more about the nursing program, courses, and examination material. The third theme that emerged was helpful mentor behaviors. Participants highlighted the guidance that mentors offered to mentees from social activities to assist mentees in achieving their academic goals. Student evolution and transformation through mentorship was the fourth theme. Participants reported how mentors helped them to improve clinical skills and performance. The last theme that surfaced through this collection of interviews was the factors influencing mentorship. Mentees appreciated a more relaxed mentoring program, with limited structure allowing for flexibility and autonomy with the mentoring group. Elements that facilitated growth of the relationship included commonalities such as past educational experience, age and gender.

This study is a Level III, Quality B study. Member checking was initiated by the researchers leading to dependability and credibility of the study. Audio recordings were used to transcribe the data verbatim leading to the credibility and authenticity of the study data. Intercoder reliability checks were done to enhance the credibility and confirmability of the findings. The authors discovered themes from the data, but never discussed data saturation of the data collected, which would help with the credibility and transferability of the study. In

addition, the interview participants had transitioned into a mentor role which may have influenced their perceptions, leading to a decrease in authenticity of the data. Overall, there were strategies used to properly analyze and synthesize the data collected. However, there also needed to be a better explanation of the methods used to conduct the interviews to enhance the overall quality of the study.

Organization of Mentor Programs

Knowledge and understanding of how to implement and sustain a mentor program emerged as a common theme. A qualitative descriptive study involving peer mentoring was conducted by Botma, Hurter and Kotze in 2012 at a university in South Africa. The purpose of this research study was to find what the nursing school could do to improve their mentorship program. This study included two volunteer population groups; four mentors and 16 mentees. These participants were gathered through the nominal group technique within a descriptive research design (Delbecq, Van De Ven, & Gustafson, 1975). The mentors were postgraduate diploma nurses in critical care and the mentees were third-year undergraduate nursing students. The facilitator facilitated discussion with each participant by having them answer specific mentoring questions. The ideas were recorded verbatim in a chart and this continued until the ideas were exhausted. There was a round-robin phase where each participant contributed his/her ideas. The ideas were compiled and then ranked by each participant. The data from the discussion questions was qualitatively analyzed and grouped into themes. The three most important aspects that emerged from this data included orientation, organization and process of mentoring. Botma et al. (2012) discussed that the data showed participants wanted more of an orientation to their individual roles and guidance within their roles as mentors and mentees. The study found that guidance from the college or university with regards to expected outcomes from

the experience was needed. It was also necessary that the hospital facility supported mentor programs and allotted times for mentees and mentors to connect and bond initially. Ensuring that the mentees and mentors had time to get to know one another is an obvious necessity. Lastly, the characteristics of a mentor and mentee are crucial with regard to pairing up mentors and mentees. This was not discussed in detail and is a gap found in the literature which could be used for future research studies (Botma et al., 2012).

In addition, Botma et al. (2012) described the following as being necessary characteristics of a mentor: be an expert with advanced clinical skill, be a good communicator who is willing to teach, be confident and assertive and respect mentees. The discussion section in this study suggested a monitoring and evaluation system be implemented in universities. It was discussed that mentors should submit reports on mentees to help evaluate the mentorship partnership as a whole and how the mentee is improving. Recommendations were made: the need for a structured program to already be in place before promoting the mentoring program, the orientation of the mentors and mentees to their individual roles, open communication competence of mentors in their area and implementation of a feedback system (Botma et al., 2012).

This descriptive study is a Level III, Quality B. A very structured, four-step process was used with all three groups in the data collection process improving the credibility and authenticity of the study findings. Verbatim transcription was used along with member checking to enhance the credibility and dependability of the study. Two researchers checked that the recording of the data in the spreadsheet was done accurately, improving the credibility and the confirmability of this piece of evidence. There were five themes that emerged from the data that was identified using a quantitative ranking process determined by the participants. The ranking

process was similar to member checking which helped to enhance the credibility and dependability of the study. Source triangulation was discussed as well, lending to an increase in credibility and dependability of the study findings. Lastly, Botma and Kotze (2012) discussed that data saturation was not reached which may affect the credibility and transferability of the study findings.

To gain a new perspective on mentoring, Gray and Brown (2016) aimed to review a nurse mentor preparation program at a university in Northern Ireland. The aim of this qualitative study was to gain an understanding of the trained mentors and their supervisor's perspectives, understand what enhances the mentors' abilities to meet their role requirements, and to evaluate how the mentor preparation program influenced the quality of mentorship practice. A qualitative study involving four focus groups was undertaken and data was gathered using audio-recordings that were transcribed. The sample of mentors was taken from a group that had undertaken a mentor preparation program either as trainee mentors (n=5) or an experienced mentor (n=7). The sample of mentors worked within the nursing practice. The four focus groups gave participants an opportunity to reflect and debate among one another. Data was audio-recorded, transcribed verbatim and analyzed using the six-step, non-linear approach by Braun and Clarke (2006). Major themes that emerged from this study regarding the importance of a mentor preparation program included the fact that a new program led to increased confidence and the transfer of knowledge and skills into practice. Another key finding was that mentors identified that there was a need for updating the training program for mentors, as over time it was clearly outdated. Lastly, mentors need supported by managerial support and strategic planning in order for mentoring to be effective (Gray & Brown, 2016).

This qualitative study is a Level III, Quality B. The study used an appropriate analysis method, transcribed verbatim and anonymously improving credibility and authenticity of the study analysis and findings. Audio recordings were used which also increased the credibility and transferability of the findings. Member checking was used as well to enhance the dependability of the study. There may be some participation bias towards positive thinkers who may have been more likely to volunteer to be a part of this study on mentorship, posing a threat to the authenticity and dependability of the study (Gray & Brown, 2016). Overall, the study had minimal limitations lending itself to a well-developed and quality study.

Won and Choi (2016) conducted a qualitative analysis in two nursing schools at a University in South Korea. The purpose of this qualitative analysis was to identify and describe the mentor and mentee experience within a mentoring relationship. The sample included student mentors who were recruited for the study. The 15 mentor students were between the ages of 21 and 24 and had a 3.0 GPA. The mentor students received an orientation regarding the purpose of mentoring. The expectation was that both the mentor and mentees were to meet weekly for two hours over a three-month timeframe. After the program was completed, the mentors were invited to a focus group to share their qualitative experiences. The mentor participants were invited to a focus group for four sessions, and data was collected until they reached data saturation. The focus groups lasted between 60-90 minutes in length. During the group, the experiences of the mentors were explored through open-ended questions such as “What comes to your mind when you think of mentoring?” Other scenarios and situations were discussed such as conflicts, advantages and expectations of mentor relationships. The four themes discovered included: taking pride, guiding mentees, coping with conflicts, and building leadership. The overall core theme that emerged was self-growth as a leader. The results showcased the need for

improving leadership and self-reflection. The results implied that a regular peer-mentoring program could be beneficial to nursing students to facilitate the learning process as well as build nursing leadership skills amongst mentors (Won & Choi, 2016).

This study by Won and Choi (2016) is a Level III, Quality B study. The results of this study were analyzed using a qualitative content analysis. To attain trustworthiness of the findings, two researchers were used to code each transcript along with two professionals who were experienced in qualitative research. These researchers reviewed the process of analysis that was done. The process of qualitative analysis used began with the coding process, categorization to create themes and the the analysis to find the core themes that described the findings, connecting the coded themes. Intercoder reliability checks enhanced the credibility and confirmability of the study findings. In addition, Won and Choi (2016) mentioned in their limitations section that cultural differences may influence how mentoring occurs within an undergraduate nursing setting and therefore may inhibit the transferability of the study findings, as this study was set in South Korea (Won & Choi, 2016).

Chapter Summary

This chapter included critiqued and analyzed evidence that related to mentorship within nursing in the undergraduate setting. The first major theme was peer mentoring causing a considerable decrease in stress and anxiety and an increase in self-efficacy for mentee nursing students. The second theme discussed the improvement in academic and clinical performance of undergraduate mentee students enrolled in a mentor program and the importance of having role models. The last theme that surfaced was how mentor and mentees within mentorship programs could be organized, encouraged and supported in their roles at a college or university.

Conclusion

The project proposal, methods section and literature review were discussed in the first portion of this evidenced-based practice synthesis project. Three themes were identified and described from the evidence. A data summary table is provided in Appendix A and a level, quality of evidence table and the associated theme is provided in Appendix B.

CHAPTER IV

SYNTHESIS AND RESULTS

An evidence-based synthesis review was undertaken to collect and analyze data to answer the evidence-based practice question: “Among pre-licensure undergraduate nursing students, does participation in a mentorship program versus no participation in a mentorship program influence the transition into an undergraduate nursing program?” The purpose of this evidence-based practice synthesis project was to critically appraise the best evidence available to find best practice with regard to establishing an effective mentorship program. Three major themes emerged from the evidence in this literature review. The first theme that emerged was the relationship between peer mentoring, stress, anxiety and self-efficacy in novice pre-licensed undergraduate nursing students. The second theme was the effect of academic and clinical performance of undergraduate mentee students enrolled in a mentor program and the role that mentors have as role models. The last theme that surfaced was the need for both the mentor and mentee to be better organized, prepared, encouraged and supported in their roles within the mentorship program in a university or college setting. Appendix C provides the number of pieces of evidence at each level and the quality rating of each piece of evidence. The theme associated with each piece of evidence can be viewed in Appendix B.

There were four pieces of evidence that were critically appraised that helped to answer the evidence-based practice question regarding a decrease in stress, anxiety and increase in self-efficacy. One piece of evidence was a Level I, but was of C Quality and therefore cannot be used. Two pieces of evidence were Level II, Quality B. Both showed that the implemented mentoring programs increased students’ locus of control and active coping with stress and decreased students’ sense of loneliness. Both also showed an increase in self-efficacy and

coping (Demir et al., 2014; Raymond & Sheppard, 2017). Grobecker's (2015) study was a Level III, Quality B and findings revealed a statistically significant low inverse relationship ($r = -.277$) between sense of belonging and perceived stress. It was discussed that a sense of belonging is a fundamental human need, positively influencing students' learning, motivation, and confidence (Grobecker, 2015).

Improvement in academic and clinical performance was the second theme that emerged from the studies analyzed. All were Level III pieces of evidence and were considered Quality B. Zentz, Kurtz & Alverson (2014) findings identified decreased anxiety levels and increased confidence levels in the clinical setting. Students noted that looking back on their development as students raised confidence and helped to facilitate with their transition into the profession of nursing. Lombardo et al., (2017) found five major themes about mentorship including aiding in the transition for students, motivation in academia, guidance, student transformation, and appreciating a flexible mentor program. Wong's et al., (2016) study results showed mentorship improving communication and collaboration among students.

Organization and support necessary for a thriving mentor program was the final theme that emerged. The following two studies were Level III pieces of evidence with overall good quality. Botma, Hurter and Kotze (2012) derived themes from the research data that focused on the process of orientation, the mentoring process, characteristics of mentors and mentor feedback. Focus groups were also used to derive data from Gray and Brown's (2016) research study that identified major themes. The research from both pieces of evidence showed that a new mentor program led to increased confidence and a transfer of knowledge and skills into practice. It was also found that training programs needed to be updated, as an outdated program was not successful. Lastly, Wong et al., (2016) discovered in this Level III, Quality A study that

other positive outcomes that improved academic and clinical performance included improved collaboration, communication, problem solving, organization and time management skills. It was noted that peer mentorship for undergraduate nursing is a promising strategy to promote student success (Wong et al., 2016).

Chapter Summary

In this chapter, the results from the data collected were discussed. A synthesis of each piece of evidence was given along with the level (Appendix C). The three emerging themes were identified with a narrative synthesis of the evidence given. All but one of the pieces of evidence were of high or good quality which gave strength to the recommendations for the implementation of mentorship into nursing programs.

CHAPTER V

DISCUSSION AND CONCLUSION

Undergraduate nursing school is a time for learning and growing, but also comes with an increased sense of stress and anxiety for undergraduate nursing students. An evidence-based synthesis review was undertaken to collect and analyze data to answer the evidence-based practice question: “Among pre-licensure undergraduate nursing students, does participation in a mentorship program versus no participation in a mentorship program influence the transition into an undergraduate nursing program?” The purpose of this evidence-based practice synthesis project was to critically appraise the best evidence available to find best practice with regard to establishing an effective mentorship program and the influence on students’ perceived stress, anxiety and sense of self-efficacy within the undergraduate setting.

Limitations

There were few studies found that were randomized controlled trials which would give more rigor and trustworthiness to the concept of implementing mentorship programs into nursing schools. The majority of the studies synthesized were qualitative, lending to the nature of the researched topic on mentorship. In addition, many of the pieces of evidence were limited to one nursing program, or one group of people, limiting the generalizability and transferability of the studies themselves. Selection bias was also discussed as a limitation in many of the studies. There was a gap in the literature on identifying a sequence of steps for following-up with a mentorship program within an institution. Planning for a mentorship program was identified, but there is still an unknown as to best practice for ensuring the mentor program continues to thrive within a nursing program.

Recommendations for Nursing Education and Practice Change

The pieces of evidence examined as a whole gave evidence that the implementation of a mentorship program into an undergraduate nursing program is of benefit. Mentorship programs have been shown to increase students' overall self-efficacy, decrease stress and anxiety and increase one's sense of belonging (Raymond & Sheppard, 2017). The mentorship experience has the potential to enhance the student's academic and clinical experience along with assisting the college or university with retention and an overall good rating. Raymond and Sheppard (2017) described how self-efficacy and stress are known predictors of academic outcomes. Furthermore, a statistically significant increase in students' self-efficacy was found which would suggest students to have a higher degree of academic success than if they had not been a part of a mentor program. Lombardo's et al., (2017) study provided an understanding of the outcomes that occur when participating in a mentorship program. The study findings supported the need for a more detailed evaluation of a mentorship program which could be used in other educational institutions. This piece of evidence also provided insight into a nursing mentorship program, as it has the opportunity to produce outcomes such as academic, social, personal and professional growth (Lombardo et al., 2017). In addition, it is imperative for a plan to be set in place for follow-up of mentorship programs post implementation.

Recommendations for Future Research

Recommendations were made suggesting more support and attentiveness needed from educators and managers to raise awareness of the requirements of the mentor role and how to better support mentors needs (Gray & Brown, 2016). In addition, Lombardo et al., (2017) discussed future recommendations, including there being more research to find perceptions of other stakeholders, and the influence of a mentorship program leading to a transfer of affected

behavior into practice compared to those not in a mentorship program. In addition, further studies are needed to confirm who may benefit more from a mentorship partnership that is implemented into an undergraduate setting (Kim et al., 2013). Zentz, Kurtz & Alverson (2014) made a recommendation for analyzing diversity and learning styles of beginning students which may impact effectiveness of this mentorship strategy.

In addition, it was recommended that further research is needed among other populations such as students of other nursing schools or within other disciplines. These studies' overall findings could provide evidence-based resources and guidelines for successful peer mentorship planning, facilitating the learning process for mentees and improving upon mentors' leadership skills (Won & Choi, 2016). Lastly, more research is needed to investigate a broader range of nursing schools with the implementation of mentorship and its effects. This would allow for more generalizable results to then make practice changes within institutions at large.

Conclusion

The implementation of mentorship programs is one way to ease the transition for nursing students into the college and clinical setting of undergraduate nursing school. The evidence in this project has shown that mentorship programs have an effect on nursing students' perceived stress, sense of belonging and self-efficacy. In addition, mentorship programs aid in improving academic and clinical performance and help students become better prepared for entering into the real world in nursing. Mentorship programs have the potential to make a big change for colleges and universities looking to help students cope with the everyday stress and anxiety of nursing school and look to decrease retention of students. Mentorship is a cost-effective tool that has been shown to give students the ability to be more confident and determined to commit to their studies, along with enjoying their undergraduate nursing program. A primary characteristic

of nursing involves a caring and loyal individual, and this is one way to describe the role that a mentor plays for a mentee nursing student.

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Appendix A

Data Summary Table

Authors & Date	Evidence Type	Setting, Sample, Sample Size	Content	Study Findings that Help Answer the EBP Question	Limitations/Critique
Botma, Hurter & Kotze (2012)	Qualitative/ Descriptive	-School of Nursing, Faculty of Health Sciences, University of the Free State, South Africa -16 third-year nursing students -4 professional nurses registered for the postgraduate diploma as mentors	-Purpose: Describe interventions that will improve mentoring of third-year nursing students -Nominal group (NG) technique used. -Member Checking/co-coder confirmed thematic analysis of the combined data	- 5 Themes that emerged from this data included orientation, organization, process of mentoring, characteristic of mentors and feedback to mentors	-Small sample size due to data gathering occurring at the end of the semester and using an “over researched group” -Transferability is limited. - Data saturation was not reached
Demir, Bulut, and Hisar (2014)	Quasi-Experimental Study	-Gazi University, Faculty of Health Sciences, Turkey -66 first-year mentee students and 66 fourth year mentor students	- Study data were collected through a student information form, a mentoring assessment form, a locus of control scale and an inventory on the ways of coping. -Data Analyzed using SPSS for Windows 16.0	- Mentoring program increased students’ locus of control and active coping with stress	- Limited to results of a mentor program in 1 nursing school -Results cannot be generalized. - Mentees not interviewed during the program -Mentees asked limited feedback before and after the program
Gray & Brown (2016)	Qualitative Study	-School of Nursing, Ulster University, Belfast	- Aimed to review a nurse mentor preparation program	-Emerging themes: New program led to increased confidence and transfer	-Small sample size allowing for potential bias towards mentoring.

Authors & Date	Evidence Type	Setting, Sample, Sample Size	Content	Study Findings that Help Answer the EBP Question	Limitations/Critique
		<ul style="list-style-type: none"> -4 Focus groups (5 trainee mentors, 7 experienced mentors) -Audio Recordings transcribed 	and its effects from the trained mentors and their supervisors' perspectives	<ul style="list-style-type: none"> of knowledge and skills into practice. -Training programs needing to be updated Outdated mentor programs not successful 	-Recommended for further research to identify issues in more depth
Grobecker (2015)	Descriptive correlational research design	<ul style="list-style-type: none"> -MGH Institute of Health Professions, Boston, MA -1296 volunteer (convenience sampling) nursing students (enrolled in a BSN program) from the National Student Nurses Association (NSNA) database (clinical placement) -18 yrs of age 	<ul style="list-style-type: none"> -Measurement tools: BES-CPE, Perceived Stress Scale (PSS-10) and demographic questionnaire. -IBM SPSS 21 screened the data 	<ul style="list-style-type: none"> - Findings revealed statistically significant low inverse relationship ($r=-.277$) between sense of belonging and perceived stress. -Sense of belonging is a fundamental human need, positively influencing students' learning, motivation, and confidence 	<ul style="list-style-type: none"> -Unclear as to the type of entry level BSN students. -Findings cannot be generalized to all BSN students due to the varying demographic findings from the various nursing programs and curriculums
Kim et al. (2013)	Randomized Controlled Trial	<ul style="list-style-type: none"> -Southern California - Volunteer students enrolled in a nursing fundamentals course were randomly assigned to either experimental group. -Students assigned to experimental group received 20 hours of 	<ul style="list-style-type: none"> -Evaluate the effects of graduate-to-undergraduate student mentoring on anxiety, self-efficacy, academic performance and satisfaction with nursing as a career. - State-Trait Anxiety inventory, a 	<ul style="list-style-type: none"> - Lower trait anxiety, better academic performance, higher satisfaction with nursing as a career choice 	<ul style="list-style-type: none"> -Owing to the nature of mentoring as an intervention, carrying out a blind randomized controlled trial was impractical - 33% dropout rate at the posttest. - Quality of mentoring may not have been consistent - small sample size - Conducted at a single institution, limiting generalizability

Authors & Date	Evidence Type	Setting, Sample, Sample Size	Content	Study Findings that Help Answer the EBP Question	Limitations/Critique
		mentoring by a graduate mentor. -Total of 51 students, 34 in experimental, 17 in control groups	Baccalaureate Student Self-Efficacy Questionnaire, and a demographic data form. - pre-questionnaire and a post-questionnaire -Data Analysis: SPSS version 18.0		
Lombardo et al. (2017)	Qualitative/ Descriptive	-McGill University Health Center, Montreal, Quebec, Canada -41 mentee nursing students enrolled in an undergraduate mentorship program -Developed a nurse peer mentorship program (NPMP)	-convenience/ snowball sampling -semi-structured interviews with member checking -10 females/ 1 male in the interview process	-5 themes: 1. Aids in transitioning 2. Motivated to join a mentorship program for beneficial gains 3. Helpful guidance. 4. Student evolution and transformation through mentorship 5. Appreciating flexible mentor program	-All interview participants had transitioned into a mentor role, possibly influencing their perceptions -More research indicated to find perceptions of other stakeholders, and the influence of NPMP leading to a transfer of affected behavior into practice compared to those not in NPMP - Did not discuss data saturation in the methods section. -Needed a more detailed explanation of the methods used to conduct the interviews
Raymond & Sheppard (2017)	Quasi-experimental	70 first year students of a psychological elective class, female, Caucasian (18-21 yrs).	Tools: Perceived stress scale, the College Self-Efficacy Inventory (CSEI), Sense of Belonging-Psychological, Sense	- Reduced first yr nursing students' perceived stress/loneliness -Increased self-efficacy and sense of well-being	-Participants from 1 nursing program -Mentor experience was not specifically prescribed, allowed for flexibility which results in various degrees of contact with mentees

Authors & Date	Evidence Type	Setting, Sample, Sample Size	Content	Study Findings that Help Answer the EBP Question	Limitations/Critique
		Recruited by researcher (n=34 in experimental group; n=36 in control group) Cambrian College of Applied Arts and Technology, Ontario, Canada	of Belonging- Antecedents scale Peer mentoring Group over 6 wks. Pre/Post Questionnaires		
Wong et al. (2016)	Integrative Review Methodology	2016	-11 research studies included: Qualitative, Quantitative, Mixed Method. -All articles from 2010 or greater. -Integrative review methodology- studies reviewed using 6 databases	-Positive Outcomes: improved collaboration, communication, problem solving, organization and time management skills. -Peer mentorship for undergraduate nursing is a promising strategy to promote student success	-Unclear sampling decisions contributed to threats to external validity. -Poor methodological rigor, validity and trustworthiness - Despite the limitations, the collective findings support the design and implementation of peer mentorship. -Highlights importance of conducting future studies on peer mentorship to enhance the body of empirical evidence on this topic -Other topics: cost-effectiveness, preservation of faculty time
Won & Choi (2016)	Qualitative Study	-2 South Korean Nursing schools -15 mentors in a peer mentoring program ages 21-24	-Focus groups, collected data analyzed by content analysis	-Themes: taking pride, guiding mentees, coping with conflicts, building leadership	- Restricted generalizability of the results - Further studies needed on other populations such as students of other nursing schools or other disciplines needed

Authors & Date	Evidence Type	Setting, Sample, Sample Size	Content	Study Findings that Help Answer the EBP Question	Limitations/Critique
					-Restricted sample size
Zentz, Kurtz & Alverson (2014)	Quantitative, Descriptive study	-Valparaiso University, Valparaiso, IN. -342 students in the peer-assisted mentor program -2 senior students form an upper-level capstone course were assigned to a group of 25 beginning students in the virtual learning center. 10:2 ratio in the clinical setting	- Mentor-related study to evaluate the effectiveness of peer-assisted learning in the clinical arena -Pre/Post surveys using a Likert scale	-Findings: decreased anxiety, increased confidence levels in the clinical setting. -Seniors confidence levels increased	-Orientation to the peer-assisted learning program was lacking -Future research: diversity and learning styles of beginning students may impact effectiveness of this strategy

Appendix B

Evidence Level, Quality and Theme

Author (Year)	Evidence Level & Quality	Critique/ Analysis	Theme
Botma, Hurter & Kotze (2012)	Level III, Quality B	Insufficient sample size and did not meet data saturation. Weak study with a few conclusions that can be drawn. Unsure of this studies transferability.	Organization of Mentor Program
Demir, Bulut, and Hisar (2014)	Level II, Quality B	Consistent results with a sufficient sample size. Conclusions given were definitive and related back to the purpose statement of the article. The literature review was fairly comprehensive and the study was clear and concise with regards to the methods, analysis and discussion sections.	Stress, Anxiety and Self-Efficacy in Novice Students
Gray & Brown (2016)	Level III, Quality B	Member checking used to enhance rigor and trustworthiness. More detail on how and where the sample size of nurses used would enhance the dependability of the study findings. There may also be some participation bias towards positive thinkers who may have been more likely to volunteer to be a part of this study on mentorship. Due to the limited sample size, there is a lack of generalizability which is a threat to the external	Organization of Mentor Programs

		validity of the study findings as well.	
Grobecker (2015)	Level III, Quality B	Sufficient sample size given. The expertise of the subject matter appears to be credible and draws definitive conclusions.	Stress, Anxiety and Self-Efficacy in Novice Students
Kim et al. (2013)	Level I, Quality C	Appears to pass as a quasi-experimental study rather than an experimental study. Limited sample size.	Stress, Anxiety and Self-Efficacy in Novice Students
Lombardo et al.(2017)	Level III, Quality B	Reasonably consistent results with a sufficient sample size for the study design. Member checking allowed for strength in credibility and dependability.	Mentorship- Academic and Clinical Performance
Raymond & Sheppard (2017)	Level II, Quality B	Study using surveys and questionnaires lending to statistically significant data. Lacks random assignments to groups. Does have a control group.	Stress, Anxiety and Self-Efficacy in Novice Students
Wong et al. (2016)	Level III, Quality B	Few detailed methods for illustrating how the author produced the sample of data in many of the research studies which posed a threat to external validity. Also, few studies derived were from within the past five years limiting the understanding of peer	Mentorship-Academic and Clinical Performance

		mentor programs to the current time.	
Wong & Choi (2016)	Level III, Quality A	All parts of research clearly identified. Results cannot be completely generalizable, insufficient sample size. Consistent recommendations based on a comprehensive literature review.	Organization of Mentor Programs
Zentz, Kurtz & Alverson (2014)	Level III, Quality B	High response rate for both sophomore and senior participants in the survey and the open response portion of the study over a two-year period.	Mentorship- Academic and Clinical Performance

Appendix C

Data Synthesis

Level	# of Pieces of Evidence	Author/Quality Rating
<u>Level I:</u> Experimental study, randomized controlled trials (RCT), Systematic review of RCTs, with or without meta-analysis.	1	- Kim et al. (2013)- Low
<u>Level II:</u> Quasi-experimental study, Systematic review of a combination of RCTs and quasi-experimental, or quasi-experimental studies only, with or without meta-analysis.	2	- Demir, Bulut, and Hisar (2014)- Good - Raymond & Sheppard (2017)- Good
<u>Level III:</u> Non-experimental studies, Systematic review of a combination of RCTs, quasi-experimental and non-experimental studies, or non-experimental studies only, with or without meta-analysis. Qualitative study or systematic review with or without a meta-synthesis.	7	- Botma, Hurter & Kotze (2012)- Good - Gray & Brown (2016)- Good - Grobecker (2015)- Good - Lombardo et al. (2017)- Good - Wong et al. (2016)- Good - Wong & Choi (2016)- High - Zentz, Kurtz & Alverson (2014)- Good
<u>Level IV:</u> Opinion of respected authorities' and/or nationally recognized expert committees/consensus panels based on scientific evidence.	0	
<u>Level V:</u> Based on experiential and non-research evidence.	0	