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An Investigation of the Relationships between Self-directedness in Learning and Resilience Among Undergraduate Nursing Students

Lynn Marie Beeler
University of Tennessee, lbeeler4@utk.edu

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To the Graduate Council:

I am submitting herewith a dissertation written by Lynn Marie Beeler entitled "An Investigation of the Relationships between Self-directedness in Learning and Resilience Among Undergraduate Nursing Students." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Educational Psychology and Research.

Ralph G. Brockett, Major Professor

We have read this dissertation and recommend its acceptance:

Sandra J. Mixer, Jennifer A. Morrow, Gary J. Skolits

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

**An Investigation of the Relationships between Self-directedness in Learning and Resilience
Among Undergraduate Nursing Students**

A Dissertation Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Lynn Marie Beeler

December 2018

Dedication

This dissertation is dedicated to my family – my late husband Eddie, who always supported and encouraged me to learn and grow, my son, Sean and my daughter, Sara for letting me experience the kind of love only children can provide, my mom and dad for always being there and making me the person I am today.

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This journey has been filled with much self-directedness and resilience but I could not have accomplished any of this without the love and support of my family and friends. I am also grateful for all of those who have provided support and guidance along the way.

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To my colleagues at the College of Nursing, especially Dr. Carrie Bailey, Robin Hicks, and Dr. Shelia Swift, and my family at On the Rocks, especially Myrna, thank you for your support throughout this process. I am deeply grateful for your friendship and never ending support. You have helped me in more ways than you will ever know.

Abstract

Nursing is a demanding and dynamic profession with emotional challenges of seeing human suffering and which requires an enormous amount of ever changing knowledge in order to provide optimal care (Herd et al., 2016; Salmond & Echevarria, 2017). Nurses must possess both self-directedness, to maintain the current knowledge and skills, and resilience, to overcome the obstacles in their daily practice. The current and projected nursing shortage has forced the nursing profession to search for alternatives to increase the number of RN to meet demand. Accelerated Bachelor of Science in Nursing (ABSBN) programs have been developed in an attempt to meet that growing demand (Cangelosi & Whitt, 2005). ABSN students are adult learners and their educational and life experience make them different from traditional students so that using the same teaching methods may not be appropriate (Knowles, 1989; Tanner, 2002; Young & Diekelmann, 2002).

The purpose of this study is to investigate the relationship between self-directedness and resilience among undergraduate nursing students. Participants ($n=78$) were undergraduate nursing students at a large, four-year, public university in the southeastern United States. Participants completed the PRO-SDLS (Stockdale, 2003), measuring SDL, and the CD-RISC (Connor & Davidson, 2003), measuring resilience, as well as age, gender, type of nursing program, and highest degree earned prior to nursing program. Correlational tests, independent samples t-tests, MANOVA, and chi square tests were conducted to identify significant relationships and differences among these variables.

Results indicated a significant positive relationship between SDL and resilience ($r = .55$, $p < .001$). Participants who are highly self-directed are also highly resilient. Significant positive relationships were found among the PRO-SDLS four factors (initiative, control, self-efficacy, and motivation) and resilience. This study also found a significant difference between type of program and level of self-directedness, resilience, age, and highest degree earned.

Implications for practice include introducing the constructs of SDL and resilience to undergraduate nursing students, as well as developing nursing curriculum to foster self-directedness in learning and resilience. Recommendations for future research include a replication of this study using a larger, more diverse sample across multiple universities, and studies that would examine these constructs over time.

Table of Contents

Chapter One Introduction of the Study 1

Statement of the Problem 7

Purpose of the Study 9

Research Questions 9

Conceptual Framework 10

Self-Directed Learning 10

Resilience 11

Significance of the Study 13

Assumptions 14

Limitations 15

Delimitations 15

Definition of Terms 16

Summary.. 16

Chapter Two Literature Review..... 18

Evaluating Existing Literature 18

Undergraduate Nursing Education 19

Self-Directed Learning 24

Measuring SDL..... 28

Self-Directed Learning Readiness Scale (SDLRS) 29

The Self-Directed Learning Readiness Scale in Nursing [SDLRS-NE]..... 31

The Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS)..... 35

Resilience 40

Measuring Resilience 45

The Connor-Davidson Resilience Scale CD-RISC 45

Connection between SDL and Resilience..... 48

Conclusion 50

Chapter Three Method..... 51

Research Design..... 51

Population and Sample 52

Procedure 53

Risks and Benefits of Participation..... 55

Instrumentation	55
Data Collection	57
Data Analysis	58
Summary	60
Chapter Four Data Analysis	61
Overview of the Sample	61
Demographics	61
Instrumentation	63
PRO-SDLS	63
Reliability	65
Validity	66
CD-RISC	66
Reliability	67
Validity	67
Analysis of Research Questions	68
Research Question 1	68
Research Question 2	70
Research Question 3	71
Research Question 4	75
Open Ended Questions	79
Conclusion	80
Chapter Five Summary and Conclusions	81
Summary of the Study	81
Major Findings	84
Discussion	85
Implications for Practice	88
Future Directions for Research	91
Conclusion	93
References	94
Appendices	117
Appendix A Permission to Reprint Richardson Resilience Model	118
Appendix B Demographic Questionnaire	119

Appendix C A Learning Experience Scale (PRO-SDLS)	120
Appendix D Content of the Connor-Davidson Resilience Scale	122
Appendix E Permission to Utilize the PRO-SDLS Instrument	123
Appendix F Permission to Utilize the Connor-Davidson Resilience Scale	125
Appendix G Permission to Recruit Participants	129
Appendix H Invitation to Participate in a Study	130
Appendix I Informed Consent Statement	131
Appendix J SCORING A Learning Experience Scale (PRO-SDLS)	133
Vita	135

List of Tables

Table 2.1 PRO-SDLS Cronbach’s alphas	39
Table 2.2 CD-RISC Cronbach’s alpha	47
Table 3.1 Research Question and Data Analysis	59
Table 4.1 Descriptive Statistics of Participants: Age and Type of Nursing Program.....	62
Table 4.2 Descriptive Statistics of Participants: Gender and Type of Nursing Program	62
Table 4.3 Descriptive Statistics of Participants: Degrees earned prior to Entering Nursing Program	63
Table 4.4 Comparison Scores for the PRO-SDLS	64
Table 4.5 PRO-SDLS Composite Score Comparisons.....	64
Table 4.6 PRO-SDLS Reliability – Cronbach’s Alpha.....	65
Table 4.7 Comparison Scores for the CD-RISC	66
Table 4.8 CD-RISC Composite Score Comparisons.....	67
Table 4.9 CD-RISC Reliability – Cronbach’s Alpha.....	67
Table 4.10 Pearson’s product-moment correlation coefficient (r) between PRO-SDL and CD-RISC	69
Table 4.11 Pearson’s product-moment correlation coefficient (r) between CD-RISC and factors of PRO-SDL	70
Table 4.12 Comparison Scores for CD-RISC by Type of Program	71
Table 4.13 Comparison Scores for PRO-SDL by Type of Program	72
Table 4.14 Comparison Scores for PRO-SDL factors by Type of Program.....	74
Table 4.15 Summary Table from MANOVA for PRO-SDL factors by Type of Program ..	74
Table 4.16 Age, Means and Standard Deviations by Type of Program.....	75
Table 4.17 Sex by Type of Program	76
Table 4.18 Highest Degree Earn Prior to Entering Nursing by Type of Program	78

List of Figures

Figure 1 Hiemstra and Brockett’s PPC Model (2012)..... 11

Figure 2 Richardson’s Resilience Model (2002)..... 12

Chapter One

Introduction of the Study

The world of healthcare today continues to change at an amazing rate. The only constant in the healthcare system today is change (Herd et al., 2016; Salmond & Echevarria, 2017; Hader, 2013). Nurses are the largest regulated providers of care within the healthcare system. In 2014, the Bureau of Labor Statistics noted that there were 11.8 million workers employed in healthcare occupations with registered nurses (RN) accounting for 2.7 million, the largest healthcare occupation. The Bureau of Labor Statistics' Employment projections 2014-2024 listed registered nursing as one of the top occupations in terms of job growth with the expected growth to exceed sixteen percent by 2024. Many factors are driving this projected growth such as the aging baby-boom population, longer life expectancies, and increasing rates of chronic medical condition requiring ongoing care (Bureau of Labor Statistics, 2017). By 2024, the American Nurses Association (2014) estimates the total number of job openings for RNs will reach nearly 1.1 million. Juraschek et al., (2012) also found that by 2030 there will be significant nursing shortages throughout the country, estimating a deficit of more than 900,000.

There are many reasons contributing to the projected registered nurse (RN) shortage including the aging of America creating an increase in older adults, thus increasing the demand for more healthcare and more registered nurses (Carnevale et al., 2015). Along with the aging of American in general, the registered nurse workforce is also aging with more than 55 percent of the current registered nurse workforce being 50 years old or older. Nursing school factors include decreased enrollment of young adult in nursing programs, and a shortage of nursing school faculty, which is limiting enrollment. Job related factors such as high stress levels and inadequate staffing are leading to registered nurses leaving the profession adding to the shortage (ANA fact Sheet, 2014).

The current and projected nursing shortage has forced the nursing profession to search for alternative ways to increase the number of RN graduates to meet the demand. One alternative is the development of accelerated second-degree Bachelor of Science in nursing (ABSN) programs (DeBasio, Roberts, & Siler, 2008). ABSN programs are second-degree programs designed to encourage people who have a bachelor's degree in another field to enter the nursing profession through an intense, compacted program of classroom and clinical requirement in less than the traditional timeframe. Most programs are less than two years (Nugent & LaRocco, 2014).

ABSN programs have been around for more than 40 years with St. Louis University School of Nursing and Allied Health Professionals initiating the first program in 1971. Over the last 20 years these programs are growing exponentially. In 2012, the American Association of Colleges of Nursing noted that ABSN programs were available in 46 states plus the District of Columbia and Puerto Rico and there were a total of 255 accelerated baccalaureate programs with another 25 new accelerated baccalaureate programs are in the planning stages. These ABSN programs allow a person with a previous bachelor's degree and the required perquisites to complete the program in twelve to eighteen months, depending on the program. The traditional bachelor of science in nursing (TBSN) programs have more prerequisites and are two years in duration once the student enters the nursing program itself. With the significant increase in these programs there has been research including comparison of traditional and accelerated graduates (Bentley, 2006; Brewer et al, 2009, Roberts et al., 2001; McDonald, 1995; Youssef & Goodrich, 1996; Payne, 2013), student recruitment and student profile/demographics (Rouse & Rooda, 2010; Timer & Clauson, 2011), comparison of academic success to include grade point average and scores on exit HESI exam (Aktan et al., 2009; Bentley, 2006; Korvick et al, 2008; Payne et

al, 2014), and comparison of students' perceptions of the learning environment (Payne, 2013; Driessnack et al., 2011).

Understanding the demographics of ABSN students and how they differ from TBSN students can help faculty realize the differences in age, gender, and life experience that leads to the diversity in this group. This diversity creates some unique challenges for faculty when designing course work and teaching methods. Debasio, Roberts, and Siler (2008) conducted research to determine a demographic profile of the ABSN student, finding that 65% of ABSN students were under the age of 30, 23% being between the age of 30 and 40, 8% were age 40 to 50 and 3% were greater than 50 years old. Payne et al. (2014) found a significant difference in age, average age of TBSN students was 20 years old and average age of ABSN student was 27 years.

The ABSN students are adult learners and their educational experience as well as life experience makes them different from the TBSN students so that using the same teaching methods may not be appropriate (Knowles, 1989; Tanner, 2002; Young & Diekelmann, 2002). Shiber (2003) describes the development of a second-degree nursing educational model (ABSN) and mentions that these students have previous education, work, and life experience that change their approach to learning but that these factors are not being considered although they are important. She notes that there was an "assumption that a capable person who knows why learning is required will find a way to acquire that learning independently in a personally meaningful way" (p. 134). She implies that these students are more highly self-directed so the teaching methods should reflect this level of self-direction which is not currently occurring. Andragogy assumes that adult learners are more independent and self-directed as well as using their life experience as a source of learning (Merriam & Bierema, 2014).

Nursing is a demanding, dynamic, and ever changing profession that requires a great amount of knowledge in order to provide optimal care (Herd et al., 2016; Salmond & Echevarria, 2017; Hader, 2013; Fraher et al., 2015). Every 10 years, one-fourth of all nursing knowledge and nursing practices become obsolete and for technology the time to becoming obsolete can be as short as 18 months (Allen, 2008, p.13). Therefore, nurses must have the ability to be self-directed in their learning after they have completed their formal education in order to stay current and relevant with the evidence-based practices that provide the foundation for the delivery of the quality patient care.

Nursing education has long discussed and debated the value of SDL (Timmins, 2008; Tao et al, 2015; Embo, et al, 2014; Song, et al, 2015; Spies, Seale, & Botma, 2015; Shatto & Erwin, 2016; Bankert & Kozel, 2005; Horsfall, Cleary, & Hunt, 2012; Allen, 2010; Vess, 2015). The growing complexities of the healthcare system and the nursing profession along with the ever expanding knowledge base have challenged the “adequacy of traditional educational approaches” (Lekan et al, 2011). Traditionally, undergraduate nursing education has focused on the acquisition of the required knowledge and skills in a teacher-centered approach. Although the need still exists for the acquisition of minimally competent nursing knowledge and skill, students need to be able to utilize their life experiences as a part of their learning. With ever expanding nursing knowledge and the easily accessible online resources, a more learner-centered approach may be more beneficial to prepare the student for long term success. The use of learner-centered strategies has been demonstrated to improve student confidence, motivation, and retention of knowledge (O’Shea, 2003). Edmondson, Boyer, and Artis (2012) found in their research with undergraduate marketing students that self-directed learning is significantly and positively related to academic performance, creativity, curiosity, and life satisfaction.

Self-directed learning is one type of learner-centered approach. Self-directed learning has been defined as a “process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material sources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes” (Knowles, 1975, p. 18). The Partnership for 21st Century Skills (2009) has identified and emphasized the relevance of self-directedness as an essential skill for the 21st century. Unfortunately, the acceptance of a self-directed learning approach has been slow in undergraduate nursing education (Cadorin et al., 2012; Cadorin et al., 2015; Murad et al., 2010). The development of self-directed learning (SDL) skills should become an essential part of a lifelong strategy to use in formal educational settings, in the workplace, and in personal endeavors (Guglielmino, 2008).

Nurses are faced with suffering and tragedy every day as they deal with patients and families. Nurses play a significant role in assisting others, primarily their patients and families, in overcoming adversity. They must also deal with workplace adversity associated with excessive workloads, vertical and horizontal violence, complexities of the healthcare system, lack of organizational support, lack of professional autonomy, and emotional exhaustion (Grafton et al., 2010; McDonald et al, 2016; Thomas & Revell, 2016; Jackson et al., 2007). All of these challenges are associated with nurses leaving the profession (Cope et al., 2016; Jackson et al., 2007).

The adversity that nurses face daily can lead to enormous levels of stress. Having the ability to cope with the daily stressors and turn them into a positive learning/growing experience is described as resilience (Jackson et al., 2007; Richardson, 2002; Thomas & Revell, 2016; McDonald et al, 2016). Hodges et al. (2005) note that resilience is one of the key factors for

retaining nurses in the chaotic, ever changing environment of healthcare. They also found that resilient nurses manage their own response to stress in a healthy manner that allows them to deal with the adversity.

Nursing students face similar adversity as practicing nurses but there are added challenges and stressors. Some of the added stress is associated with the high levels of academic pressure and others are associated with their first exposure to clinical settings and caring for patients (Thomas & Revell, 2016). As students are exposed to human suffering, death and dying, and the need to apply newly acquired skills they experience stress. In many cases these new experiences cause them to reexamine their personal beliefs and values (Stephens, 2013). Nursing students need resilience to be able take the challenges and stress they encounter and turn it into a learning experience that assists them in moving forward in their development as a professional nurse. Resilience “requires time, coaching, nurturing, and an insistence by grounded faculty members that the nebulous outcome is worth the extra time, reflection, interactiveness, and challenge” (Hodges et al., 2005, p. 550).

Robinson (2003) explored the relationship between self-directed learning readiness (SDLR) and resilience among graduate students. She found a significant positive correlation between SDLR and resilience. She concluded from her findings that highly self-directed students possess a high level of resilience. One recommendation Robinson (2003) made was that the relationship between SDL and resilience be investigated in other adult populations.

An investigation of the possible link between self-directed learning and resilience in undergraduate nursing students has the potential to add to our understanding of how students learning in the face of adversity as well as identifying specific needs of nursing students that will enable them to move forward into the nursing profession poised for long-term success.

Statement of the Problem

Self-directed learning has been a major area of research within the Adult Education field for more than 40 years and within the nursing field for nearly as long. There is no doubt that the empirical data has demonstrated the importance of measuring self-directed learning in both adult education and nursing (Boyer et al., 2013; Edmondson et al., 2012; Embo et al, 2014; Horsfall et al., 2012; Lunyk-Child et al., 2001; Merriam & Bierema, 2014; Brockett & Hiemstra, 1991; Kocaman et al., 2009; Phillips et al., 2015; Song et al., 2015).

The concept of resilience emerged as early as the 1800's but research on resilience in health and illness began to emerge in the 1970s. It has only been since the early 2000's that nursing research has focused on resilience with much of the efforts being aimed at identifying factors that promote the development of resilience in nurses and program development that can foster that development (Cusack et al., 2016; Cross, 2015; Craigie et al., 2016; Hart et al., 2014).

Much research is available regarding the many challenges facing nurses in today's healthcare environment (Thomas & Revell, 2016; Tong & Epereter, 2018; Al-Dossary et al., 2014; Gifkins et al., 2017; Boamah & Laschinger, 2016; Tong & Epeneter, 2018). Nursing education should not be in the business of preparing nurses for today but preparing nurses for the challenges of tomorrow, preparing students for their transition to professional practice. Nurse educators must take a leadership role in preparing nurses for the many challenges they will face. We need to develop nursing students into strong, resilient, self-directed nurse leaders who are capable of not only surviving but thriving in a challenging healthcare environment. Fox, Henderson, and Malko-Nyhan, (2005) found that new graduate nurses experience significant stress in adjusting to the realities of nursing and the nursing environment. The question becomes

how do nurse educators prepare undergraduate nursing student for not only lifelong learning but also to thrive in the stressful, challenging environment they will face.

Upon completion of their nursing education, ABSN graduates enter the work force just as TBSN students do, as new graduate nurses. We know these new graduate nurses, both ABSN and TBSN, could be an answer to the nursing shortage but unfortunately many may not stay in the profession. Brewer et al. (2012) found that 15.4% of new graduate nurses left their first nursing job within the first year after graduation. Of the 15.4% who left their first employer, 14.5% did stay in nursing but changed employers. Almost one percent of new graduates no longer worked as a nurse after their first year. The cost to the healthcare organization to replace that new graduate nurse within the first year is estimated to range from approximately ten-thousand dollars to as high as eighty-eight thousand, depending on the nursing specialty (Li & Jones, 2013).

The piece that is missing is the relationship between adult education concepts like self-directed learning and positive psychology concepts like resilience. Three dissertation studies (Chuprina, 2001; Robinson, 2003; Piotrowski, 2017) have investigated the relationship between resilience and self-directed learning. Chuprina (2001) examined how people adapt to different cultures and she noted a significant relationship between emotional resilience and self-directed learning. Robinson (2003) examined resilience and self-directed learning in graduate students and found a positive significant relationship between self-directed learning and resilience. Piotrowski (2017) examined self-directedness and resilience in mid-level healthcare leaders and found a positive significant relationship between self-directed learning and resilience.

Understanding how certain character traits, personality strengths, or personal attributes such as

resilience influence a person's readiness for self-directed learning could assist educators in developing curriculum.

Since both self-directed learning and resilience in nurses are essential to their long term professional success, it is important to explore the relationship between self-directed learning readiness and resilience in undergraduate nursing students. This information will inform undergraduate nursing educators of any student deficits in these two areas and allow for educational strategies/approaches that could facilitate growth in both areas.

Purpose of the Study

The purpose of this study is to investigate the relationship between self-directedness in learning and resilience among baccalaureate undergraduate nursing students. This relationship may provide a better understanding of adult learning and how self-directedness in learning may relate to resilience. By investigating these relationships within nursing education, both educators and students can better understand how resilience and self-directedness in learning are related. This study will provide a greater understanding of the emotional and cognitive aspects of self-directed learning among adult learners.

Research Questions

The research questions guiding this study include the following:

1. What is the relationship between self-directed learning and resilience among baccalaureate undergraduate nursing students?
2. What is the relationship between resilience and the four factors of self-directed learning: Teaching Learning Transaction Components (TL); initiative and control and Learner Characteristics Components (LC); self-efficacy and motivation among baccalaureate undergraduate nursing students?

3. Is there a significant difference between SDL and resilience by type of program, TSN or ABSN?
4. Is there a significant difference between age, sex, and highest degree earned by type of program, TSN or ABSN?

Conceptual Framework

Self-Directed Learning

The SDL conceptual framework that provides the boundaries for this study is Hiemstra and Brockett's (2012) Person, Process, Context (PPC) Model of self-directed learning (see Figure 1). The PPC model is a revision of their previous PRO Model (Brockett & Hiemstra, 1991) that seeks to clarify terminology and incorporate social and cultural influences Merriam & Bierema (2014). The PPC Model is composed of three main elements; person, process, and context. Hiemstra and Brockett (2012) summarize person as including "characteristics of the individual, such as creativity, critical reflection, enthusiasm, life experience, life satisfaction, motivation, previous education, resilience, and self-concept" (p. 158). The process is summarized as involving "the teaching-learning transaction, including facilitation, learning skills, learning styles, planning, organizing, and evaluating abilities, teaching styles, and technological skills" (p. 158). The context is summarized as "encompassing the environmental and sociopolitical climate, such as culture, power, learning environment, finances, gender, learning climate, organizational policies, political milieu, race, and sexual orientation" (p. 158). These three elements do not occur in isolation, there is a "dynamic interrelationship between them" (p. 158).

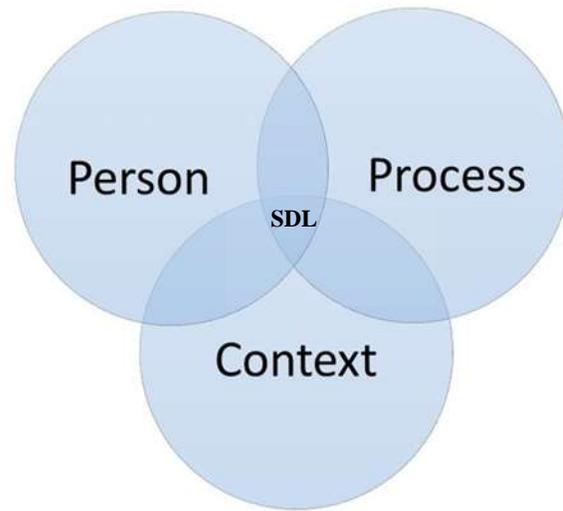


Figure 1 *Hiemstra and Brockett's PPC Model (2012)*

Resilience

The resilience conceptual framework providing the boundaries for this study is Richardson's resilience model which is presented in Figure 2. Richardson believes that the resiliency process is a life enriching endeavor in which stressors and adversity can provide an opportunity for growth and increase in resilience. Richardson's resilience model (2002) starts with the concept that a person lives in a state of "biopsychospiritual homeostasis where one has adapted physically, mentally, and spiritually to a set of circumstances, good or bad" (p. 311). This homeostasis is "routinely bombarded with both internal and external life events, stressors, adversity, opportunities, and other forms of change" (Richardson, 2002, p. 311). These events, stressors, and adversities cause a disruption in a person's homeostasis and force them to reintegrate, bring themselves back into homeostasis, in one of four ways. A person's ability to reintegrate or cope with the disruption is influenced by "successful and unsuccessful adaptations to previous disruptions" (Conner & Davidson, 2003, p. 76). The reintegration process results in one of four possible outcomes: resilient reintegration, reintegration back to homeostasis,

reintegration with loss, or dysfunctional reintegration (Richardson, 2002). In resilient reintegration the disruption is seen as an opportunity to grow and increase resilience. The adaptation leads to a new, higher level of homeostasis. In reintegration back to homeostasis there is a return to the original baseline homeostasis in an effort to just get through, survive, the disruption. In reintegration with loss there is a loss of resilience and ability to cope with similar disruptions, thus establishing a new, lower level of homeostasis. Finally, in dysfunctional reintegration the person uses maladaptive strategies such as self-destructive behaviors to cope with the disruption (Richardson, 2002; Conner & Davidson, 2003). Richardson (2002) includes protective factors/qualities in his model and these protective factors/qualities can buffer adversities. If the person has experienced and adapted to the same stressor or adversity previously then protective factors/qualities may be able to prevent any disruption.

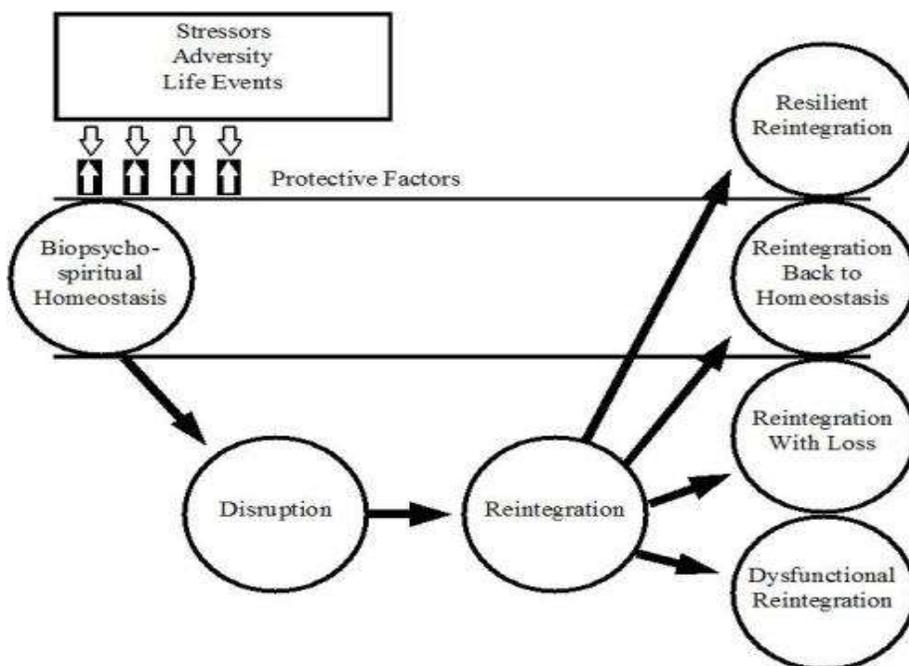


Figure 2 Richardson's Resilience Model (2002)

Reprinted with permission of the author (Appendix A).

The protective factors/qualities that Richardson described can also be viewed as attributes that are characteristic of the concept of resilience. Garcia-Dia et al. (2013) described attributes of resilience after conducting an extensive literature review of the uses of the term resilience and arrived at four attributes of resilience; rebounding, determination, social support, and self-efficacy. Rebounding is defined as the ability to bounce back after facing a life altering event (Gillespie, Chaboyer, & Wallis, 2007). Determination is defined as “an individual’s belief that they can overcome any hurdles they may face” (Garcia-Dia, et al., 2013). Social support is characterized as having at least one positive relationship with a significant person in your life that a person can rely on to express feelings and assist them in handling the adversity in their lives. Finally, self-efficacy is described as a person’s belief in their own ability to reach a goal or overcome challenges.

In examining the conceptual frameworks for this study it is possible to see a link between self-directed learning and resilience. A few studies focusing on the relationship of resilience and self-directed learning have been conducted. In a study of 148 graduate students, Robinson (2003) identified a significant relationship between self-directed learning readiness and resilience. Piotrowski (2017) found a significant positive correlation between the mean scores of the Self-Directed Learning Readiness and the Personal Resilience subscales of Positive: Yourself, Positive: The World, Flexible Thoughts, and Focused in a study of 68 mid-level healthcare leaders. The common concepts that underlie both conceptual frameworks include self-concept, self-efficacy, responsibility, and persistence or determination.

Significance of the Study

The significance of this study is to expand the understanding of self-directed learning through the exploration of other potential influencing variables related to self-directedness in

learning. “The potential relationship that could be established between adult education and positive psychology is located within the potential for human strengths to benefit the individual and sub-topics such as: hope, self-efficacy, creativity, self-determination, life satisfaction, wisdom, and resilience, are all crossover concerns for adult education” (Anderson & Brockett, 2008).

Both self-directed learning and resilience are essential to the longevity of a nurse’s professional practice so investigating their relationship may provide keys to understanding their importance in undergraduate nursing education. The expansion of the understanding of the relationship between self-directed learning and resilience in undergraduate nursing education can be utilized to develop curricula and faculty training programs that will assist faculty in the utilization of SDL and resiliency constructs to better prepare students for their professional roles. This study has the potential to contribute new knowledge about unique characteristics of undergraduate nursing students for future curricular decisions. Additionally, this study addresses an identified gap within the literature, where many have called for more research (Robinson, 2003; Stephans, 2012; Pitotrowski, 2017; Grafton et al., 2010).

Assumptions

Two assumptions underlie this study. First, it is assumed that resilience and self-directed learning among traditional and accelerated baccalaureate undergraduate nursing students can be identified and measured. Second, it is assumed that the two instruments used for this study, Stockdale’s PRO-SDLS and the Connor-Davidson Resilience Scale (CD-RISC) are both reliable and valid.

Limitations

The limitations of this study include the generalizability of the findings to other populations due to use of a convenience sample, sample size, and the small scale of the study. A second limitation is that the instruments used, the PRO-SDLS and the CD-RISC, are self-reporting instruments; therefore, the data obtained are only accurate to the degree that a person is willing to express their responses honestly, but may be influenced by social desirability or the desire to answer in the right way (Fowler, 2014, p. 94). This desire to answer the right way may be more exaggerated due to the fact that the researcher is on faculty at the college of nursing where the study will be conducted. Decreasing social desirability bias can be minimized by using anonymous, self-administered surveys in an online survey format rather than having an interviewer asking questions (Fowler, 2014, p. 95).

Delimitations

Several delimitations have been established as the boundaries for this study. First, the location of the study will be in a four-year traditional baccalaureate nursing program and a 12 month accelerated baccalaureate nursing program within a college of nursing, at a large, public University in the Southeast United States. The sample for this study will include only those individuals who meet the following set of predetermined criteria:

1. Participants must be currently enrolled in either the traditional four-year baccalaureate nursing program or the 12 month accelerated baccalaureate nursing program or recently graduated but not licensed yet.
2. Participants must voluntarily complete questionnaires;
3. Participants must be 18 years or older and sign an informed consent form.
4. The setting for this study will be the College of Nursing at a large, public university.

Definition of Terms

The following are key terms that are offered to clarify the use of selected terms for this study:

Self-Directed Learning - refers to both “the external characteristics of an instructional process and the internal characteristics of the learner, where the individual assumes primary responsibility for a learning experience” (Brockett & Hiemstra, 1991, p. 24).

Teaching Learning Transaction Component of Self-Directed Learning (TL) - a teaching and learning transaction in which the learner expresses agreement with actions that demonstrate proactively assuming primary responsibility for planning, implementing, and evaluating the learning process. Two factors, learner control and initiative, make up the TL construct (Stockdale, 2003).

Learner Characteristics Component of Self-Directed learning (LC) - an individual’s characteristics, beliefs, and attitudes that predispose one toward taking primary responsibility for their learning, defined for purposes of this study as a student’s perception of high self-efficacy for self-directed learning and intrinsic motivation for the learning activity (Stockdale, 2003).

Resilience - the process of coping with adversity, challenges, or changes in a manner that results in the “identification, fortification, and enrichment of resilient qualities” (Richardson, 2002). It “embodies person qualities that enable a person to thrive in the face of adversity” (Connor & Davidson, 2003, p. 76).

Summary

As the healthcare system continues to experience dramatic changes and nursing retention and turnover continue as significant concerns, there exists a gap in the research regarding self-directed learning and resilience that are concepts that contribute to nurses’ ability to succeed in

the 21st century healthcare environment. The significant relevance of lifelong self-directed learning skills and the concept of resilience as constructs necessary for longevity and success in the nursing profession have gained increasing attention in the field of nursing and nursing education in the last decade, deserve further research efforts. This study will investigate the relationship between self-directed learning and resilience in undergraduate nursing students. This may enable nursing educators to understand the importance of both constructs in the successful transition of the student to their professional role.

In this chapter, the researcher presented an introduction to the study, including the statement of the problem, purpose, significance, and the research questions, as well as addressed the theoretical frameworks, assumptions, delimitations, limitations, and definitions. In Chapter Two, the researcher reviews the literature related to SDL and resilience. Next, in Chapter Three, the researcher presents the research design including study population and sample, instrumentation, and data analyses. Then, in Chapter Four, the researcher presents the results of the data analysis, including a demographic profile of the sample and the inferential statistics related to the research questions. Finally, in Chapter Five, the researcher provides conclusions based on this research and offers recommendations for future research and practice.

Chapter Two

Literature Review

Chapter One identified the need to investigate pedagogies in undergraduate nursing education to adequately educate future professional nurses not only to do the job but to survive and thrive in the profession. The problem, purpose of the study, and theoretical frameworks providing the boundaries for the study were presented. Chapter Two is a review of the relevant literature related to self-directed learning and resilience, as well as connections between the concepts. The first section is a review of the literature related to nursing, undergraduate nursing education, and the nursing shortage. The second section is a review of the literature regarding self-directed learning and concepts of self-directed learning; self-management, desire for learning, and self-control. This section will also include discussion of the PPC Model (Hiemstra & Brockett, 2012) and the PRO-SDLS (Stockdale, 2003). The third section is a review of the literature related to resilience including discussion of the Richardson Resilience Model (Richardson, 2002) and the CD-RISC (Connor & Davidson, 2003). Finally, the researcher concludes this review by discussing how the constructs of self-directed learning and resilience are related to each other as well as to undergraduate nursing education.

Evaluating Existing Literature

A literature search was conducted from the year 2000 to August 2018 in the databases of Cumulative Index of Nursing and Allied Health Literature (CINAHL), PubMed, Web of Science, Scopus, and Google Scholar. Empirical studies relevant to self-directed learning, resilience, and undergraduate nursing education were identified. The search also included important studies prior to 2000 that laid the foundation for this study. Search terms utilized included different combinations related to self-direct learning, self-directed learning readiness, adult learning,

undergraduate nursing education, accelerated nursing programs, traditional nursing programs, nursing shortage, new graduate nurses, and resilience. The search was limited to empirical research studies published in peer reviewed journals and exclusion criteria included studies that were anecdotal, did not measure self-directed learning or resilience, did not involve healthcare professionals or students in healthcare professions, and lacked appropriate relevance to the focus of the literature review.

Undergraduate Nursing Education

According to the Bureau of Labor Statistics and the American Nurses Association (ANA) over one million vacancies will emerge for registered nurses between 2014 and 2022. They also project that by 2025 the shortfall will be “more than twice as large as any nursing shortage since the introduction of Medicare and Medicaid in the mid-1960s”. (ANA Fact Sheet on RN Shortage, 2014). The current and projected nursing shortage has forced the nursing profession to search for alternative ways to increase the number of RN graduates to meet the demand. Alternatives include increasing admissions to nursing program, the development of accelerated second-degree Bachelor of Science in nursing programs, as well as programs such as nurse residency programs to increase retention of new graduate nurses (DeBasio, Roberts, & Siler, 2008; Cope et al., 2016; Grafton et al, 2010; Tong & Epeneter, 2018).

Accelerated Bachelor of Science in Nursing (ABSN) programs have been developed to attempt to meet the growing demand for RNs (Cangelosi & Whitt, 2005). As noted in chapter one, ABSN programs are second-degree programs designed to encourage people who have a bachelor’s degree in another field to enter the nursing profession through an intense, compacted program of classroom and clinical requirement in less than the traditional timeframe, most programs are less than two years (Nugent & LaRocco, 2014). Although ABSN programs have

been around for more than 40 years, the number of programs continues to grow substantially. In 2016, there were 272 accelerated baccalaureate programs available at nursing schools nationwide. In addition, 24 new accelerated baccalaureate programs were in the planning stages (AACN, 2018). A 2016 survey performed by the AACN's found that 17,725 students were enrolled in accelerated baccalaureate programs, which represents an increase from 2015 when 16,662 students were enrolled. The number of program graduates has increased from 11,071 in 2015 to 11,823 in 2016.

The role of undergraduate nursing education, both in Traditional Bachelor of Science in Nursing (TBSN) and ABSN programs, is to prepare nurses for beginning, generalized practice as well as prepare them with the self-directed learning (SDL) abilities to successfully adjust and respond to the challenges they will face in practice (Yang & Jiang, 2014). Heraclitus, a Greek philosopher, a quote that seems very appropriate for the any healthcare professional and specifically for nurses, "change is the only constant in life" (as cited in Mark, 2010). Nurses are faced with a complex healthcare system where constant change is the norm not the exception (Herd et al., 2016; Salmond & Echevarria, 2017; Hader, 2013; Fraher et al., 2015).

Van Rensburg and Botma, (2015) state that "the half-life of medical/nursing knowledge is seven to ten years", the time in which half of what a nurse knows becomes obsolete, so without the desire and ability to continue to learn nurses would not be able to continue to deliver safe, high quality care that the patients deserve. This learning is dependent on the individual developing the ability to identify their own learning needs and then having the drive to learn and change (Chen et al, 2012). This internal, individual drive is known as self-directed learning and Fisher & King (2010) describe self-directed learning in terms of a person's acceptance of one's responsibility for one's own learning and a readiness to engage in the learning process.

Strayer and Beitz (2010) conducted a study using a comparative descriptive design to examine the relationship between selected independent academic and nonacademic variables and students' final pharmacology grades. There were actually examining factors that influence the acquisition of knowledge in traditional versus nontraditional nursing students in a pharmacology class. A convenience sample of nursing students enrolled in a junior level nursing pharmacology class at a university in a large city in the northeastern United States was utilized. The researchers administered the Assessment Technologies Institute standardized testing to measure knowledge acquisition. The Kolb Learning Style Inventory (LSI) instrument was used because of its well established validity and reliability. Three additional Likert-type items were also included to assist with distinguishing traditional from nontraditional students. SPSS for Windows was utilized to analyze data, alpha level of .05. The mean course grades were 85.33% (SD = 4.79%) for traditional students and 82.58% (SD =5.82%) for nontraditional students. Spearman rank correlation analysis was used to examine the relationships between course grade, program format, learning style, anatomy and physiology grade, self-reported overall GPA and the additional three Likert-style questions. This analysis resulted in statistically significant relationships. Because many nontraditional students have more financial responsibility as well as more family obligations this study showed a statistically significant inverse correlations with course grade and increased nonacademic responsibilities. There was also a weak significant negative correlation with program format and learning styles, which strongly suggests that the learning styles of the nontraditional students did not fit well with the teaching and testing methods of the course (Strayer, 2010). The limitations of this study include generalizability to other groups or settings because they used a convenience sample from a single school of nursing. Although this study has significant limitations, it can assist nursing faculty in better

understanding how nonacademic factors could play a significant role in a student's knowledge acquisition and ability to be successful.

There have been a few studies that have examined the educational environment in nursing education but their focus has been on the clinical educational environment (Driessnack et al., 2011; McCurry & Martins, 2010; Shin et al., 2015). Driessnack et al. (2011) examined the perceptions of the effective teaching-learning strategies in graduate nursing student from an accelerated nursing program and found that these students viewed themselves as “different” and therefore needed a different type of learning environment. Students noted they learned more effectively in a learner-centered environment. The findings also suggest that in a learner-centered environment students developed the skills for lifelong learning, an essential attribute for all nurses. McCurry & Martins (2010) designed an experimental study that examine whether innovative teaching assignments foster student engagement and are more effective than traditional assignments. They found that there was a statistically significant difference in meeting the course objectives when innovative teaching assignments were used versus traditional assignments. Shin, Sok, Hyun and Kim (2015) conducted a descriptive, cross-sectional comparative study to assess the effect of an active learning program on nursing competency and to identify areas for competency improvement. They found that students in the active learning group had much higher levels of competence and higher levels of clinical performance than students in the traditional learning group (Shin, Sok, Hyun, & Kim, 2015).

Bankert and Kozel (2005) conducted a study with two purposes; first was to examine how to transform the educational experience into an interactive pedagogy where there are caring relationships, critical reflection and the use of adult learning theories. The second purpose was to engage participants in “genuine partnerships”, self-discovery, and active involvement with

other participants and the faculty. This article brings adult learning theory together with the caring art of nursing and asks how it is possible to create learning environments where adult students can reach their potential in a collaborative effort with nursing faculty. The concept of collaborative learning gives nursing an alternative approach to nursing education; however is not used widely and needs to be researched to demonstrate whether or not these concepts are valid in a nursing classroom setting (Bankert & Kozel, 2005).

Murray (2016) raised the question “Do pedagogical approaches that incorporate active learning strategies foster increased student engagement and thereby promote academic success?” There is very little empirical research examining the relationship between pedagogy and academic success and “even less on the compressed learning experiences of an accelerated program of learning” (Millett et al., 2015). Both Reyes (2008) and Popkess (2010) conducted studies that ultimately found that pedagogy has an effect on the level of student engagement and on academic success in the course. Active, learner-centered teaching methods foster the development of problem-solving skills and critical thinking as well as mastery of concepts (Popkess, 2010; Shin et al., 2015; Wagner, 2014, Millett et al., 2015). Getting the student actively involved in learning increases the ability to more deeply understand content (Shin et al., 2015; Wagner, 2014).

Spies et al., (2015) conducted a qualitative descriptive study to examine second-degree students’ simulation experience and to determine whether or not they possess adult learner “conduct” as described by Knowles (1975). They found that the students possessed some level of self-directedness and independent behavior but they also demonstrated evidence of dependent behavior. They concluded that teachers needed to more deeply understand the learning process because a “mismatch between teachers’ perception of mature students and the student’s actual

approach to learning” and this “mismatch” can lead to frustration on both sides (Spies et al., 2015). This study reiterates the need for teachers to assess their student and develop teaching methods/strategies that fit these students. It is not a one size fits all approach.

Although there has been some research examining the rapidly growing accelerated nursing program model much more needs to be done. There needs to be more extensive research so that nursing can guarantee that accelerated programs are academically sound, evidence-based programs that can meet or exceed the expectations and needs of the nontraditional student as well as meeting the needs of a demanding healthcare environment. Pedagogical approaches in nursing education should be based on empirical research rather than traditional and untested practices (Tanner, 2002).

Self-Directed Learning

Self-directed learning has been defined as a “process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material sources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes” (Knowles, 1975, p. 18). This foundational concept leaves the door wide open for unlimited “interpretations of what SDL is and how it could and should be applied” (Tennant, 2006, p. 7). Brockett and Hiemstra (1991) gave a more concise and usable definition of “self-direction in learning refers to both the external characteristics of an instructional process and the internal characteristics of the learner where the individual assumes primary responsibility for a learning experience” (p. 24).

As was mentioned in Chapter One, Hiemstra and Brockett’s (2012) Person, Process, Context (PPC) Model of self-directed learning (SDL) will be used the framework for this study. Utilizing the PPC Model will help to clarify the three elements that interact when self-directed

learning occurs. The PPC Model is composed of three main elements; person, process, and context. Hiemstra and Brockett (2012) summarize person as including “characteristics of the individual, such as creativity, critical reflection, enthusiasm, life experience, life satisfaction, motivation, previous education, resilience, and self-concept” (p. 158). Process is summarized as involving “the teaching-learning transaction, including facilitation, learning skills, learning styles, planning, organizing, and evaluating abilities, teaching styles, and technological skills” (p. 158). Context is summarized as “encompassing the environmental and sociopolitical climate, such as culture, power, learning environment, finances, gender, learning climate, organizational policies, political milieu, race, and sexual orientation” (p. 158). These three elements do not occur in isolation; rather, there is a “dynamic interrelationship between them” that creates the opportunity for optimal self-directed learning (p. 158).

Self-directed learning has been practiced and researched for more than 50 years (Tough, 1971, 1978; Knowles, 1975; Candy, 1991; Brockett & Hiemstra, 1991, 2012; Stockdale & Brockett, 2011). Tough (1971) was the first one to operationalize self-directed learning as an area of study when he described the self-planned learning projects of 66 Canadians, and found learning is part of an adult’s everyday life. Merriam, Caffarella, and Baumgartner (2006, p. 105) categorized the self-directed learning literature into three areas, “the goals, the process, the learner.” They saw the goal of self-directed learning as fitting into one of three categories; development of the learner’s potential for self-direction (a humanistic approach), development of the potential for transformational learning, and lastly, the “promotion of emancipatory learning” (self-directed learning as an agent of social change) (Merriam, 2001). The process describes the how and where the self-directed learning occurs. Grow (1991, 1994) developed a process based model that could be utilized by students to identify their level of readiness for self-directed

learning and then educators could use that self-identified level to develop teaching strategies that best fit that individual's level of readiness thus maximizing a learner potential to learn. The final area is the learner themselves and the extent to which self-directedness is a personal characteristic (Merriam, 2001). Candy (1991) states that "since a learner's autonomy is likely to vary from situation to situation," educators should not presume that a person who has been self-directed in one situation will be self-directed in a different situation (p. 309). Guglielmino (1977) concluded that the desirable characteristics of a self-directed learner are: "one who exhibits initiative, independence, and persistence in learning; one who accepts responsibility for his or her own learning and views problems as challenges, not obstacles; one who is capable of self-discipline and has a high degree of curiosity; one who has a strong desire to learn or change and is self-confident; one who enjoys learning and has a tendency to be goal-oriented" (p. 73).

Edmondson, Boyer, and Artis (2012) found in their research with undergraduate marketing students that self-directed learning is significantly and positively related to academic performance, creativity, curiosity, and life satisfaction. Their findings also indicated that "providing SDL projects in marketing and business education is beneficial not only to the student while in school (related to academic performance) but also to the student's future (life satisfaction). Boyer et al. (2013) conducted a meta-analytic review of SDL research across multiple academic disciplines over the last 30 years and found that there is a positive relationship between SDL and internal locus of control, motivation, performance, and self-efficacy.

Nursing education has long discussed and debated the value of SDL (Timmins, 2008; Tao et al, 2015; Embo, et al, 2014; Song, et al, 2015; Spies, Seale, & Botma, 2015; Shatto & Erwin, 2016; Bankert & Kozel, 2005; Horsfall, Cleary, & Hunt, 2012; Allen, 2010; Tao et al, 2015). The growing complexities of the healthcare system and the nursing profession along with the

ever expanding knowledge base have challenged the “adequacy of traditional educational approaches” (Lekan et al, 2011). Traditional pedagogies are content driven with the teacher as the expert responsible for disseminating the content and the student passively receiving the information with recall of facts as a measure of success. This type of educational experience discourages meaningful interaction between teacher and student as well as student and student. Bankert and Kozel (2005) found that adult learners benefit from a collaborative pedagogy where the teacher utilizes creative strategies to link new knowledge to the learner’s experience and knowledge and allows the student to direct the learning interaction. Adult learners were found to achieve more by creating “learning environments that are founded on partnerships and collaboration, mutual respect and commitment, self-direction and creativity”. When learners are “fully immersed” in the learning environment and they share the responsibility for the learning interaction what develops is a commitment to lifelong learning (Bankert & Kozel, 2005).

Murray (2016) preformed an “integrative review” of the current research available to answer the question: “Do pedagogical approaches that incorporate active learning strategies foster increased student engagement and thereby promote academic success in nursing education?” After this review, Murray concluded that, in fact, interactive pedagogies did foster student engagement and increased student’s knowledge acquisition, competence, confidence and satisfaction. She noted that after review there were significant differences in the rigor associated with the reviewed studies and concluded that there is a significant need for more rigorous research in nursing education to improve learner experiences and provide an evidence based foundation for pedagogical changes.

The amount of control a learner is willing and able to accept over learning is dependent on their attitude, abilities and their personality characteristics (Fisher, King, & Tague, 2001).

Wiley (1983) defined an individual's "readiness for self-directed learning in nursing as the degree the individual possess the attitudes, abilities and personal characteristics necessary for self-directed learning" (p. 182). Some, such as Fisher et al. (2001) suggest that the ability for SDL is present in most every learner while others, such as McCauley and McClelland (2004) suggest that this ability is most often seen in high achieving learners, and still others, Levett-Jones (2005) for example suggest that not every learner wants or is capable of SDL. In the teaching-learning interaction, the key is to utilize the most appropriate teaching deliver methods with the learner's SDL readiness. This matching of teaching delivery method and learner SDL readiness provides the optimal opportunity for learning to occur (Grow, 1991; & Wiley, 1983).

Raidal and Volet (2009) explored learning styles in relation to SDL for pre-clinical veterinary science students. They found that the volume of information and content density material, as a possible factor in the overwhelming finding that justifying traditional teaching methods. Zydziunaite et al. (2013) concluded that independent learning in higher education leans toward the teacher-managed approach in the sciences due to the disciplines' required professional skill acquisition. However, these researchers recommend that students should continue to be offered learning choices and increased student responsibility, even in content-dense disciplines

Measuring SDL

Self-directed learning has been practiced and studied for more than 60 years (Tough, 1971, 1978; Knowles, 1975; Candy, 1991; Brockett & Hiemstra, 1991, 2012; Stockdale & Brockett, 2011). During that time, there have been many different models of SDL developed for specific domains and with those different models have come specific scales for measuring SDL. In her research, Stockdale (2003) identified 16 different scales measuring various aspects of

SDL. Recently, many scales have been developed for specific populations (Williamson, 2007; Cheng, Kuo, Lin, & Lee-Hsieh, 2010; Fisher, King, & Tague, 2001). Two of the oldest and most widely recognized scales designed to measure self-direction are the Oddi Continuing Learning Inventory (OCLI) (Oddi, 1984) and the Self-Directed Learning Readiness Scale (SDLRS) (Guglielmino, 1977). The OCLI scale only measures personal characteristics related to SDL and therefore, were not considered the best fit for this study (Oliveira et al., 2010).

Self-Directed Learning Readiness Scale (SDLRS)

Guglielmino's (1977) self-directed learning readiness scale (SDLRS), over the last 40 years is the most widely used scale in self-directed learning research, including nursing education but more recently has not been utilized as frequently in the nursing field because of concerns related to availability, cost, and construct validity and reliability (Candy, 1991; Fisher et al., 2001; Stockdale, 2003; Fisher & King, 2010; Phillips et al, 2015). The researcher was unable to find any research article that utilized the SDLRS measurement tool within nursing education since 2011, although eight research articles were found between 2004 and 2011 that utilized the SDLRS in their studies. Guglielmino's SDLRS instrument defines eight factors or components of SDL including "openness to learning opportunities, self-concept as an effective learner, initiative and independence in learning, informed acceptance of responsibility for one's own learning, love of learning, creativity, positive orientation to the future, ability to use basic study skills, and lastly, problem-solving skills" (1977). The instrument has 58 total items in a Likert-type scale.

Of the eight articles found that utilized the SDLRS instrument in nursing only four completed an independent Cronbach alpha test to measure internal consistency. Wiley (1983) noted independent Cronbach alpha at .91 (n = 104) but did not perform individual Cronbach

alphas on the eight subscales and the findings indicate that “persons who prefer low structure benefit from SDL, teaching more than those who prefer high structure” (p. 181). Deng (1995) adapted and translated the SDLRS into Chinese using the same 58 items, but the questions were categorized in six factors instead of the original eight. The six factors were effective learning, love of learning, learning motivation, active learning, independent learning, and creative learning. This adapted instrument demonstrated construct validity using principle component factor analysis, explained variance at 89.75%, and demonstrated internal consistency with Cronbach alpha at .64 -.85 (n=286) (Cheng et al, 2010). Klunklin et al (2010) translated the original instrument into a Thai version with an independent Cronbach alpha at .93 (n = 272) and the findings indicate that “overall SDL readiness among nursing students in year four was significantly higher than in lower years” (p. 181). Kim and Park (2011) adapted and translated the original instrument into Korean with a resultant sixteen item instrument examining seven factors for readiness for self-directed learning noted an independent Cronbach alpha at .85 (n = 202) and the findings indicate a “hierarchical relationship among belongingness, self-esteem, and self-directed learning” (p. 48).

The reliability of instruments can be affected by many different factors such as “characteristics of the sample, how closely connected the items are, number of items, and the response format (Fain, 2017, p. 247). The fact that three of the four studies were translated into different languages may hinder the ability to measure the SDLRS reliably across a variety of samples. Candy (1991) and Field (1989, 1991) examined this instrument and found problems with its validity. Field (1989) noted the “strongest item to score correlations produced by the items related to enthusiasm for learning and that the items that are most closely connected to readiness for SDL actually have a low correlation to the total SDLRS scores”. Bonham (1991)

also noted concerns regarding the instrument's construct validity by "questioning what low scores actually mean" finally concluding that a low score was more an indication of a "dislike for learning and not a low readiness for SDL". Brockett (1985) noted "a number of concerns relative to the structure and substance of the SDLRS instrument" (p. 15). He also noted that "while the instrument may be appropriate for certain segments of the adult population, it may be inappropriate for other groups" (p.15). Field (1989) also criticized the SDLRS, stating "the scale is structurally unsound and invalid" (p. 125). He noted "a number of problems in the wording of the scale and show that the scale appears to measure a homogeneous construct that does not appear to be associated with readiness for self-directed learning" (p. 125). Studies by Long and Agyekum (1983, 1984) brought up additional questions regarding the instruments reliability when utilized for different racial and socioeconomic levels. Finally, Long and Agyekum (1984) in a validation study examining SDL readiness scores and teacher ratings came to the conclusion that it was likely that the "SDLRS does not measure self-direction in learning". Collectively, these findings may hinder the ability to measure the SDLRS reliably across a variety of samples.

The Self-Directed Learning Readiness Scale in Nursing [SDLRS-NE]

Fisher et al. (2001) saw a need for the development of a valid and reliable instrument to measure self-directed learning readiness that could be used to by nurse educators to "diagnose students' attitudes, abilities, and personality characteristics, needed for self-directed learning. They noted that the SDLRS developed by Guglielmino (1977), had "issues concerning cost, validity and use, and that the development of a new scale would allow for the problems associated with the use of other scales to be addressed" (Fisher et al., 2001, p.518). The SDLRS-NE was developed using a modified reactive-Delphi design. Fisher et al. (2001) developed 93 items initially, "drawing from the work Guglielmino (1977), Knowles (1975, 1991), and Candy

(1991)” and focused much attention on developing items that were “clear and unambiguous utilizing simple language and short sentences that were not double-barreled or leading” (p. 518). From the pilot study, Fisher et al. (2001) performed item total correlation coefficients to test for unidimensionality, whether a response on one items reflects the response on other items and the higher the coefficient for the item the more the item belongs to the scale, scores less than .30 suggest the item does not belong in the scale (Fain, 2017, p. 275). Using the item to total correlation coefficient they identified 10 items with a coefficient less than 0.30 and those items were removed. The remaining 42 items went through a principle components analysis and “suggested that three components be retained for interpretation, together they accounted for 36.4% of the variance in the item pool” (Fisher et al., 2001, p. 520). The final instrument contained 40 items. The three components were identified as self-management, desire for learning, and self-control. Internal consistency reliability was determined by the Cronbach’s alpha and resulted in a Cronbach’s alpha at “0.924 (total item pool, 40 items), 0.857 (self-management, 13 items), 0.847 (desire to learn, 12 items), and 0.830 (self-control, 15 items)” (Fisher et al., 2001, p. 520).

Fisher and King (2010) reexamined the factor structure of the subscales (components) of the SDLRS-NE in an attempt to provide further evidence of the instrument’s validity. They used a “cross-sectional survey of 227 first year undergraduate nursing students to examine the factor structure of the SDLRS-NE and found internal consistency with a Cronbach’s alpha at .87 but analysis suggested that 11 items showed some redundancy and it was suggested that these items were not theoretically essential and could be removed” (Fisher & King, 2010, p. 47). Fisher and King (2010) noted that “the sample size was small and further investigation would be needed

to examine the relationships between variables (items) across factors in different samples” (p. 48).

Within the current literature 10 published research articles specifically utilizing the SDLRS-NE were found, and these dates range from 2007-2016. Smedley’s (2007) utilized the original 40 item SDLRS-NE and the sample was 67 nursing students and the findings were similar to Fisher’s et al (2001) results for validity and reliability with independent Cronbach’s alpha at .81 (total items), .81 (self-management), .78 (desire for learning), and .88 (self-control). Kocaman’s et al. (2007) study utilized the original 40 item SDLRS-NE translated to Turkish and the sample was 50 nursing students and the results note an independent Cronbach’s alpha at .94 (total items), .87 (self-management), .86 (desire for learning), and .88 (self-control).

Yuan’s et al. (2012) study utilized the SDLRS-NE translated to Chinese and the sample was 485 nursing students and the results note an independent Cronbach’s alpha at .925 (total items), .848 (self-management), .825 (desire for learning), and .863 (self-control). El-Gilany and Abusaad (2013) utilized the SDLRS-NE in English and the sample was 275 nursing students and the results note an independent Cronbach’s alpha at .898 (total items). Avdal (2013) utilized SDLRS-NE and the sample was 220 nursing students and the results note an independent Cronbach’s alpha at .94 (total items), they did not conduct Cronbach’s alpha on the subscales. Phillips et al. (2015) utilized the SDLRS-NE and the sample was 407 nursing students. The results note an independent Cronbach’s alpha at .903 (total items), .844 (self-management), .781 (desire for learning), and .794 (self-control).

Williams et al. (2013) utilized the SDLRS-NE and the sample was 259 paramedic students and the results note an independent Cronbach’s alpha at .90 (total items), .82 (self-management), .81 (desire for learning), and .83 (self-control). They also conducted a “factor

analysis with Oblimin rotation to examine construct validity and dimensionality of the instrument and the results suggest multidimensionality with 33 items loading into the three factors (components) accounting for 31.7% of the explained variance” (Williams et al., 2013, p. 105).

Vess (2013) utilized the SDLRS-NE with a sample of 130 undergraduate nursing students and the results noted an independent Cronbach’s alpha at .902 (total items), .833 (self-management), .804 (desire for learning), and .846 (self-control). These results are consistent with other studies. Vess (2013) was examining the relationship between SDL and gratitude and found a significant positive relationship between these constructs.

Fujino-Oyama et al. (2016) utilized the SDLRS-NE translated to Japanese and the sample was 376 graduate level nursing students and the results note an independent Cronbach’s alpha at .914 (total items), .841 (self-management), .781 (desire for learning), and .836 (self-control). They also conducted a confirmatory factory analysis that indicated “only moderate-to-poor model fit indices and they noted possible reasons for this as being sample size or sampling methods or it may be related to a lack of fit with Japanese nursing graduate-level students in context of the SDLRS-NE” (Fujino-Oyama et al., 2016, p. 70). The authors therefore suggested that there needs to be further research to examine the validity and reliability of the Japanese version of the SDLRS-NE. Alotaibi (2016) utilized the SDLRS-NE in English (the formal teaching language) and the sample was 167 nursing and emergency medical students. The results note an independent Cronbach’s alpha at .88 (total items), .85 (self-management), .88 (desire for learning), and .86 (self-control).

Although there is some indication that this instrument is a reliable measure of readiness for SDL there is concern related to the low coefficient of determination found in two of the

studies. In Fisher et al., (2001) they found that the three components should be retained but together they accounted for only 36.4% of the variance in the item pool (Fisher et al., 2001, p. 520). Williams et al. (2013) suggest multidimensionality with thirty-three items loading into the three factors (components) accounting for 31.7% of the explained variance” (Williams et al., 2013, p. 105).

The Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS)

The PRO-SDLS was developed based on the PRO model (Brockett & Hiemstra, 1991) with a focus on the higher education context (Stockdale, 2003; Stockdale & Brockett, 2010). Stockdale (2003) developed her scale to examine both the teaching-learning transaction (TL) and the learner characteristics (LC) that are described in the PRO model. The development of the scale focused on two main goals: identifying items that would reflect both the TL process and the LC and validating the scale with other measures of SDL.

According to Stockdale (2003), six research objectives guided her study. They are:

“(a) the development of a reliable measure of self-directedness; (b) content validation established by a panel of experts; (c) congruent validation of the measure of self-directedness confirmed by comparing scores on the SDLRS with those of the PROSDLS; (d) construct validation verified by comparing scores on self-directed learning with logically related behavioral criteria; (e) convergent validity corroborated by the ratings by professors of the self-directedness of their students who participated in the studies; and (f) demonstration that PRO-SDLS scores add significant unique variance to the prediction of self-direction beyond scores from the SDLRS” (p. 3-4).

Stockdale's (2003) initial development of the questions for scale was guided by the PRO Model as well as adult education literature. The original questions were reviewed by a panel of experts who were asked to rate the scale for item representativeness, item format, and item appropriateness. The experts identified four factors contributing to the instrument; two related to the TL construct and two related to the LC construct.

The TL construct included two factors; learner control and initiative. Stockdale (2003) defined "the teaching-learning (TL) transaction in which the learner demonstrates proactive personal responsibility for planning, implementing, and evaluating the learning process" (p 76). Knowles (1975) definition of SDL included that fact that the learner takes initiative for learning. Brockett and Hiemstra (1991) referred to the TL interaction as the "process in which a learner assumes primary responsibility..." (p. 24). Stockdale saw a similarity in the concept and elected the term initiative as one of the factors for the TL construct.

The LC construct includes two factors; motivation and self-efficacy. Stockdale (2003) defined the learner's characteristics (LC) as "a degree of self-efficacy and motivation that predisposes one toward taking primary responsibility for learning" (p 76). She drew from Deci and Ryan's (1985, 2000) descriptors of motivation types that "provide operationalized definitions of motivations that may be utilized in item constructions for the learning characteristics (LC) component of the PRO-SDLS" (p. 63-64). Stockdale (2003) utilized Bandura's (1977) definition of self-efficacy; an individual's "judgement of their capacities to organize and execute courses of action required to attain designated types of performance" (p. 391). Stockdale (2003) suggested that self-efficacy, described as "competence to perform self-directed learning activities" (p. 67), might be more predictive of actual self-directed learning.

She concluded that “items assessing a student’s perception of their self-efficacy for self-direction may be a valuable addition to the PRO-SDLS” (p. 67).

Stockdale (2003) conducted three pilot studies in order to achieve the six research objectives that guided her study. In the first two pilot studies the participants were asked to respond to: the SDLRS by Guglielmino (1977), a demographic questionnaire designed by the researcher, and a version of Stockdale’s proposed scale reflecting either the TL or LC components. After each of these pilot studies, Stockdale refined the scale based on the results of the subjects’ responses. The third pilot study included both the TL and LC factors and was used to evaluate the findings.

In evaluating the reliability of the instrument, Stockdale found that the “high coefficient alpha (.92) indicated that self-direction as measured here can be regarded as a unitary construct” (Stockdale, 2003, p. 114). Content validation was achieved by asking six experts to determine whether the PRO-SDLS’s items appropriately related to the PRO model’s TL or LC components. She concluded that although there was not a 100% agreement between the experts for most items, only six of the 35 final items were unanimously agreed upon by the raters, however, the experts strongly agreed that 31 of the 35 items were representative of one or both components of the model.

Stockdale next investigated the congruent validity of the instrument by examining the relationship between scores on the PRO-SDLS and the SDRLS. In comparing each instrument’s scores she found an R-value of $<.70$ for the relationships, which she concluded did not demonstrate congruent validity of the measure of self-directedness (Stockdale, 2003).

To examine construct validity, Stockdale compared scores on the PRO-SDLS to demographic data collected in the survey. She found significant relationships ($p <.01$) between

scores on the PRO-SDLS and age, self-reported GPA scores, previously completed semester hours, and course performance. There was no significant relationship noted between self-reported ACT scores and PRO-SDLS scores. As a result, Stockdale was able to conclude that “construct validity coefficients established significant relationships between PRO-SDLS scores and related behavioral criteria for self-direction” (p. 126).

Stockdale evaluated the convergent validity of the PRO-SDLS by examining the relationship between students’ scores on self-directedness and ratings by a professor on the self-directedness of those same students. She found there were no significant relationships between the professor’s ratings of students’ self-directedness and students’ outcomes on the PRO-SDLS or the SDLRS, therefore, convergent validity was not established. For the last research objective that guided her study, Stockdale was able to demonstrate that the PRO-SDLS improved on the prediction of GPA, age, and course performance over the SDLRS. She concluded that a link existed between self-direction and the PRO-SDLS. To further test the scales reliability it was recommended that the scale be utilized in different settings or disciplines.

Seven additional studies were found that have utilized the PRO-SDLS (Fogerson, 2005; Hall, 2011; Holt, 2011; Conner, 2012; Beard, 2016; Ruttencutter, 2018). Table 2.1 provides relevant information regarding those studies’ populations and the PRO-SDLS Cronbach’s alphas for the factors of TL and LC as well as overall for the instrument.

In summary, the PRO-SDLS’s reliability has been consistent across these six studies. The PRO-SDLS was designed around the PRO model and has also been used to investigate classroom pedagogies and encompasses actual teacher-learner interactions. The PRO-SDLS has specific application to university-level students. For these reasons, the PRO-SDLS was chosen as one of this study’s instruments.

Table 2.1 PRO-SDLS Cronbach's alphas

Study	Sample	N	Control	Initiative	Self-Efficacy	Motivation	Overall
Stockdale, 2003	Undergraduate and graduate student	195	.78	.81	.78	.82	.91
Fogerson, 2005	College students in online learning environments	217	n/a	n/a	n/a	n/a	.92
Hall, 2011 pre-test	1 st year, 1 st generation college students	110	.78	.76	.79	.41	.84
Hall, 2011 post-test	1 st year, 1 st generation college students	110	.83	.72	.79	.67	.87
Holt, 2011	Undergraduate, senior students	572	.72	.73	.79	.79	.88
Conner, 2012	Non-traditional undergraduate, graduate & doctoral students	137	.74	.78	.76	.79	.90
Beard, 2016	Undergraduate, preservice teachers	102	.79	.72	.83	.78	.90
Ruttencutter, 2018	Doctoral students	118	.91	.80	.78	.81	.83

Resilience

Research involving resilience has been identified in the literature for more than 50 years. Early research involving resilience was focused on children, specifically on psychopathology and child development (McAllister & McKinnon, 2009). Resilience research then began to extend to the adult population but still within the field of psychopathology. In the late 1980's there was a paradigm shift for health care providers to examining internal characteristics and external influences of resilience (Luthar & Cicchetti, 2000; Tusaie & Dyer, 2004). Antonovsky's (1987) concept of sense of coherence leads to the examination of why people were able to survive and actually thrive after extremely stressful, tragic experiences. Resilient individuals were found to have characteristics that enable them to develop a set of coping skills that allows them to not only survive but thrive in challenging, stressful situations (Denz-Penhey & Murdoch, 2008; Siebert, 2005; Cassel & Suedfeld, 2006; Friborg et al., 2003; Tusaie & Dyer, 2004; Masten, 2015).

In much of the literature on resilience, the term antecedent is used to describe events or situations that must occur prior to the development or growth of personal resilience. Earvollino-Ramirez (2007) identified the primary antecedent to resilience as adversity and she describes "change, challenge, and disruption as aspects of adversity commonly seen prior to development of or increase in a person's level of resilience" (p. 78). Gillespie et al. (2007) identified four antecedents to resilience: 1) "adversity or trauma, 2) the situation is interpreted as traumatic, 3) there is a realistic, worldview, and 4) there is sufficient cognitive ability to interpret an event as adverse". Atkinson et al. (2009) discuss periods of adversity or stress prior to the development of resilience. Ahern (2006) describes the presence of a risk or risks that initiates a protective mechanism. Adversity and stress are the most commonly cited antecedents for resilience.

Bonanno (2004) states that resilience reflects the ability of the person to maintain a stable equilibrium during and after stressful events or situations. He proposes that there are protective factors act to promote resilience development and functioning. He reframes the concept of resilience as the outcome of successfully coping with adversity or stressors, rather than as a coping process. In reframing resilience in this way, one can see resilience as the individual's ability to maintain relatively stable and healthy levels of psychological functioning following stressful events. It is also important to recognize that resilience is more than the absence of psychopathology following stressors; it is the ability to bounce back or return to the same or higher level of functioning. Resilient individuals are able to grow and actually benefit from the stressful event.

As previously mentioned in chapter one, Richardson (2002) believes that the resiliency process is a life enriching endeavor in which stressors and adversity can provide an opportunity for growth and increase in resilience. A person lives in a state of "biopsychospiritual homeostasis where one has adapted physically, mentally, and spiritually to a set of circumstances, good or bad" (p. 311). This homeostasis is "routinely bombarded with both internal and external life events, stressors, adversity, opportunities, and other forms of change" (Richardson, 2002, p. 311). These events, stressors, and adversities cause a disruption in a person's homeostasis. Adaptation after adversity leads to a new, higher level of homeostasis, increased resilience. In reintegration back to homeostasis there is a return to the original baseline homeostasis in an effort to just get through, and survive the event. In reintegration with loss, there is a loss of resilience and ability to cope with similar disruptions, thus establishing a new, lower level of homeostasis, a person who is less resilient. Finally, in dysfunctional reintegration the person

uses maladaptive strategies such as self-destructive behaviors to cope with the disruption (Richardson, 2002; Conner & Davidson, 2003).

Richardson (2002) includes protective factors/qualities in his resilience model and these protective factors/qualities can buffer adversities. If a person has experienced and adapted to the same stressor or adversity previously then protective factors/qualities may be able to prevent any disruption. The protective factors/qualities that Richardson described can also be viewed as attributes that are characteristic of the concept of resilience. Garcia-Dia et al. (2013) described attributes of resilience after conducting an extensive literature review of the uses of the term resilience and arrived at four attributes of resilience; rebounding, determination, social support, and self-efficacy. McAllister and Lowe (2011) found that protective factors may be learned or enhanced through positive learning experiences. They emphasize the need to be proactive in developing resilience in order to moderate the effects of stress and adversity. Hjemdal et al. (2006) also defined resilience as the protective factors, processes, and mechanisms that aid in a good outcome in spite of adverse experiences that carry significant risks for disturbances in one's mental health (p. 195). Windle (2011) states that "protective factors; also referred to as assets, resources, or strengths, facilitate the competence/capability that enables resistance to adversity and underlies the process of adaptation" (p. 157).

Windle (2011) identified three requirements for resilience: "the need for a significant adversity/risk, the presence of assets or resources to offset the effects of the adversity, and the positive adaptation or the avoidance of a negative outcome" following the adverse event (p. 163). From her analysis, she developed a definition for resilience that includes all of the key characteristics: "resilience is the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma. Assets and resources within the individual, their life and

environment facilitate the capacity for adaptation and bouncing back in the face of adversity” (p. 163). She also notes that resilience will vary across a person’s life and from situation to situation. This definition provides a multilevel construct that takes into account not only the individual but also the environment. Richardson (2002) defines resilience as the process of coping with adversity, challenges, or changes in a manner that result in the “identification, fortification, and enrichment of resilient qualities” (p.310). It “embodies person qualities that enable a person to thrive in the face of adversity” (Connor & Davidson, 2003, p. 76).

In the early 2000’s there was another shift from examining the character traits and risk factors to examining strengths that could prevent psychological instability following stressful, tragic experiences. Nursing had researched resilience within the context of patients with chronic illnesses and also investigated nurses as role models and support for patients to develop resilience (Vinson 2002; Dyer et al., 2004). At the same time in the 2000’s, research began to emerge on resilience within the nursing profession. Initial research in nursing focused on groups that were exposed to traumatic experiences such as emergency department nurses. This was then expanded to include nursing as a whole, examining nurses in many different settings. The nursing profession has long been seen as a demanding profession with the demands related to the emotional challenges of seeing human suffering and distress on a daily basis (Jackson et al., 2007). To date, resilience in nursing has primarily focused on individuals and the set of abilities or attributes that allow them to survive and thrive in their work as nurses (Delgado et al., 2017). McAllister and Lowe (2011) noted that “nurses must learn to develop or enhance their own resilience to change the situation or change their reaction” (p. 18).

This research has led to a research direction aimed at identifying factors that promote the development of resilience in nurses and program development that can foster that development

(Cusack et al., 2016; Cross, 2015; Craigie et al., 2016; Hart et al., 2014; Stephans, 2012). Ahern (2006) began to explore the concept of resilience in healthy, well-adjusted individuals. For healthy, well-adjusted individuals, the concept of resilience is thought to assist with dealing with the everyday stressors and challenges and prepares them for future adversity (Ahern, 2006).

McAllister and McKinnon (2009) conducted a literature review to explore both the teaching and learning aspects of resilience. The majority of the literature reflected nursing, workplace stressors, and the changing nature of the healthcare environment. They found that people who possessed positive personal attributes were able to cope and build support systems during difficult situations. They found strong evidence that these positive qualities can be learned. The researchers noted that challenging, stressful work environments require lifelong learning and found health professional utilized “problem-oriented” rather than “solutions-oriented” approaches to challenging situations. They found a significant need for emphasis on resilience in higher education to assist in adequately preparing healthcare professionals.

Hart, Brannan, and DeChesney (2014) explored resilience in nurses. Their review was an attempt to understand resilience in practicing nurses and analyzed three quantitative and four qualitative studies. They found that a supportive work environment was linked to empowerment in nurses. Reyes, Andrusyszyn, Iwasiw, Forchuk, and Babenko-Mould (2015) analyzed 19 studies, both qualitative and quantitative, on resilience in nursing education. The key themes identified the importance of resilience building in nursing education. When faced with challenges, nursing students needed to persevere in order to feel successful. Resilience added to student and educator’s ability to persevere in the face of adversity. Another theme that emerged was that resilience was perceived as both a trait and a process. Finally, they found that resilience itself is a protective factor that can mediate the effects of stress. Reyes et al. (2015) emphasized

the need for additional investigation of resilience in nursing education since it had been identified as important in nursing education and for lifelong learning. Another qualitative study (McDermid, Peters, Daly, & Jackson, 2016) also identified the theme of the need for resilience development in their analysis of 14 new nursing educators. Relationships, positivity, reflection, and transformative growth were noted as key factors in the educator's transition into their new role (Piotrowski, 2017). Grafton et al. (2010) found resilience involved a cyclic process of reframing stressful situations until it personally changes and is viewed in a positive way. They believed this would be particularly important/beneficial for nursing working in oncology nursing.

Measuring Resilience

There currently exist many models of resilience as well as many instruments to measure resilience. Windle, Bennett, and Noyes (2011) conducted meta-analysis of the literature involving the measurement of resilience. They found no current 'gold standard' amongst 15 measures of resilience (p. 17). They analyzed 15 instruments and determined the most appropriate instruments identified for adult populations were the Connor-Davidson Resilience Scale (CD-RISC), the Resilience Scale for Adults (RSA), and the Brief Resilience Scale (BRS).

The Connor-Davidson Resilience Scale CD-RISC

The CD-RISC instrument was initially intended for clinical practice with individuals experiencing post-traumatic stress disorders but since then has been utilized in the general population. The CD-RISC (Connor & Davidson, 2003) is a 25-item self-rating scale with items being rated on a five-point Likert scale (0-4) that measures how well a person is able to thrive during times of challenge and adversity. The CD-RISC has a total score ranges from 0 to 100. Higher scores reflect greater resilience. Resilience is defined as a CD-RISC score of >80 with a median score of 82. Highly resilient is defined as one standard deviation greater than the mean

and therefore a score of ≥ 92 is defined as a positive score for being highly resilient (Campbell et al., 2009; Connor and Davidson, 2003). The CD-RISC maintains excellent reliability (Cronbach's α 0.89) and a test–retest reliability correlation of 0.87 (Connor and Davidson, 2003). Mealer et al. (2012) found a Cronbach's α for the Connor–Davidson Resilience Scale was 0.92. This scale has good reliability and validity, and is able to distinguish between individuals with low and high levels of resilience. This scale will provide the measure of resilience in this study.

The instrument measures five dimensions of resilience: personal competence, stress tolerance, acceptance of change, control and spirituality. Participants will be asked to choose the most appropriate rating based on how he/she felt over the past month. Scoring of the scale is based on summing the total of each item. The total score ranges from 0-100, with higher scores indicating greater resilience. Convergent validity was assessed for the CD-RISC against other resilience scales, as well as other measures related to aspects of resilience; hardiness, social support, and stress-coping ability. Connor and Davidson (2003) demonstrated acceptable test-retest reliability for the 25 item CD-RISC ($r=.87$). Factor analysis yielded five factors consistent with the theoretical framework (Cronbach's alpha for total scale = 0.93). “Factor I (items 24, 12, 11, 25, 10, 23, 17, & 16) indicates personal competence, high standards, and tenacity. Factor II (items 20, 18, 15, 6, 7, 19, & 14) is relevant to trust in one's instincts, tolerance of negative affect, and strengthening effects of stress. Factor III (items 1, 4, 5, 2, & 8) relates to the positive acceptance of change, and secure relationships. Factor IV (items 22, 13, & 21) relates to control. Factor V (items 3 & 9) relates to spiritual influences” (Connor & Davidson, 2003).

Since its development in 2003, the scale has been widely used with many populations, including undergraduate nursing students. Ahern (2006) demonstrated good internal consistency, Cronbach's alpha of .89 as well as good test-retest reliability, which were both

consistent with Connor & Davidson's findings. The scale has demonstrated good reliability and validity and is able to distinguish between individuals with low and high levels of resilience. Convergent validity was assessed for the CD-RISC against other resilience scales and assessed with other measures related to resilience such as perceived stress, stress vulnerability, hardiness, stress-coping ability, and social support (Connor & Davidson, 2003). Many studies have confirmed the instrument's ability to predict and reflect responses to treatment in the clinical setting and educational efforts in the academic setting (Vaishnavi, Connor, & Davidson, 2007).

Table 2.2 CD-RISC Cronbach's alpha

Study	Sample	N	Mean	Cronbach's Alpha
Connor & Davidson, 2003	General population	577	82	.89
Stephens, 2013	Undergraduate nursing students	70	74.5	.93
Cody, 2013	Undergraduate students	220	78	n/a
Kang et al., 2013	College students	321	67.2	n/a
Giesbrecht et al., 2009	Undergraduate students	79	66.4	.87
Mealer et al., 2012	ICU nurses	27	72	.92
Innes, 2016	Chiropractic Students	194	65	.89

Connection between SDL and Resilience

Studies focusing on the relationship between resilience and self-directed learning are rare. In a study of 148 graduate students from a large university, department of education, health, and human sciences; Robinson (2003) identified a significant relationship between self-directed learning readiness and resilience. The instruments utilized for her research included Guglielmino's Self-Directed Learning Readiness Scale (SDLRS), Wagnild and Young's Resilience Scale (RS), and a demographic tool. Robinson's self-designed demographic questionnaire sought variables such as the highest educational level attained and age. The convenience sample of graduate students recorded their actual age and the researcher later clustered the ages into one of five categories. She also inquired about family income, gender which was 74% female, and race which reflected 87% White/Caucasian. These last three variables were found to have no significance. Robinson (2003) noted significant results regarding age and education of the participants through a Spearman Correlation. SDLRS scores tended to increase with increased age ($r = 0.32$, $p < 0.001$) and education ($p = 0.004$). The age category of 24 and younger was significantly different from the age groups over 40 years. Although the difference in correlation was small, as age increased, resilience tended to increase. Using stepwise regressions, 39% of the variance in SDLRS scores was directly predicted by RS (37%) and age (2%). Forty-three percent of the variance in the SDLRS was predicted by the Personal Competence subscale of the RS and age data. A significant positive relationship between the mean scores on the SDLRS and RS ($r = 0.61$, $p < 0.001$) was identified. Four common items among the instrument items reflected self-concept, control, responsibility, and persistence. One of her recommendations was to investigate these characteristics with other adult

student or community groups. She also identified the need to measure these characteristics with different instruments.

Piotrowski's (2017) research with mid-level healthcare leaders found a significant, positive relationship in the mean scores of the SDLRS and the PRQ, particularly in the subscales of Positive: Yourself and The World, Flexible: Thoughts, and Focused. The findings further supported Robinson's (2003) study, showing a positive relationship between self-directed learning readiness and resilience in graduate students. Unlike Robinson, Piotrowski did not find a significant relationship between scores on SDLRS and PRQ and age or experience. This finding may have been the result of the fact that 41% of the participants were aged 56 years and older and their number of years of experience was high.

The greatest potential for connecting positive psychology concepts such as resilience, and adult education is "helping learners to develop a deeper understanding of their learning experiences, and themselves" (Anderson & Brockett, 2007, p. 4). This connection also implies that by developing the "whole" learner, there is room for exploring concepts, like resilience. In addition, if "self-directed learning is the most frequent way adults learn" (Anderson & Brockett, 2007, p.5), then resilience, as a positive psychology trait, may have implications related to self-directed learning. Additionally, Ambrose, Teal, and Vess (2012) present a conceptual model "suggesting that the character strengths of positive psychology and the concepts of self-directed learning can be mutually beneficial". Vess' (2015) study of the relationship between SDL and gratitude found a significant positive relationship between the two constructs. Ruttencutter's (2018) study of the relationship between SDL and grit in doctoral students found a significant positive relationship between the constructs. Both studies demonstrated that a relationship exists

between SDL and positive psychology concepts and called for further research to understand the connections and the implications for self-directed learning.

Conclusion

Within this chapter, the goal was to provide a literature review of SDL and resilience, constructing an understanding of the constructs individually, and an understanding of how they are related. The research also sought to understand the constructs as they relate to pedagogies for preparing nurses for the future. The researcher discussed how each construct has been measured and the relevant instruments used.

This study contributes to the available body of knowledge in two fields, adult education and positive psychology, by showing the connection between self-directed learning and resilience in undergraduate nursing students. The research extends self-directed learning theory by examining it in relation to a positive psychology concept, resilience, which has not been explored in depth. In the next chapter, a thorough description of the materials and methods used, including sources of data, data collection, and analysis of the data will be discussed.

Chapter Three

Method

The purpose of this study is to investigate the relationship between self-directedness in learning and resilience among baccalaureate undergraduate nursing students. This chapter will provide a thorough description of the materials and methods used, including sources of data, data collection, and analysis of the data.

Research Design

A quantitative, descriptive correlational research design was used. The purpose of a descriptive correlational design is to “describe and explain the nature and magnitude of existing relationships, without necessarily clarifying the underlying causal factors in the relationship” (Fain, 2017, p. 169). The benefits of a descriptive correlational design are the “ability to test variables as they naturally occur in real-life situations, with no attempt to control or manipulate the variables being studied and for testing predictions about particular relationships” (Fain, 2017, p. 169). The quantitative data provides the data necessary to answer and understand the research questions. Survey designs are quantitative in nature and provide the researcher with “numerical description of trends, attitudes, or opinions of a population by studying a sample of that population” (Creswell, 2014, p. 155). This study utilizes a cross-sectional design to collect data at one point in time to study current attitudes, beliefs, or opinions. The key characteristic of this design are sampling the population in a manner that is representative of what the research is trying to find within a certain population, and collecting data through questionnaires geared toward that population. The survey research design was utilized to collect quantitative descriptions for SDL and resilience in the population and allows a correlation analysis of this data (Creswell, 2014).

The demographic questionnaire consisted of four items and was designed to provide additional aspects regarding the participant to enhance the understanding of the research results (Appendix B). The items include age, gender, program enrolled in, and highest level of education.

The quantitative data related to SDL were obtained utilizing a previously tested instrument, the PRO-SDLS (Stockdale, 2003) (Appendix C). The quantitative data related to resilience were obtained utilizing a previously tested instrument, the Connor-Davidson Resilience Scale (CD-RISC) (Connor & Davidson, 2003) (Appendix D). Permission was obtained to use these scales from both of the original authors of these instruments (Appendix E & Appendix F). This allowed the researcher to obtain the participant's level of SDL as well as their level of resilience.

Population and Sample

The population for this study consisted of all undergraduate nursing students who are currently enrolled or recently graduated but not licensed yet in the TBSN or ABSN undergraduate programs at a large, four-year, public research university in the Southeastern United States. These undergraduate nursing programs are accredited by the Commission on Collegiate Nursing Education and have full approval by the Tennessee Board of Nursing, which indicates they have met the requirements set forth by the Board and have demonstrated the ability to provide an educational program which meets the Board's standards. For the TBSN student, nursing courses begin the Fall semester of their junior year. For ABSN students, they must have obtained at least a bachelor's degree in another field and completed the prerequisite courses prior to being admitted for the Fall semester. Enrollment in the TBSN program is approximately 130 students at the rising senior level and 114 students who graduated from the

program but are not yet licensed as a registered nurse. The ABSN program enrollment is approximately 83 students. All currently enrolled undergraduate nursing students were considered part of the population and were invited to participate in the study.

A population study was used to identify individual students within the study parameters who were willing to participate. Participant eligibility criteria include: participants must be currently enrolled in or recently graduated but not licensed yet from the TBSN or ABSN undergraduate programs, must voluntarily complete the online survey, and must be 18 years or older. The rationale for the selection of this population is that they are the exact participants targeted for this study and the sampling method allowed an adequate number of participants to achieve decent sample size. This population was also selected because of the researchers working relationship with the college of nursing and discussions with the stakeholders involved. Permission to access this population was obtained from the Associate Dean of Research, as well as the Assistant Dean of Undergraduate Programs of the College of Nursing. (Appendix G).

All undergraduate nursing students enrolled in either the traditional or accelerated nursing programs were invited to participate in this study. Of the 328 undergraduate nursing students invited to participate, 78 prospective participants began the study. Of these, seven participants started the survey but did not complete it, these seven were not included in the data analysis. One additional participant did not provide answers to all the questions on the survey and was also eliminated from the data analysis. This yielded 70 participants, resulting in a 21.6% response rate.

Procedure

To recruit participants all currently enrolled full time TBSN and ABSN students were included in the initial and follow up emails. The college of nursing requires all students to

regularly check their official university email, an email with an introduction to the research and request to participate, as well as the anonymous link to the Qualtrics survey was sent to each student. The email was sent by an administrative assistant in the student services office at the college of nursing. A follow-up email was sent to students seven days after the initial communication.

The researcher is currently on faculty at the college of nursing in the ABSN program but only teaches during the first two semesters, fall and spring. Data collection occurred during the summer, therefore, the researcher had no direct contact with or influence over the student during data collection. The researcher has only limited contact with TBSN students. In order to avoid coercion, only the administrative assistant had access to students' emails for initial recruitment and reminders, meaning that the researcher only had access to collected data. Prospective participants were given the email and phone number of the researcher's dissertation advisor, Dr. Ralph Brockett, if there are any questions or concerns regarding the study. Each participant was ensured anonymity, meaning that it was not be possible to identify data from an individual participant. This was accomplished when each participant accesses the survey via an anonymous link and answered yes or no to the informed consent question. Finally, all collected data were password protected.

The procedure for collecting data began with an email, invitation to participate email that contained a link to the Qualtrics survey (Appendix H). Informed consent was obtained, when the participant accessed the anonymous survey link the first question on the survey was "Yes, I consent to participate in this study" or "No, I do not consent to participate in this study" (Appendix I). An affirmative response to "Yes, I consent to participate in this study" was required to continue with the survey. If the participant selected "No, I do not consent to

participate in this study” the participant was thanked and the survey terminated at that time. The participants were able to terminate the survey at any time. Any incomplete surveys were not included in data analysis.

Sampling began as soon as IRB approval was obtained. Qualtrics was selected as the internet survey program utilized for collecting survey data because the program is supported by the researcher’s university and the researcher has experience with this surveying system. The survey was tested for mechanics and functionality prior to being available to the participants.

Risks and Benefits of Participation

The benefit of participation is to contribute to the understanding of adult learning and how self-directed learning may be related to resilience. By investigating these relationships within nursing education, both educators and students can better understand how self-directed learning and resilience are related. This may assist faculty in structuring undergraduate programs in the future to better meet the needs of the students. There were no foreseeable risks involved other than those encountered in everyday life.

Instrumentation

A demographic questionnaire, and two previously tested instruments, the PRO-SDLS (Stockdale, 2003), and the CD-RISC (Connor & Davidson, 2003) were used to measure the variables of interest. The demographic survey consisted of four items (see Appendix B). The PRO-SDLS consists of 25 items (See Appendix C). The CD-RISC consists of 25 items. Due to copyright constraints the specific questions cannot be replicated in this document but a general description of each item is listed (See Appendix D). The survey concluded with two open ended questions:

1. How do you define self-directed learning as it pertains to learning/ What does it mean it means to be a self-directed learner?
2. How do you define resilience as it pertains to nursing/ What does it mean to be resilient?

The combination of these resulted in a 56-item survey, and the estimated time for completion was approximately 15 minutes.

The PRO-SDLS was selected due to its predetermined reliability and validity, which were discussed in Chapter Two. For the assessment of self-directed learning, the PRO-SDLS was administered. The choice of the PRO-SDLS was made based on the literature by Stockdale (2010) who showed that the 25-item self-directed learning readiness scale had good validity. The instrument is a self-report 25-item questionnaire using a 5-point Likert scale that uses straight and reverse coding to minimize acquiescence (Appendix J) (Stockdale & Brockett, 2011, p. 167).

The CD-RISC was selected due to its predetermined reliability and validity, which were discussed in Chapter Two. The total score of the CD-RISC (Connor & Davidson, 2003) was used to measure resilience for this study. The CD-RISC has been tested in the general population as well as with clinical samples. The instrument has been shown to be effective in measuring resilience. Connor and Davidson (2003) were influenced by several previous works. The CD-RISC is a 25-item self-report scale and items are rated on a five-point Likert scale (0-4). Participants were asked to choose the most appropriate rating (0-4) based on how he/she felt over the past month. The total score ranges from 0-100, with higher scores indicating greater resilience.

Permission was obtained from each of the instrument's authors prior to administering the survey. Documentation of that permission is included in Appendix D (PRO-SDLS) and Appendix G (CD-RISC).

Data Collection

Prior to collecting any data, approval was obtained from the College of Nursing, University of Tennessee, Knoxville as well as institutional IRB. The researcher utilized the Qualtrics survey system to collect and the Statistical Package for the Social Sciences (SPSS) was utilized to analyze the demographic data as well as the data from the PRO-SDLS and the CD-RISC. An information sheet was provided to the participants in the initial email contact as well as available immediately upon accessing the Qualtrics survey itself (See Appendix I). There were minimal foreseeable risks associated with completing this survey. However, to control unforeseen risks, Institutional Review Board (IRB) approval was obtained prior to data collection. Measures to maintain confidentiality included online survey security settings prevented the recording of participants' IP address, email, and name. Finally, there were no penalties for choosing not to participate within this study. To avoid any perception of coercion, an administrative assistant in the Student Services Office was the only one with access to the student's emails for initial contact as well as for the follow-up reminder. The researcher only had access to anonymous completed data. It was impossible to identify data from specific individuals, thus maintaining participant anonymity. All data were password protected on a secure server.

Informed consent is implied when the participant accessed the survey via the link sent to them in the recruitment email. Consent was obtained when the participants accessed the survey, the first question was "I voluntarily consent to participate in this survey" and if they answered no

to that question then the survey ended immediately. If they answered yes to the consent question then they continued to the remaining survey items. The participants had the right to terminate participation at any time during the survey by exiting the survey.

Recruitment emails were sent out to all undergraduate nursing students in both the TBSN (rising seniors and just graduated) and ABSN programs. Data collection continued for three weeks, with a follow-up reminder email being sent out seven days after initial recruitment e-mail.

Data Analysis

Descriptive statistics were used to provide a profile of the survey sample. The collected data were imported from Qualtrics into SPSS for analysis. I began by cleaning the data. Of the 78 participants who clicked “consent to participate,” seven participants started the survey but did not complete and one participant completed the survey but only answered a few items, those eight was eliminated. For both instruments, PRO-SDLS and CD-RISC, the overall reliability coefficient (Cronbach’s alpha) were calculated, as well as mean scores, and standard deviations. Internal consistency of a scale demonstrates to what degree an instrument’s items relate to one another and to what degree will those items consistently measure what it is designed to measure; ranging from 0 to 1, the resulting coefficient indicates the strength of internal consistency, with a higher number indicating greater consistency (Huck, 2012). These were compared to similar studies utilizing the instruments. Cronbach’s alpha results were comparable with previous studies that used these instruments, and the results were within the recommended range of acceptability for a coefficient of reliability.

Below are the four research questions that guided this study. With each question, I describe the analyses that were performed.

Table 3.1 Research Question and Data Analysis

Research Question	Data Analysis
1. What is the relationship between self-directed learning and resilience among baccalaureate undergraduate nursing students?	After reviewing the descriptive statistics, it was determined that the data for both the PRO-SDLS and CD-RISC were normally distributed in this sample, which meant parametric analysis was acceptable. A correlation was conducted between the composite scores of the PRO-SDLS and the CD-RISC. Pearson product-moment correlation.
2. What is the relationship between resilience and the four factors of self-directed learning: Teaching Learning Transaction Components (TL); initiative and control and Learner Characteristics Components (LC); self-efficacy and motivation among baccalaureate undergraduate nursing students?	A Pearson correlation was calculated between the composite CD-RISC scores and the PRO-SDLS factors (initiative, control, self-efficacy, and motivation). Pearson product-moment correlation.
3. Is there a significant difference between SDL and resilience by type of program, TBSN or ABSN?	Independent sample t-test was conducted to examine differences by program type for SDL and Resilience. MANOVA – for SDL factors.
4. Is there a significant difference between age, sex, and highest degree earned by type of program, TBSN or ABSN?	Independent sample t-test was conducted to examine differences by program type

The data from the two open ended questions were analyzed; identifying themes within the data that would attempt to understand and explain in more depth the qualitative data that was obtained from participants.

Summary

As has been stated previously, the purpose of this study is to investigate the relationship between self-directedness in learning and resilience among baccalaureate undergraduate nursing students. A sample of undergraduate nursing students, both TBSN and ABSN was collected. Participants completed a demographic questionnaire, two instrument scales to measure self-directed learning and resilience: (1) PRO-SDL, and (2) CD-RISC, and two open ended questions. After IRB approval was obtained, data collection began. An initial email was sent to all possible participants, and a follow up email was sent out one week later. Measurements were collected using an internet-based survey program, Qualtrics. In the next chapter, will include the presentation of the data analysis each of the research questions.

Chapter Four

Data Analysis

The purpose of this study was to investigate the relationship between self-directedness in learning and resilience among baccalaureate undergraduate nursing students. Within this chapter, the will present the demographic analyses of the data. Next, I will address the reliability and validity of each instrument and present the results of the analyses. Finally, I will present the results for the four research questions presented in Chapters One and Three.

Overview of the Sample

The population for this study consisted of 327 undergraduate nursing students who are currently enrolled in the TBSN or ABSN undergraduate programs at a large, four-year, public research university in the Southeastern United States. Of these, 244 were TBSN and 83 were ABSN students. The survey was sent via e-mail to a total of 327 potential participants. Of these 327, seven participants started the survey but did not complete it. At the end of the data collection period, the survey completion rate was 21.6%, which resulted in a sample of 71 participants. When reviewing the data sets, one participant only answered a few survey questions; therefore, to avoid missing data errors, this one participant's results were eliminated. After ensuring data sets completion, this researcher analyzed data based on a sample size of 70 or $n=70$.

Demographics

For this study, participants answered four demographic questions: age, gender, nursing program (TBSN or ABSN), and highest degree obtained before entering the nursing program. Overall, participants' ages ranged from 20 to 48 years of age with a mean age of 25.06 years ($n=70$). Age was also examined in relation to type of program, TBSN or ABSN. The mean age

of the TBSN participants was 21.1 years old and the mean age of the ABSN participants was 27.69 years old (see Table 4.1) In reporting gender ($n = 70$), 85.7% identified as female ($n = 60$) and 14.3% identified as male ($n = 10$) (see Table 4.2) . Participants from the TBSN program accounted for 40% ($n = 28$) and the ABSN program accounted for 60% ($n = 42$) of participants.

In addition to age, gender, and program type, I asked the participants ($n = 70$) to report highest degree obtained before entering the nursing program. More than 38% of participants ($n=27$) reported no previous college degree, 54.3% reported having earned a bachelor’s degree ($n=38$), and 7.1% reported having earned a master’s degree ($n=5$) before entering the nursing program (see Table 4.3).

Table 4.1 Descriptive Statistics of Participants: Age and Type of Nursing Program

	Best describes your nursing program	N	Mean	Std. Deviation
Age	All Participants	70	25.06	5.97
	Traditional BSN program	28	21.11	.63
	Accelerated BSN program	42	27.69	6.48

Table 4.2 Descriptive Statistics of Participants: Gender and Type of Nursing Program

	Best describes your nursing program	Traditional BSN program	Accelerated BSN program	Total – both programs
Sex	Female ($n = 60$)	25 (89.3%)	35 (83.3%)	85.7%
	Male ($n = 10$)	3 (10.7%)	7 (16.7%)	14.3%

Table 4.3 Descriptive Statistics of Participants: Degrees Obtained before Entering Nursing Program

Describes highest degree obtained before entering the nursing program	Traditional BSN program	Accelerated BSN program	Total – both programs
No previous college degree (<i>n</i> = 27)	27 (96.4%)	0	27 (38.6%)
Bachelor’s degree (<i>n</i> = 38)	1 (3.6%)	37 (88.1%)	38 (54.3%)
Master’s degree (<i>n</i> = 5)	0	5 (11.9%)	5 (7.1%)

Instrumentation

For this study, in addition to collecting demographic and stage in program data, I also used the PRO-SDLS (Stockdale, 2003) to measure self-directedness in learning and the CD-RISC to measure resilience (Conner & Davidson, 2003). After exploring the demographic statistics, descriptive statistical tests were conducted for means and standard deviations to compare with previous studies. Reliability analyses, using Cronbach’s alpha tests, were conducted to assess the internal consistency of each scale and the PRO-SDLS subscale. I then compared these results with previously reported studies using the PRO-SDLS and the CD-RISC.

PRO-SDLS

The PRO-SDLS is a 25-item self-report scale and items are rated on a five-point Likert scale (1-5). Participants were asked to choose the most appropriate rating (1-5) as the statement pertained to recent learning experiences in college. The total scores range from 25 to 125, with a higher score interpreted as one’s having more self-directedness in learning. The mean score for this sample was 95.76 (SD=10.56), compared to Stockdale and Brockett’s mean (2011) reported mean score of 80.05 (see Table 4.4). See Table 4.5 for comparisons of mean scores and standard deviations for the SDL composite and the subscales with other studies.

Table 4.4 Comparison Scores for the PRO-SDLS

	Stockdale & Brockett (2011)			Current Study		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
SDL Composite	80.05	12.47	195	95.76	10.56	70
Initiative	17.79	3.89	199	20.24	3.70	70
Control	20.24	3.66	197	24.14	3.36	70
Self-efficacy	22.09	3.48	199	25.76	3.15	70
Motivation	20.17	4.16	197	25.61	3.58	70

Table 4.5 PRO-SDLS Composite Score Comparisons

	Year	<i>N</i>	<i>M</i>	<i>SD</i>
Current Study		70	95.76	10.56
Ruttencutter	2018	118	97.86	12.31
Beard	2016	102	91.5	12.92
Conner	2012	137	92.87	13.45
Stockdale & Brockett	2011	195	80.05	12.47
Holt	2011	519	89.13	11.54
Hall –pre-test	2011	110	89.62	10.03
Hall – post-test	2011	110	91.17	10.92
Gaspar et al.	2009	65	90.64	12.30
Fogerson	2005	217	96.91	11.82
Stockdale	2003	194	84.05	12.47

Reliability. Reliability is the “consistency with which an instrument measures what it is supposed to measure” (Fain, 2017, p. 254). For the PRO-SDLS, Cronbach’s alpha, which is a reliability coefficient value that ranges from zero to 1, was .89 for the total scale; the four subscales were as follows: initiative $\alpha = .77$, control $\alpha = .78$, self-efficacy $\alpha = .83$, and motivation $\alpha = .75$. This is comparable to Stockdale and Brockett’s (2011) reported Cronbach’s $\alpha = .91$; and the subscales, Stockdale and Brockett reported similar coefficients: initiative $\alpha = .81$, control $\alpha = .78$, motivation $\alpha = .82$, and self-efficacy $\alpha = .78$ (p. 170). Finally, these reliability measures for this study are also consistent with reliability reports from previous studies utilizing the PRO-SDLS (see Table 4.6).

Table 4.6 PRO-SDLS Reliability – Cronbach’s Alpha

	<i>N</i>	Composite	Initiative	Control	Self-Efficacy	Motivation
Current Study	70	0.89	0.77	0.78	0.83	0.75
Ruttencutter (2018)	118	0.91	0.80	0.78	0.81	0.83
Langshaw (2017)	113	0.81	0.81	0.78	0.78	0.82
Beard (2016)	102	0.90	0.72	0.79	0.83	0.78
Conner (2012)	137	0.90	0.78	0.74	0.76	0.79
Holt (2011)	572	0.88	0.73	0.72	0.79	0.79
Hall (2011) post	110	0.87	0.72	0.83	0.79	0.67
Hall (2011) pre	110	0.84	0.76	0.78	0.79	0.41
Gaspar et al. (2009)	65	0.89	0.80	0.81	0.83	0.83
Fogerson (2005)	217	0.92	n/a	n/a	n/a	n/a
Stockdale (2003)	195	0.91	0.81	0.78	0.78	0.82

Validity. Validity is an important characteristic of an instrument but an instrument must first be reliable before validity can be considered (Fain, 2017, p.254). As discussed above, the reliability of the PRO-SDLS has been established, with not only this sample’s data but also with previous studies that have utilized this instrument. Stockdale (2003) utilized an expert panel to establish content validity; in addition, she utilized the correlations between SDL and grade point average to establish criterion validity; she also utilized correlations between the PRO-SDLS and Guglielmino’s (1977) SDLRS instrument to establish convergent validity; and finally, she utilized the “significant relationships between PRO-SDLS scores and related behavioral criteria for self-direction” to establish construct validity (p. 126).

CD-RISC

The CD-RISC is a 25-item self-report scale and items are rated on a five-point Likert scale (0-4). Participants are asked to choose the most appropriate rating (0-4) based on how they felt over the past month. The total score ranges from 0-100, with higher scores indicating greater resilience. The mean score this sample was 78.99 (SD=10.14) compared to Conner and Davidson’s mean (2003) reported mean score of 82 (See table 4.7). See Table 4.8 for comparisons of mean scores and standard deviations for the CD-RISC composite scores with other studies.

Table 4.7 Comparison Scores for the CD-RISC

	Conner & Davidson (2003)			Current Study		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
CD-RISC Composite	82		577	78.99	10.14	70

Table 4.8 CD-RISC Composite Score Comparisons

	Year	<i>N</i>	<i>M</i>
Current Study		70	78.99
Stephans	2013	70	74.5
Cody	2013	220	78
Kang et al.	2013	321	67.2
Mealer et al.	2012	27	72
Giesbrecht et al.	2009	79	66.4
Conner & Davidson	2003	577	82

Reliability. For the CD-RISC, the Cronbach’s alpha was .88. This is consistent with Conner and Davidson’s (2003) reported reliability of .89 and is consistent with reliability reports from previous studies utilizing the CD-RISC (see Table 4.9).

Table 4.9 CD-RISC Reliability – Cronbach’s Alpha

	<i>N</i>	Composite
Current Study	70	0.88
Stephans (2013)	70	0.93
Cody (2013)	220	n/a
Kang et al. (2013)	321	n/a
Mealer et al. (2012)	27	0.92
Giesbrecht et al. (2009)	79	0.87
Conner & Davidson (2003)	577	0.89

Validity. Convergent validity was assessed for the CD-RISC against other resilience scales and assessed with other measures related to resilience such as perceived stress, stress vulnerability, hardiness, stress-coping ability, and social support (Connor & Davidson, 2003). Many studies have confirmed the instrument’s ability to predict and reflect responses to treatment in the clinical setting and educational efforts in the academic setting (Vaishnavi, Connor, & Davidson, 2007).

Analysis of Research Questions

Within this section, the researcher will address the four research questions proposed in Chapters One and Three. These research questions were asked in order to assess the relationships between self-directedness in learning and resilience. Data were analyzed using SPSS and report those results below within the research questions.

Research Question 1: What is the relationship between self-directed learning and resilience among baccalaureate undergraduate nursing students?

After confirming the reliability of the scales tests were conducted to answer this research question. A Pearson's product-moment correlation coefficient (Pearson's r) was used to measure the relationship between SDL and resilience. Pearson's product-moment-correlation coefficient is the parametric test that is the usual method by which the relationship between two variables is quantified when there is normalcy in distribution, which there was in this sample. Pearson's correlation coefficient ranges from -1.0 to 1.0, and represents the strength and direction of the relationship between two variables. The closer the coefficient is to either -1.0 or +1.0, the stronger the correlation (Fain, 2017, p. 276). When interpreting results, Fain (2017) suggests the following categories for determining the strength or magnitude of a relationship: “.00-.25 = little if any relationship, .26-.49 = low, .50-.69 = moderate, .70-.89 = high, and .90-1.00 = very high” (p. 276). To interpret a Pearson's correlation coefficient it is also important to consider effect size. Standardized effect sizes when utilizing Pearson's correlation coefficient are .10 is a small effect, .30 is a medium effect, and .50 is a large effect (Huck, 2012, p. 167).

As noted in Table 4.10, Pearson's correlation coefficient was .55 ($p < .001$) for SDL and resilience. This indicates a significant positive relationship with a medium size effect between SDL and resilience. To get a better understanding of this relationship the coefficient of

determination was calculated (r^2). The coefficient of determination is an indication of “the proportion of variability in one variable that is associated with or explained by variability in the other variable” (Huck, 2012, p. 62). The coefficient of determination (r^2) was .30, or 30%. This value is interpreted as 30% of the variance in participants’ level of SDL is accounted for by the participants’ level of resilience. Participants who are highly self-directed in their learning are also highly resilient.

In addressing Research Question 1, the data indicate that there is a significant positive relationship between SDL and resilience. In Chapter Five, this relationship will be explored further and practical implications will be considered.

Table 4.10 *Pearson’s product-moment correlation coefficient (r) between PRO-SDL and CD-RISC*

		Resilience	SDL
Resilience	Pearson Correlation	1	.553**
	Sig. (2-tailed)		.000
	N	70	70
SDL	Pearson Correlation	.553**	1
	Sig. (2-tailed)	.000	
	N	70	70

** Correlation is significant at the 0.01 level (2-tailed).

Research Question 2: What is the relationship between resilience and the four factors of self-directed learning: Teaching Learning Transaction Components (TL); initiative and control and Learner Characteristics Components (LC); self-efficacy and motivation among baccalaureate undergraduate nursing students?

Correlations were conducted to test the strength and direction of the relationship between PRO-SDL factors and CD-RISC composite score. A Pearson’s product-moment correlation coefficient (Pearson’s r) was used to measure these relationships. As noted in table 4.11, resilience had a significant positive relationship with each of the PRO-SDL factors. Resilience had a significant positive relationship, although a weak relationship, with motivation ($r = .373$, $p < .001$), initiative ($r = .401$, $p < .001$), control ($r = .409$, $p < .001$), and self-efficacy ($r = .52$, $p < .001$). Coefficients of determination (r^2) were calculated and they demonstrate that resilience accounts for 14% of the variance in motivation, 16% of the variance in initiative, 17% of the variance in control, and 27% of the variance in self-efficacy.

Table 4.11 *Pearson’s product-moment correlation coefficient (r) between CD-RISC and factors of PRO-SDL*

		initiative	control	Self- efficacy	motivation
Resilience	Pearson Correlation	.401 **	.409 **	.520 **	.373 **
	Sig. (2-tailed)	.001	.000	.000	.001
	N	70	70	70	70

** Correlation is significant at the 0.01 level (2-tailed).

In addressing Research Question 2, the data indicate that there is a significant positive relationship between resilience and the four factors of self-directed learning. In Chapter Five, the researcher will further explore this relationship and consider practical implications.

Research Question 3: Is there a significant difference between SDL and resilience by type of program, TBSN or ABSN?

In examining the relationships between resilience and type of program, TBSN or ABSN the researcher used mean scores on the CD-RISC and performed an independent t-test to determine whether the means of the two groups are significantly different. Table 4.12 notes the mean scores and standard deviation on CD-RISC by type of program. There was a significant difference between the type of program and the level of resilience, with the ABSN program type being more resilient than the TBSN program type, $t=-2.063$, $df=68$, $p=.043$, Cohen's $d=.51$ (medium effect size).

Table 4.12 Comparison Scores for CD-RISC by Type of Program

Type of Program		N	Mean	Std. Deviation
Resilience	TBSN program	28	3.05	.38
	ABSN program	42	3.25	.40

In examining the relationships between SDL and type of program, TBSN or ABSN the researcher used mean scores on the PRO-SDL and performed an independent t-test to determine whether the means of the two groups are significantly different. Table 4.13 notes the mean scores and standard deviation on PRO-SDL by type of program. There was a significant difference between the type of program and the level of SDL, with students in the ABSN program being more self-directed in learning than those in the TBSN program, $t=-3.947$, $df=68$, $p<.001$, Cohen's $d=.94$ (large effect size).

Table 4.13 Comparison Scores for PRO-SDL by Type of Program

Type of Program		N	Mean	Std. Deviation
SDL	TBSN program	28	3.61	.42
	ABSN program	42	3.98	.36

To explore group differences, ABSN versus TBSN, in the four factors of the PRO-SDL; initiative, control, self-efficacy, and motivation, a between groups one-way multivariate analysis of variance (MANOVA) was performed. The one-way multivariate analysis of variance (one-way MANOVA) is used to determine whether there are any differences between independent groups on more than one continuous dependent variable (Huck, 2012, p. 459). In order to assess whether the assumptions of MANOVA were met, preliminary assumption “testing for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance and multicollinearity” were conducted and none of the assumptions seemed to be violated (Huck, 2012). For this study the researcher utilized the MANOVA to determine whether there are any

significant differences between the TBSN and ABSN groups on the four factors of the PRO-SDL. Table 4.14 notes the mean scores and standard deviation on four factors of the PRO-SDL by type of program. The researcher also performed a Wilks' lambda (Λ) analysis. A Wilks' lambda (Λ) is a test statistic that's reported in results from MANOVA, discriminant analysis, and other multivariate procedures. It is similar to the F-test statistic in ANOVA. Lambda is a measure of the percent variance in dependent variables not explained by differences in levels of the independent variable (Huck, 2012, p. 465). If significance (p-value) is small, ($p < .05$) the null hypothesis will be rejected, meaning there is a significant difference between the two groups in at least one of the dependent variables. The MANOVA indicates that there is a significant difference between the type of program and at least one of the four factors of the PRO-SDL, $F(4,65)=3.758$, $p=.008$. Individual ANOVAs were then run to determine which of the factors differed significantly by type of program. Table 4.15 illustrates the significant difference between type of program and each of the four factors of the PRO-SDL ($p < .05$) for all four factors. The greatest difference occurs with self-efficacy, then control, initiative, motivation in decreasing order, all have large effect size with Cohen's $d = .76, .72, .62$, and $.58$ respectively.

Table 4.14 Comparison Scores for PRO-SDL factors by Type of Program

	Type of Program	Mean	Std. Deviation	N
Initiative	Traditional BSN program	3.1429	.53425	28
	Accelerated BSN program	3.5278	.62569	42
	Total	3.3738	.61675	70
Control	Traditional BSN program	3.7798	.62535	28
	Accelerated BSN program	4.1865	.45114	42
	Total	4.0238	.56057	70
Self-efficacy	Traditional BSN program	4.0536	.56484	28
	Accelerated BSN program	4.4524	.43287	42
	Total	4.2929	.52432	70
Motivation	Traditional BSN program	3.4796	.50427	28
	Accelerated BSN program	3.7789	.48594	42
	Total	3.6592	.51150	70

Table 4.15 Summary Table from MANOVA for PRO-SDL factors by Type of Program (Tests of between subject effects)

Source	Dependent Variable	df	Mean Square	F	Sig.
Corrected Model	Initiative	1	2.489	7.125	.009
	Control	1	2.779	9.998	.002
	Self-efficacy	1	2.672	11.149	.001
	Motivation	1	1.505	6.185	.015

In addressing Research Question 3, the data indicate that there is a significant difference between SDL and resilience by type of program, TBSN or ABSN, with the ABSN students having higher SDL and resilience. In Chapter Five, the researcher will explore further this relationship and consider practical implications.

Research Question 4: Is there a significant difference between age, sex, and highest degree earned by type of program, TBSN or ABSN?

In examining the relationships between demographics of age, sex, and highest degree earned prior to beginning the nursing program and type of program, TBSN or ABSN the researcher performed an independent t-test to determine whether the means of the two groups are significantly different.

To determine if there is a significant difference between age by type of program, TBSN or ABSN the means and standard deviations were calculated and an independent T-test was performed. Table 4.16 notes the mean ages and standard deviation by type of program, the mean age of students in the TBSN program is 21.1 years and the mean age of students in the ABSN program is 27.7 years. There was a statistically significant difference in age by type of program with the ABSN program having significantly older students, $t=-6.543$, $df=42$, $p<.001$.

Table 4.16 Age, Means and Standard Deviations by Type of Program

Type of Program		N	Mean	Std. Deviation	Std. Error Mean
Age	Traditional BSN program	28	21.1071	.62889	.11885
	Accelerated BSN program	42	27.6905	6.47505	.99912

To determine if there is a significant difference between sex by type of program, TBSN or ABSN frequencies/percentages were calculated and a Chi-square test was performed. Table 4.17 notes frequencies/percentages of sex by type of program. In the TBSN program 89.3% of students are female and 10.7% are males compared with 83.3% female and 16.7% male in the ABSN program. A Chi-square (χ^2) statistic is used to investigate whether distributions of categorical variables differ from one another. The results of the Chi-square tests demonstrate no statistically significant difference in sex by type of program, $\chi^2=.486$, $df=1$, $p=.486$.

Table 4.17 Sex by Type of Program

		TBSN program	ABSN program	Total	
Sex:	Female	Count	25	35	60
		% within Sex:	41.7%	58.3%	100.0%
		% within Select the option below that best describes your nursing program	89.3%	83.3%	85.7%
	Male	Count	3	7	10
		% within Sex:	30.0%	70.0%	100.0%
		% within Select the option below that best describes your nursing program	10.7%	16.7%	14.3%

To determine if there is a significant difference between highest degree earned and type of program, TBSN or ABSN frequencies/percentages were calculated and a Chi-square test was performed. Table 4.18 notes frequencies/percentages of highest degrees earned prior to entering the nursing program by type of program. In the TBSN program 96.4% of students had no previous degree earned and 3.4% had earned a bachelor's degree prior to entering the nursing program compared with the ABSN group who all had at least a bachelor's degree. The ABSN group had 88.1% with a bachelor's degree and 11.9% having earned a master's degree prior to entering the nursing program. It should be noted that all ABSN students are required to have at least a bachelor's degree to gain admission to the program.

A Chi-square (χ^2) statistic is used to investigate whether distributions of categorical variables differ from one another. The results of the Chi-square tests demonstrate a statistically significant difference in highest degree earned prior to entering nursing program by type of program, $\chi^2=69.54$, $df=2$, $p<.001$. ABSN students were significantly more likely to have obtained a Bachelor's or Master's degrees compared to the TBSN students.

In addressing Research Question 4, the data indicate that there is a significant positive relationship between age and highest degree earned prior to entering nursing program and type of program, $\chi^2=69.54$, $df=2$, $p<.001$. There is no significant relationship between sex and type of program, $\chi^2=.486$, $df=1$, $p=.486$. In Chapter Five, the researcher will further explore these relationships and consider practical implications.

Table 4.18 Highest Degree Earn Prior to Entering Nursing by Type of Program

		Type of Program		Total	
		Traditional BSN program	Accelerated BSN program		
Your Highest Degree Obtained before entering the nursing program:	No previous college degree	Count	27	0	27
		% within Select the option below that best describes your nursing program	96.4%	0.0%	38.6%
	Bachelor's Degree	Count	1	37	38
		% within Select the option below that best describes your nursing program	3.6%	88.1%	54.3%
	Master's Degree	Count	0	5	5
		% within Select the option below that best describes your nursing program	0.0%	11.9%	7.1%

Open-Ended Questions

Two open-ended questions were asked at the end of the survey. The purpose of these questions was to enrich or assist in interpreting the quantitative data. Participants either addressed both questions or did not respond to either question at all. Ninety-five percent of the ABSN participants and eighty-six percent of the TBSN participants responded to both open ended questions. The researcher read and reread the responses to identify reoccurring terms and phrases. For the first open-ended question: How do you define self-directed learning as it pertains to learning? What does it mean to be a self-directed learner? The TBSN students responded with comments related to their need to supplement what the teachers were providing and were more dependent on the teacher. The following statements are representative of how several respondents addressed the question: “Lots of ways teachers taught were not effective for me to succeed solely.” Many responses included phrasing that indicated “Doing things/learning on your own without someone telling or making you do something.” There were frequently used phrases from the TBSN group including “motivation within oneself”, “taking ownerships and responsibility”, and “taking the initiative to learn”. The TBSN students also mentioned the need to set up your own study plan as well as goals for what you want to accomplish. The ABSN students had similar responses but the difference was that nearly 100% of the responses mentioned “taking initiative” and many used phrases like “self-empowerment”, “independence and responsibility”, and “taking control of their own learning”. There were also many responses that stated “a self-directed learner is one who thoroughly enjoys the pursuit of knowledge and higher education”. There was no mention of the teacher’s role in their self-directed learning by the ABSN group.

For the second open-ended question: How do you define resilience as it pertains to nursing? What does it mean to be a resilient nurse? The responses were similar for both groups with the emphasis on “resilience means bouncing back from difficult situations”, “resilience is never letting a setback or failure stop you from moving forward” and that “resilience is essential in nursing, including nursing school”. Although there was common phrasing between the TBSN and ABSN groups it was interesting to see that the ABSN group gave many more specific examples and also mentioned the stress of nursing and the role of resilience in not only surviving but thriving. The researcher believes that difference in responses between the two groups may be related to the ABSN age, they are statically significantly older than the TBSN, and their life experiences.

Conclusion

The purpose of this study was to investigate the relationship between self-directedness in learning and resilience among baccalaureate undergraduate nursing students. In this chapter, the researcher provided an overview of the sample along with the descriptive statistics to provide a profile of the sample. The researcher then addressed the reliability and validity of the instruments utilized. Next, for each research question, the researcher presented an analysis of the data. In the next and final chapter, the researcher will interpret and discuss the relevant findings, discuss practical implications for the results, and indicate the direction of future research in this area.

Chapter Five

Summary and Conclusions

Previous chapters have provided an introduction to the study, a comprehensive literature review related to self-directedness in learning and resilience, and their potential connections for understanding undergraduate nursing education. Chapter Three described the correlational research design and the research questions guiding this study. It also included information about the population and sample, procedure, and data analysis methods. Chapter Four presented the data analyses. Next, the researcher will discuss the findings for each of the research questions and discuss the implications for practice. The researcher will also suggest areas for future research.

Summary of the Study

The purpose of this study was to investigate the relationship between self-directedness in learning and resilience among baccalaureate undergraduate nursing students. This study stemmed from the researcher's experiences in nursing and undergraduate nursing education. The nursing shortage and a rapid and every changing in healthcare have created a very challenging work environment for nurses (Juraschek et al., 2012; Herd et al., 2016). The challenges nurses face include both the need to maintain knowledge and skills over the life of their career through self-directed learning as well as having the resilience to survive or even thrive in the chaotic world of healthcare. Having the ability to cope with the daily stressors and turn them into a positive learning/growing experience is described as resilience (Jackson et al., 2007; Richardson, 2002; Thomas & Revell, 2016; McDonald et al, 2016). Nursing educators need to develop nursing students into strong, resilient, self-directed nurse leaders who are capable of not only surviving but thriving in a challenging healthcare environment. Through an examination of the relationship between self-directedness in learning and resilience among undergraduate nursing

students there is the potential to add to our understanding of how students learn in the face of adversity as well as identifying specific needs of nursing students that will enable them to move forward into the nursing profession poised for long-term success.

In Chapter Two, studies investigating SDL and resilience independently were discussed but surprisingly, the literature review in nursing, self-directed learning, and resilience reflected limited research for undergraduate nursing student. Furthermore, no studies were found that examined these constructs in ABSN and TBSN programs specifically. Robinson (2003) found a significant relationship between self-directed learning and resilience in her research with graduate students. She recommended exploring other populations. Piotrowski's (2017) research with mid-level healthcare leaders found a significant, positive relationship in the mean scores of the SDLRS (self-directed learning readiness) and the PRQ (resilience). She recommended exploring the educational approach of SDL & resilience levels from undergraduate professional education to new employee to senior management and physician leadership in the current interprofessional healthcare environment. As a result, the gap in knowledge related to the population of undergraduate nursing student and more specifically, TBSN and ABSN students provided a focus for this study.

After receiving Institutional Review Board approval to conduct this research, the researcher worked with an administrative assistant in the Student Services' Office at the College of Nursing to send an email to all rising seniors and just graduated seniors in the traditional program ($n=244$) and to all students in the accelerated program ($n=84$) at a large, four-year, public research university in the Southeastern United States. The email was sent from within Qualtrics system with text inviting students to participate (see Appendix H) in the study and a link to the survey. If students followed the link to the survey, the first page was the Informed

Consent Form (see Appendix I). In the Informed Consent page, prospective participants had to choose either “yes, I consent” or “no, I do not consent” to participate. If the prospective participant chose “no, I do not consent”, the survey immediately ended. If the prospective participant chose “yes, I consent” to participate, they were sent to the survey. If they chose to participate in the study, they first completed demographic items of age, gender, type of program enrolled in, and highest degree earned prior to entering the nursing program, the 25-item PRO-SDLS, and lastly the 25-item CD-RISC.

To increase response rate, one email reminder was sent to all prospective participants one week after the initial email. At the end of data collection, 78 participants clicked “yes, I consent” to participate, resulting in a 23.7% response rate. Of these, seven participants started the survey but did not complete and one participant completed the survey but only answered a few items, data from those eight was eliminated. Data were exported from Qualtrics to SPSS for analysis. To summarize this sample, the mean age for all participants was 25.06 years ($SD= 5.97$) and an age range of 20 to 48 years old. The mean age for TBSN participants was 21.2 years ($SD= .63$) and the mean age for ABSN participants was 27.69 years ($SD= 6.48$). For the total sample, 85.7% identified as female ($n = 60$) and 14.3% identified as male ($n = 10$). Participants from the TBSN program accounted for 40% ($n = 28$) and the ABSN program accounted for 60% ($n = 42$) of participants. For highest degree earned prior to enrolling in the nursing program, more than 38% of participants ($n=27$) reported no previous college degree, 54.3% reported having earned a bachelor’s degree ($n=38$), and 7.1% reported having earned a master’s degree ($n=5$).

The mean score for all participants on the PRO-SDLS was 95.76 (score range of 25 to 125). The mean score for the TBSN participants on the PRO-SDLS was 90.21 while the ABSN participants mean score was 99.45. The mean score for all participants on the CD-RISC was

78.99 (score range 0 to 100). The mean score for the TBSN participants on the CD-RISC was 76.14 while the ABSN participants mean score was 80.88. Therefore, within this sample all participants consider themselves to have high levels of both self-directedness in learning and resilience. The ABSN participants consider themselves more self-directed in learning and resilience than the TBSN participants.

Major Findings

This study examined four research questions exploring the relationship among self-directedness in learning, resilience, age, gender, program type, and previous degree earned prior to enrolling in nursing program among undergraduate nursing students. From this exploration, several significant findings emerged. First, there is a significant positive relationship between SDL and resilience ($r = .55, p < .01$). Second, when examining the CD-RISC composite score with the factors of the PRO-SDLS, resilience had a significant positive relationship with each of the four factors: initiative ($r = .40, p < .01$), control ($r = .41, p < .01$), self-efficacy ($r = .52, p < .01$), and motivation ($r = .37, p < .01$).

Another important finding from this study is a significant difference between type of program and the level of resilience, with the ABSN participants being more resilient than the TBSN participants. There was also a significant difference between type of program and the level of self-directedness in learning, with the ABSN participants being more self-directed in their learning than the TBSN participants. In exploring group differences and the four factors of the PRO-SDLS, there was a statistically significant difference between type of program and at least one of the four factors of the PRO-SDLS. Further examination revealed a significant difference between type of program and each of the four factors of the PRO-SDLS ($p < .05$) for all

four factors. The greatest difference occurs with self-efficacy ($p = .001$), then control ($p = .002$), initiative ($p = .009$), and motivation ($p = .015$) in decreasing order.

Lastly, when exploring whether there was a significant difference between age, sex, and highest degree earned prior to beginning the nursing program and type of nursing program, the researcher found a statistically significant difference in age by type of program with the ABSN program having significantly older students ($t = -6.543$, $df = 42$, $p < .001$). There was no statistically significant difference in sex by type of program ($\chi^2 = .486$, $df = 1$, $p = .486$). The researcher found a statistically significant difference in highest degree earned prior to entering nursing program by type of program ($\chi^2 = 69.54$, $df = 2$, $p < .001$). ABSN students were significantly more likely to have obtained Bachelor's or Master's degrees compared to the TBSN students. It is important to note that all ABSN students are required to have at least a bachelor's degree to gain admission to the program.

Discussion

The growing complexities of the healthcare system and the nursing profession, along with the ever expanding knowledge base, have challenged the “adequacy of traditional educational approaches” (Lekan et al, 2011). Understanding how nursing students learn in the face of adversity as well as identifying their specific needs will enable them to move forward into the nursing profession poised for long-term success is essential. Both self-directed learning and resilience in nurses are essential to their long term professional success.

In this study, the evidence suggests that that participants consider themselves highly self-directed (mean score on PRO-SDLS = 95.76) and highly resilient (mean score on CD-RISC = 78.99). Student's readiness for self-directed learning hinges on them possessing “the attitudes, abilities, and personal characteristics required for self-directed learning” (Wiley, 1983, p.182).

Guglielmino (1977) concluded that the desirable characteristics of a self-directed learner are: “one who exhibits initiative, independence, and persistence in learning” (p. 73). The participants in this study may already have a strong foundation of the characteristics/attributes necessary for self-directedness in learning. The next question is how can educators increase a student’s level of self-directedness and, since this study indicates as the level of self-directedness increases, the level of resilience increases, also increase the student’s level of resilience.

Reyes et al. (2015) emphasized the need for additional investigation of resilience in nursing education since it had been identified as important in nursing education and for lifelong, self-directed learning. Understanding how character traits, personality strengths, or personal attributes such as resilience influence a person’s readiness for self-directed learning can assist educators in appropriately developing curriculum for different groups or types of nursing students.

Garcia-Dia et al. (2013) described attributes of resilience after conducting an extensive literature review of the uses of the term resilience and arrived at four attributes of resilience; rebounding, determination or persistence, social support, and self-efficacy. There is overlap in the characteristics/attribute of SDL and resilience such as persistence, control, responsibility, and positive self-concept.

In the current study a statistically significant positive relationship was found between SDL and resilience among undergraduate nursing students ($r = .55, p < .01$). As discussed in Chapter Four, the Pearson’s r value is squared to produce a coefficient of determination (r^2), which indicates the amount of variance shared by the variables. For SDL and resilience, 30% of the variance in participants’ self-directedness in learning can be attributed to the participants’ resilience, and vice versa. This indicates a moderately strong relationship between SDL and

resilience among participants (Huck, 2012; Jackson, 2010). The strength of this relationship is similar to that found by Robinson (2003) and Piotrowski (2017), 39% and 26% respectively.

In examining the factor scales of the PRO-SDLS, resilience had a significant positive relationship with all four factors: initiative ($r = .401, p < .001$), control ($r = .409, p < .001$), self-efficacy ($r = .52, p < .001$), and with motivation ($r = .373, p < .001$) although the relationship of the latter was weaker than the others. As noted by Robinson (2003), self-directedness tends to increase with increased age ($r = 0.32, p < 0.001$). The age category of less than 24 years was significantly different from the age groups greater than 40 years. Although the difference in correlation was small, as age increased, resilience tended to increase. In the current study, the findings indicate that there was a significant difference between type of program and all four factors of the PRO-SDLS, $p < .05$ for all four factors, with the ABSN participants being more self-directed ($t = -3.947, df = 68, p < .001$). It was also found that there was a significant difference between type of program and level of resilience, with the ABSN participants being more resilient ($t = -2.063, df = 68, p = .043$). The ABSN participants were found to be statistically significantly different based on age ($t = -6.543, df = 42, p < .001$). Although the study did not specifically examine the difference between SDL and resilience by age, the researcher speculates the above findings indicate that similar to Robinson (2003), as age increases both self-directedness in learning and resilience tend to increase.

To date, no other studies have examined the relationship between SDL and resilience in undergraduate nursing students nor have any examined the relationship between SDL and resilience in different types of nursing programs. The value of this study is that it allows the researcher to add to the body of knowledge related to the scope of Positive Psychology and adult education to determine how self-directedness in learning influences one's resilience.

The greatest potential benefit in connecting positive psychology concepts such as resilience, and adult education is “helping learners to develop a deeper understanding of their learning experiences, and themselves” (Anderson & Brockett, 2007, p. 4). This connection indicates that in developing the “whole” learner, there is room to explore concepts like resilience. In addition, if “self-directed learning is the most frequent way adults learn” (Anderson & Brockett, 2007, p.5), then resilience, as a positive psychology trait, may have important implications for self-directed learning.

These positive associations between SDL and resilience are very important when exploring how nursing students deal with stressors associated with learning in their undergraduate education as well as the stressors associated with the lifelong learning required throughout their career. The questions are: Can resilience assist the nursing student overcome educational obstacles? Or does resilience assist the nursing student to refocus on their learning objectives when obstacles arise? Tennant (2006) summarized that a self-directed learner has “the ability to detect and cope with personal and situational blocks to learning, and the ability to renew motivation” (p. 10). It seems to the researcher that he is talking about resilience, the ability to cope with a challenge and still move forward.

Implications for Practice

SDL and resilience both have several important implications for practice, and these include both in undergraduate education and in professional practice. Much has been said about the stressful, challenging, and ever changing healthcare environment that nurses face during their education as well as throughout their career but that is the reality of being a nurse (Tong & Epereter, 2018; Al-Dossary et al., 2014; Gifkins et al., 2017; Boamah & Laschinger, 2016). The question becomes how should nurse educators prepare undergraduate nursing student for not

only lifelong learning but also to thrive in the stressful, challenging environment they will face? Undergraduate nursing educators must be armed with research data to assist them in the design/redesign of programs, not only to teach the nursing knowledge and skills required but preparing students for their transition to professional practice. This study demonstrates a significant difference between two types of nursing programs, both leading to a professional career in nursing, related to students' self-directedness in learning and resilience.

One question that comes to mind is do the ABSN students come to the nursing program more self-directed or does the accelerated nature of the program make them more self-directed? Because the data collected included both ABSN students just beginning the program and some that were at the end of the program it is impossible to make that determination from this study.

There are two important implications that this study points directly to: first, these two different groups of students need a range of teaching methods and styles to reach their maximum potential. For the ABSN group, allowing them more control over their own learning and encouraging their self-exploration of learning would be essential. This would include providing educational strategies that allow for self-direction such as flipped classrooms. For the TBSN group, discussing the concept of self-directed learning with them and encouraging them to be more self-directed while still providing the support needed for them to be successful and allowing them choices in the direction of their learning when at all possible. It is important to introduce SDL to the TBSN students early in the curriculum and to provide support and mentoring as they try out their new skills. Educators can examine Hiemstra and Brockett's PPC model to gain a better understanding of how they can impact student's SDL. Second, in looking at resilience there needs to be an effort to identifying factors that promote the development of resilience in nurses and program development that can foster that development in the TBSN

specifically but should also include the ABSN group. Many have recommended that resilience building be incorporated into nursing curricula and some universities do include reflective practice, mindfulness and peer support programs in their courses but this needs to be expanded (Cusack et al., 2016; Cross, 2015; Craigie et al., 2016; Hart et al., 2014). Resilience “requires time, coaching, nurturing, and an insistence by grounded faculty members that the nebulous outcome is worth the extra time, reflection, interactiveness, and challenge” (Hodges et al., 2005, p. 550). Educators must find ways to incorporate resilience building into every nursing curriculum, especially with groups who have lower levels of resilience such as TBSN students. Reflective journaling may be a good start to get students to reflect on the challenges and obstacles they are encountering in nursing school and allows them time to reestablish reintegration at a high level of resilience as Richardson describes in his resilience model. The use of an instrument such as the CD-RISC which measures five dimensions of resilience: personal competence, stress tolerance, acceptance of change, control, and spirituality may be useful in assessing whether educational efforts are positively impacting resilience.

This study’s finding of a significant difference in age between the types of programs also has implications for practice. The ABSN students are significantly older. They are adult learners and their educational experience as well as life experience makes them different from the TBSN students so that using the same teaching methods may not be appropriate (Knowles, 1989; Tanner, 2002; Young & Diekelmann, 2002). As noted in the previous paragraph, educators need to use more self-directed teaching methods with the ABSN group. Because the TBSN group is younger and less self-directed it is essential that educators develop curricula that enhance their development of self-directedness in learning. It is important for nurse educators to understand the differences in these two groups, although the same content knowledge and skills

must be taught to both groups, the way they are taught and the way they learn best must be taken into account when developing curricula. Shiber (2003) found that ABSN students are more highly self-directed so the teaching methods should reflect this level of self-direction.

Edmondson, Boyer, and Artis (2012) found in their research with undergraduate marketing students that self-directed learning is significantly and positively related to academic performance, creativity, curiosity, and life satisfaction. In students who are already highly self-directed, educators need to allow them to be self-directed and with students who have not developed the skills to be self-directed, educators need to foster that development.

Traditionally, in formal undergraduate nursing education, the educators maintain control of the content and processes related to the learning but if nurses are to develop into lifelong learners, educators need to begin to foster self-directedness in learning at an early point in their education. Students transitioning to professional nurses cannot just turn into self-directed learners, educators must incorporate facets of self-directed learning throughout the nursing program and foster that growth.

Perhaps, through identifying and fostering SDL and resilience among undergraduate nursing students, more students who have the passion and desire to become professional nurses will not only attain their degree but also transition successfully to many years of professional practice. In the next section, I address future directions for research.

Future Directions for Research

As stated in Chapter One, the purpose of this correlational study was to investigate the relationship between self-directedness in learning and resilience among baccalaureate undergraduate nursing students. By investigating these relationships within undergraduate nursing education, both educators and students can better understand how resilience and self-

directedness in learning are related. The researcher found a significant positive relationship between SDL and resilience. More specifically, this study examined the differences between SDL and resilience by program type, TSN or ABSN and found a significant difference between program type and both SDL and resilience. Since there are only a few studies examining SDL and resilience and this is the first study to examine these constructs by program type, there is a great opportunity to continue to examine the intersection of adult education concepts such as SDL and positive psychology constructs such as resilience within undergraduate nursing education. Below, the researcher provides several recommendations for future research:

1. The current study examined undergraduate nursing students at one College of Nursing at a large, four-year, public research university in the Southeastern United States so it would be appropriate to repeat the study across multiple universities. In doing this, the results may prove more generalizable.
2. This study reflects just a snapshot of these participants at a particular point in their undergraduate education. The limitation here is that it is indeterminable if the way in which participants perceive their self-directedness in learning and resilience changes over the course of their nursing program and over time after graduation. A longitudinal study examining SDL and resilience from the beginning of their nursing program well into their career could provide valuable data.
3. As with Stephans' (2012) study that examined if an "educational intervention delivered via Twitter was effective to increase resilience and sense of support, as well as decrease perceived stress, in a sample of adolescent baccalaureate nursing students", the researcher believes future research should focus on educational interventions to foster both SDL and resilience to determine which interventions are

most beneficial to students. This research could also be carried forward into a registered nurse's professional practice.

4. What influence, if any, does fostering self-directedness in learning have on the development of resilience in undergraduate nursing students?
5. More research is needed in the area of the differences between TBSN students and ABSN students in an effort to provide more effective educational programs for both groups, where each group can be encouraged to meet or exceed their potential.

Conclusion

This study has provided evidence that there is a significant, positive relationship between self-directedness in learning and resilience. It also provides evidence that there is a significant difference between program type and SDL and resilience. From these results, data indicate that in all undergraduate nursing students as SDL increases so does resilience. The importance of this study is that it adds to the body of knowledge as to how self-directedness in learning influences certain positive psychology constructs (e.g. resilience). The study suggests that resilience can be an important personal characteristic throughout the learning process, and for developing the needed skills for overcoming educational stressors throughout nursing school and the adversity they will face in their professional practice. It also adds to the body of knowledge related to the differences between traditional BSN and accelerated BSN student. This is particularly important today with the number of ABSN programs growing exponentially across the country. New research questions have emerged from this study, which can guide future research efforts to explore SDL and resilience's impact within an undergraduate nursing education.

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Appendices

Appendix A
Permission to Reprint Richardson Resilience Model

Glenn Richardson <glenn.richardson@health.utah.edu>

Wed 6/6, 3:30 PM

Hi Lynn: Thank you for requesting permission to use the resiliency model. I am not sure if you are using the version in the Journal of Clinical Psychology (2002) or the more current model in “Proactive and Applied Resilience: The Sixteen Experiences” (2017) but you have my permission in either case. I assume you will cite the source that you use. I wish you well with your doctoral studies.

Regards,

Glenn

Glenn E. Richardson, Ph.D.
Professor, Health Promotion and Education
College of Health
University of Utah

801 581 8039

Beeler, Lynn Marie

Wed 6/6, 1:15 PM

Dr. Richardson,

My name is Lynn Beeler and I am in the process of completing my dissertation proposal for a PhD in Educational Psychology with a concentration in Adult Learning from the University of Tennessee, Knoxville. I am proposing to investigate the relationship between resilience and readiness for self-directed learning among undergraduate nursing students and I would like your permission to reprint your resilience model in my research. My advisor is Dr. Ralph Brockett and we have discussed the use of your model and think it would be a good fit for my proposed study.

I'm working on a tight timeframe and I'm hoping to get your approval as soon as possible. Please let me know if I have permission to reprint your model in my dissertation and if you have any questions please feel free to contact me (865-660-1216).

Thank you in advance for considering my request,

Lynn Beeler, RN, MSN, FNP
Clinical Instructor

Appendix B
Demographic Questionnaire

1. Age _____

2. Sex:
- a. Female
 - b. Male
 - c. Non-binary/third gender
 - d. Prefer not to say

3. Select the option below that best describes your nursing program.

- a. Traditional BSN
- b. Accelerated BSN

4. Highest Degree obtained:

- a. No previous college degree
- b. Associate Degree in Nursing
- c. Bachelor's Degree
- d. Master's Degree
- e. PhD
- f. Other _____

Appendix C

A Learning Experience Scale (PRO-SDLS)

Please check one answer for each statement. There are no “right” answers to these statements, which pertain to your recent learning experiences in college-not just those experiences from this class (although they may be the same).

ITEM	Strongly Disagree	Disagree	Sometime s	Agree	Strongly Agree
1. I am confident in my ability to consistently motivate myself.					
2. I frequently do extra work in a course just because I am interested					
3. I don't see any connection between the work I do for my courses and my personal goals and interests.					
4. If I am not doing as well as I would like in a course, I always independently make the changes necessary for improvement.					
5. I always effectively take responsibility for my own learning.					
6. I often have a problem motivating myself to learn.					
7. I am very confident in my ability to independently prioritize my learning goals					
8. I complete most of my college activities because I WANT to, not because I HAVE to.					
9. I would rather take the initiative to learn new things in a course rather than wait for the instructor to foster new learning.					
10. I often use materials I've found on my own to help me in a course					
11. For most of my classes, I really don't know why I complete the work I do.					
12. I am very convinced I have the ability to take personal control of my learning					

- 13. I usually struggle in classes if the professor allows me to set my own timetable for work completion.**
- 14. Most of the work I do in my courses is personally enjoyable or seems relevant to my reasons for attending college**
- 15. Even after a course is over, I continue to spend time learning about the topic.**
- 16. The primary reason I complete course requirements is to obtain the grade that is expected of me.**
- 17. I often collect additional information about interesting topics even after the course has ended.**
- 18. The main reason I do the course activities is to avoid feeling guilty or getting a bad grade.**
- 19. I am very successful at prioritizing my learning goals.**
- 20. Most of the activities I complete for my college classes are NOT really personally useful or interesting.**
- 21. I am really uncertain about my capacity to take primary responsibility for my learning.**
- 22. I am unsure about my ability to independently find needed outside materials for my courses.**
- 23. I always effectively organize my study time.**
- 24. I don't have much confidence in my ability to independently carry out my student plans.**
- 25. I always rely on the instructor to tell me what I need to do in the course to succeed.**

Appendix D
Content of the Connor-Davidson Resilience Scale

Item #	Description
1	Able to adapt
2	Close and secure relationships
3	Sometimes fate or God can help
4	Can deal with whatever comes
5	Past success gives confidence for new challenges
6	See the humorous side of things
7	Coping with stress strengthens
8	Tend to bounce back after illness or hardship
9	Things happen for a reason
10	Best effort no matter what
11	You can achieve your goals
12	When things look hopeless, I don't give up
13	Know where to turn for help
14	Under pressure, focus and think clearly
15	Prefer to take the lead in problem solving
16	Not easily discouraged by failure
17	Think of self as strong person
18	Make unpopular or difficult decisions
19	Can handle unpleasant feelings
20	Have to act on a hunch
21	Strong sense of purpose
22	In control of your life
23	I like challenges
24	You work to attain your goals
25	Pride in your achievements

Connor, K., & Davidson, J.R.T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety, 18*, 76-82.

Appendix E
Permission to Utilize the PRO-SDLS Instrument

PRO-SDLS instrument

Susan Stockdale <sstockda@kennesaw.edu>

Thu 3/15, 3:24 PM

A Learning Experience Scale (2)(1).pdf Scoring A Learning Experience Scale(1).pdf

Ms. Beeler,

Good luck with this endeavor. Please adopt and adapt the scale as necessary. Does Dr. Brockett still use a purple pen?

Susan

Susan Stockdale, Ph.D.

Professor of Educational Psychology and Middle Grades Education

Program Director, Woodrow Wilson Teaching Fellowship

Former Associate Dean of Graduate Studies, Bagwell College of Education

Bagwell Education Building 451

Kennesaw State University

Kennesaw, GA 30144

Work: 470-578-2060 Cell: 678-491-1020

Beeler, Lynn Marie

Wed 3/14, 11:08 PM

sstockda@kennesaw.edu

Ms. Stockdale,

I am in the process of completing my dissertation proposal for a PhD in Educational Psychology with a concentration in Adult Learning from the University of Tennessee, Knoxville. I am proposing to investigate the relationship between resilience and readiness for self-directed learning among undergraduate nursing students and I would like your permission to use your instrument (PRO-SDLS) in my research. My advisor is Dr. Ralph Brockett and we have discussed the use of your instrument and think it would be a good fit for my proposed study.

I'm working on a tight timeframe and I'm hoping to get your approval as soon as possible. Please let me know if I have permission to use the PRO-SDLS and if you have any questions please feel free to contact me (865-660-1216).

Thank you in advance for considering my request,

Lynn Beeler, RN, MSN, FNP, PhD(c)

Clinical Instructor

University of Tennessee, Knoxville

College of Nursing

865-660-1215

lbeeler4@utk.edu

Appendix F
Permission to Utilize the Connor-Davidson Resilience Scale

CD-RISC instrument

Jonathan Davidson, M.D. <jonathan.davidson@duke.edu>

Yesterday, 7:35 PM

Lynn Beeler 031618a.doc

Hello Lynn:

Thank you for your inquiry. I would be glad to provide the CD-RISC and enclose an agreement for you to kindly sign and return, along with payment of the \$30 user fee. As soon as that is done, the scale and manual will be sent.

Best wishes,

Jonathan Davidson

Beeler, Lynn Marie

Yesterday, 3:06 PM

david011@mc.duke.edu

Dr. Davidson,

I am in the process of completing my dissertation proposal for a PhD in Educational Psychology with a concentration in Adult Learning from the University of Tennessee, Knoxville. I am proposing to investigate the relationship between resilience and readiness for self-directed learning among undergraduate nursing students and I am interested in utilizing your instrument and would like your permission to use your Connor-Davidson Resilience Scale (CD-RISC) instrument in my research. My advisor is Dr. Ralph Brockett and we have discussed the use of your instrument and think it would be a good fit for my proposed study.

I'm working on a tight timeframe and I'm hoping to get your approval as soon as possible. Please let me know if I have permission to use the CD-RISC and if you have any questions please feel free to contact me (865-660-1216).

Thank you in advance for considering my request,

Lynn Beeler, RN, MSN, FNP

Clinical Instructor

University of Tennessee, Knoxville

College of Nursing

Dear Lynn:

Thank you for your interest in the Connor-Davidson Resilience Scale (CD-RISC). We are pleased to grant permission for use of the CD-RISC in the project you have described under the following terms of agreement:

1. You agree (i) not to use the CD-RISC for any commercial purpose unless permission has been granted, or (ii) in research or other work performed for a third party, or (iii) provide the scale to a third party without permission. If other colleagues or off-site collaborators are involved with your project, their use of the scale is restricted to the project described, and the signatory of this agreement is responsible for ensuring that all other parties adhere to the terms of this agreement.

2. You may use the CD-RISC in written form, by telephone, or in secure electronic format whereby the scale is protected from unauthorized distribution or the possibility of modification. In all presentations of the CD-RISC, including electronic versions, the full copyright and terms of use statement must appear with the scale. The scale should not appear in any form where it is accessible to the public, and should be removed from electronic and other sites once the project has been completed.

3. Further information on the CD-RISC can be found at the www.cd-risc.com website. The scale's content may not be modified, although in some circumstances the formatting may be adapted with permission of either Dr. Connor or Dr. Davidson. If you wish to create a non-English language translation or culturally modified version of the CD-RISC, please let us know and we will provide details of the standard procedures.

4. Three forms of the scale exist: the original 25 item version and two shorter versions of 10 and 2 items respectively. When using the CD-RISC 25, CD-RISC 10 or CD-RISC 2, whether in English or other language, please include the full copyright statement and use restrictions as it appears on the scale.

5. A student-rate fee of \$ 30 US is payable to Jonathan Davidson at 325 Carolina Meadows Villa, Chapel Hill, NC 27517, USA, either by PayPal (www.paypal.com, account mail@cd-risc.com), cheque, bank wire transfer (in US \$\$), international money order or Western Union.

6. Complete and return this form via email to mail@cd-risc.com.

7. In any publication or report resulting from use of the CD-RISC, you do not publish or partially reproduce items from the CD-RISC without first securing permission from the authors.

If you agree to the terms of this agreement, please email a signed copy to the above email address. Upon receipt of the signed agreement and of payment, we will email a copy of the scale.

For questions regarding use of the CD-RISC, please contact Jonathan Davidson at mail@cd-risc.com. We wish you well in pursuing your goals.

Sincerely yours,

Jonathan R. T. Davidson, M.D.

Kathryn M. Connor, M.D.

Agreed to by:

Lynn Beeler

March 17, 2018

Signature (printed)

Date

PhD(c) Student

Title

University of Tennessee, Knoxville

Organization

CD-RISC instrument permission

Jonathan Davidson, M.D. <jonathan.davidson@duke.edu>

Today, 11:02 PM

aRISC Manual 01-01-18 F.pdf aCD-RISC-25 01-01-18.pdf

2 attachments (2 MB) Download all

Dear Lynn:

Thank you for your reply. I have pleasure to enclose the scale and manual. You may include 2 or 3 sample items from the scale in the appendix of your dissertation, but we aren't able, I'm afraid, to give permission for the entire scale.

Please let me know if you have any other questions.

With good wishes for a successful research project,

Jonathan Davidson

Beeler, Lynn Marie

Today, 10:31 PM

mail@cd-risc.com

CD-RISC instrument permission - LBeeler.doc

Dr. Davidson,

Thank you for your prompt response to my request to utilize the CD-RISC instrument in my dissertation work. I have attached a signed copy to this email and have mail payment to your address.

The only question I had was related to including a copy of the instrument (the items) in my dissertation itself. Item 7 on the permission form states I must have permission to publish the items from the instrument. Do I have permission to include the items in my dissertation?

Thank you again,

Lynn Beeler, RN, MSN, FNP

Clinical Instructor

University of Tennessee, Knoxville

College of Nursing

Appendix G Permission to Recruit Participants



April 2, 2018

Dear Ms. Beeler,

We have reviewed your request to access students enrolled in the University of Tennessee, Knoxville, College of Nursing baccalaureate undergraduate programs, specific program to be determined. We understand you will access the undergraduate students in the College of Nursing via email to recruit for the study. The email will include a link to an anonymous Qualtrics survey. The consent for participating in the study will be the first page of the survey and the alternation of consent will include all the necessary elements of consent but will not require the student to self-identify thereby remaining anonymous.

We also understand all undergraduate students enrolled in the programs you plan to examine will receive a reminder email one week after the initial email to complete the survey. Although emails will be written by you, an administrative assistant will send emails on your behalf to maintain possible participants' anonymity.

To ensure students who have had or will have you as an instructor do not feel persuaded to complete the survey by virtue of being your student, only the name of your committee chair will be available to contact with questions or concerns about the study.

We approve the request to survey students in the undergraduate programs at the University of Tennessee, Knoxville provided the steps outlined above are followed and you receive approval to conduct your study by the IRB of the University of Tennessee. We will request a copy of your approval prior to assisting you with recruitment for your study. Best of luck with your research endeavors.

Sincerely,

Handwritten signature of Tami H Wyatt in black ink.

Tami H Wyatt, PhD, RN, FAAN
Associate Dean of Research

Handwritten signature of Shelia H Swift in black ink.

Shelia Swift, PhD, RN
Assistant Dean of Undergraduate Programs

College of Nursing
1200 Volunteer Blvd., Knoxville, TN 37996-0311
865-974-7600 865-974-7569 fax Nursing.utk.edu

BIG ORANGE. BIG IDEAS.

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Appendix H

Invitation to Participate in a Study

An Investigation of the Relationships between Readiness for Self-Directed Learning and Resilience Among Undergraduate Nursing Students

Hello Undergraduate Nursing Students,

My name is Lynn Beeler, and I am a PhD candidate in Educational Psychology & Research (Adult Learning) at UTK. I am conducting my dissertation research on undergraduate nursing students within the College of Nursing. This email is to invite you, as an undergraduate nursing student in the University of Tennessee Knoxville's College of Nursing, to participate in a research study.

The purpose of my study is to investigate the relationship between self-directedness in learning and resilience among baccalaureate undergraduate nursing students. This relationship may provide a better understanding of adult learning and how readiness for self-directed learning may relate to resilience. By investigating these relationships within nursing education, both educators and students can better understand how resilience and readiness for self-directed learning are related. This study will provide a greater understanding of the emotional and cognitive aspects of self-directed learning among adult learners.

Your anonymous participation in this research study includes taking an online survey about your self-directedness in learning and resilience, as well as demographic items of age, gender, and previous degree before entering nursing program. This survey should only take about 15 minutes.

To participate in this study, please follow the below link to the Informed Consent Form within Qualtrics. After reading the Informed Consent Form, if you choose to participate, you will select "I consent to participate in this study" and then proceed to the study itself.

Thank you for your consideration,

Lynn Beeler

Appendix I Informed Consent Statement

An Investigation of the Relationships between Self-Directed Learning and Resilience Among Undergraduate Nursing Students

INTRODUCTION

I am a PhD candidate in Educational Psychology & Research (Adult Learning) at UTK. I am conducting my dissertation research on undergraduate nursing students within the College of Nursing. The purpose of my study is to investigate the relationship between self-directed learning (defined as initiating, maintaining, and evaluating one's own learning) and resilience (a construct from positive psychology defined as the process of coping with adversity, challenges, or change) among baccalaureate undergraduate nursing students. Through examining these relationships, the goal of the study is to build upon the understanding of adult learning and how self-directed learning may relate to resilience. By investigating these relationships within nursing education, both educators and students can better understand how self-directed learning and resilience are related.

Your anonymous participation in this research study includes taking an online survey about your self-direction in learning and resilience, as well as demographic items of age, gender, type of nursing program.

INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY

If you choose to participate in this study, you will select a response at the bottom of this form. By choosing on the response "I consent to participate in this study," you then will be consenting to participate in this study. However, at any time while taking the survey you may elect to withdraw your participation.

Your participation is limited to completing this survey one time. Once you enter the study, it should take about 10 minutes to complete. You may also complete the survey on your laptop or on your mobile device.

RISKS

For this study there are no foreseeable risks other than those encountered in daily life.

CONFIDENTIALITY

The anonymous data collected from this study will be kept confidential. The data will be stored securely on the researcher's password-protected laptop. Data will only be made available to me

as the researcher, and my major advisor, unless participants specifically give permission in writing to do otherwise. To clarify, an anonymous survey link will prevent the collection of any personal identifiers (e.g. email addresses, name, or IP address). No reference will be made in oral or written reports that could link participants to this study.

CONTACT INFORMATION

If you have questions at any time about the study or the procedures, (or you experience adverse effects as a result of participating in this study,) you may contact my faculty advisor, Dr. Ralph Brockett at brockett@utk.edu. If you have questions about your rights as a participant, you may contact the University of Tennessee IRB Compliance Officer at utkirb@utk.edu or (865) 974-7697.

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at anytime without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be removed and will not be used in data analyses.

CONSENT

I have read the above information. I agree to participate in this study.

Below are two response choices. To participate in this study, select the response "I consent to participate in this study." Otherwise, if you do not wish to participate in this study, you may select "I do not consent to participate in this study."

- "I consent to participate in this study"
- "I do not consent to participate in this study".

Appendix J
SCORING A Learning Experience Scale (PRO-SDLS)

ITEM	Strongly Disagree	Disagre e	Sometime s	Agree	Stron gly Agree
1. I am confident in my ability to consistently motivate myself.	1	2	3	4	5
2. I frequently do extra work in a course just because I am interested	1	2	3	4	5
3. I don't see any connection between the work I do for my courses and my personal goals and interests.	5	4	3	2	1
4. If I am not doing as well as I would like in a course, I always independently make the changes necessary for improvement.	1	2	3	4	5
5. I always effectively take responsibility for my own learning.	1	2	3	4	5
6. I often have a problem motivating myself to learn.	5	4	3	2	1
7. I am very confident in my ability to independently prioritize my learning goals	1	2	3	4	5
8. I complete most of my college activities because I WANT to, not because I HAVE to.	1	2	3	4	5
9. I would rather take the initiative to learn new things in a course rather than wait for the instructor to foster new learning.	1	2	3	4	5
10. I often use materials I've found on my own to help me in a course	1	2	3	4	5
11. For most of my classes, I really don't know why I complete the work I do.	5	4	3	2	1
12. I am very convinced I have the ability to take personal control of my learning	1	2	3	4	5
13. I usually struggle in classes if the professor allows me to set my own timetable for work completion.	5	4	3	2	1

14. Most of the work I do in my courses is personally enjoyable or seems relevant to my reasons for attending college	1	2	3	4	5
15. Even after a course is over, I continue to spend time learning about the topic.	1	2	3	4	5
16. The primary reason I complete course requirements is to obtain the grade that is expected of me.	5	4	3	2	1
17. I often collect additional information about interesting topics even after the course has ended.	1	2	3	4	5
18. The main reason I do the course activities is to avoid feeling guilty or getting a bad grade.	5	4	3	2	1
19. I am very successful at prioritizing my learning goals.	1	2	3	4	5
20. Most of the activities I complete for my college classes are NOT really personally useful or interesting.	5	4	3	2	1
21. I am really uncertain about my capacity to take primary responsibility for my learning.	5	4	3	2	1
22. I am unsure about my ability to independently find needed outside materials for my courses.	5	4	3	2	1
23. I always effectively organize my study time.	1	2	3	4	5
24. I don't have much confidence in my ability to independently carry out my student plans.	5	4	3	2	1
25. I always rely on the instructor to tell me what I need to do in the course to succeed.	5	4	3	2	1

TOTAL SCORE = _____

Teaching Learning Transaction Component = Total of Imitative and Control Factors from below

Factors: Initiative = Total from 2,9,10,15,17,25 ____ Control = Total from 4, 5, 6,13,19,23 ____

Learner Characteristics Component = Total of Self-efficacy and Motivation Factors from below

Factors: Self-Efficacy = Total from 1,7,12,21,22,24,Motivation = Total from 3,8,11,14,16,18,20

Vita

Lynn Marie Beeler (lbeeler4@utk.edu) is a Doctoral Candidate at the University of Tennessee, Knoxville in Educational Psychology, with a concentration in Adult Learning. She received her Associate Degree and Bachelor's Degree in Nursing from East Tennessee State University, Johnson City. She received her Master's Degree in Nursing with a concentration in Nursing Administration from the University of Tennessee, Knoxville. She received a post master's certification as a Family Nurse Practitioner from East Tennessee State University. She is currently ABSN Program Chair/Clinical Instructor at the University of Tennessee, College of Nursing, Knoxville, Tennessee.