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Self-Care, Resilience, Self-Compassion, and Burnout in Doctoral Nursing Students: An Exploratory Needs Assessment

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Abstract

Problem: In the United States, one in three nurses experience symptoms of burnout, and doctoral nursing students are additionally challenged to juggle multiple school, work, and life demands (Reith, 2018; Woo et al., 2020). The purpose of this project was to explore the current self-care practices of doctoral nursing students to understand how self-care relates to resilience and burnout.

Methods: This exploratory needs assessment utilized a convenience sample of Doctor of Nursing practice (DNP) and Doctor of Philosophy (PhD) nursing students at a medium sized midwestern university. An electronic data collection survey was constructed to assess student self-care practices, resilience, level of burnout, support, and demographic information.

Results: A total of 50 surveys were completed, and a moderate positive correlation was found between self-care and resilience, and personal, work, and patient burnout while a negative correlation was found between personal burnout and resilience ($p < .01$). A positive correlation existed between self-care and family, friend, coworker, and student support ($p < .05$). Linear regression analyses demonstrate that self-care positively predicts resilience and negatively predicts personal burnout ($p < .01$). Personal burnout also significantly predicts resilience ($p < .01$). Hierarchical regression found that personal burnout improves the prediction of resilience over self-care alone ($p < .001$).

Implications for practice: It is crucial for doctoral nursing programs to help facilitate self-care and reduce personal burnout to foster increased resilience in doctoral nursing students. In addition, social support may also be beneficial as both a form of self-care and a buffer to burnout.

Self-Care, Resilience, Self-Compassion, and Burnout in Doctoral Nursing Students – An Exploratory Needs Assessment

Healthcare professionals have been under increased stress in recent years, particularly in the face of the COVID-19 pandemic (Labrague, 2021). Globally, more than 10% of nurses report having symptoms of burnout. In the United States (U.S.) the rate of burnout is even higher with approximately one in three nurses experiencing burnout and its related symptoms (Reith, 2018; Woo et al., 2020). According to the American Association of Colleges of Nursing (AACN), despite the pandemic, enrollment of nurses into doctoral nursing programs increased by 4.0% between 2020 and 2021 (AACN, 2022a). Graduate studies come with a myriad of stressors and graduate students, in general, report having a high level of stress with moderate to severe burnout (Evans et al., 2018). Many graduate nursing students who work are challenged to juggle multiple demands, such as work, school, and family obligations, while often neglecting their own self-care (Andrews et al., 2020; Nicklin et al., 2019).

Burnout, defined as “a state of physical and emotional exhaustion’’ can substantially impair an individual’s ability to thrive at work, at school, and in their personal lives (Pines & Aronson, 1988, p. 9). In the workplace, nursing burnout has been associated with reduced job performance and quality of care, and can threaten patient safety (Bakhamis et al., 2019; Giorgi et al., 2017; Tawfik et al., 2019). For graduate students, burnout can make academic studies difficult, decrease performance, and contribute to student attrition (Abreu Alves et al., 2022). Lastly, personal consequences of burnout include reduced quality of life, depressive symptoms, and poor sleep quality (Giorgi et al., 2017; Huo et al., 2021; Li et al., 2021). Due to the array of negative

consequences of burnout, it is essential that graduate nursing programs proactively address this issue.

Given that stress and burnout are common in graduate students, it is crucial to find ways to help these students thrive despite having multiple work and life demands in addition to their studies. In recent years, there has been increased research on how psychological resources such as resilience and self-compassion can protect against stress and burnout (e.g., Guo et al., 2018; Jung & Baek, 2020; Richardson et al., 2020). Resilience is defined as how an individual thrives despite significant challenges and is one such protective psychological resource (Blackburn et al., 2020). Resilience can protect against burnout but may also enhance performance at work (Walpita & Arambepola, 2020) and at school (Miraj et al., 2021). Utilizing self-care practices may in part help individuals build resilience and reduce their likelihood of burnout (Thomas & Asselin, 2018; Turkal et al., 2018). Self-compassion, defined by Neff (2003) as having self-kindness, common humanity, and mindfulness, can reduce burnout and protect individuals from the negative effects of stress (Abdollahi et al., 2020). In addition, self-compassion can contribute to improved mental health and reduced anxiety and depression for graduate students (Paucsik et al., 2022).

Unique to nursing, most graduate students work while completing their doctoral education, as prior work experience is crucial to success in the role of a doctorly prepared nurse (AACN, 2022b). While it is unrealistic to eliminate all stressors for those who must work while completing rigorous doctoral studies, interventions aimed at helping individuals cope with these stressors may be beneficial. One potential solution is the development of a university sponsored resiliency program focused on self-care (Zahniser

et al., 2017). However, before developing such a program, conducting a needs analysis is required as the first step in a comprehensive program evaluation to help prioritize interventions (Issel, 2016).

The purpose of this project is to obtain baseline data on the self-care, resilience, self-compassion, and level of burnout in doctoral nursing students. The John's Hopkins Nursing Evidence-Based Practice (JHNEBP) model is the evidence-based framework which will guide this project (Melnyk & Fineout-Overholt, 2019). The aim of this project is to obtain baseline self-care, resilience, self-compassion, and burnout data on 20% of doctoral nursing students at a participating university and to identify a minimum of three resiliency program recommendations for this population. The primary outcome measure is self-care practices. Secondary outcome measures include Connor Davidson Resilience Scale (CD-RISC-10: Campbell-Sills & Stein, 2007) scores, Self-Compassion Scale Short Form (SCS-SF: Raes et al., 2011) scores, and Copenhagen Burnout Inventory scores (CBI: Kristensen et al., 2005). Each of these scales has been used successfully in prior nursing research. The study questions addressed in this project include: In doctoral nursing students in a mid-sized, suburban, Midwestern public university:

1. What is the current baseline level of resilience, self-compassion, and burnout?
2. What is the relationship between self-care practices and level of resilience, self-compassion, and burnout?
3. What are three needs identified by this population to guide future program development for them?

Literature Review

A literature search was performed using Academic Search Complete, CINAHL, Medline, APA PsychArticles, and APA PsycInfo. Empirical studies which were published before 2017 were excluded, along with magazine articles. The key search terms included *burnout, graduate students, doctoral students, self-compassion,* and *self-care*. Boolean operators AND and OR were used which resulted in a total of 1,225 articles. The search was refined using the following inclusion criteria: peer reviewed journal articles published between 2017 and 2022, focused on nurses, healthcare workers, or graduate students, and written in English. Exclusion criteria included studies published prior to 2017, those focused on populations other than nurses, healthcare workers, or graduate students, and those written in a language other than English. After the inclusion and exclusion criteria were applied, the total number of articles was reduced to 616. After a review of abstracts, 15 articles were chosen for this literature review.

Resilience

Resilience may help buffer individuals from the effects of stress (Blackburn, 2020). Researchers have begun focusing on the role resilience plays in reducing the negative consequences of stress among individuals in caregiving professions such as nursing. A recent systematic review of 31 articles by Labrague (2021) found considerable agreement among studies that resilience helped preserve mental health among healthcare workers during the COVID-19 pandemic. This systemic review supported prior research on healthcare workers which suggested that resilience in this population was strongly linked to lower levels of psychological distress, burnout, compassion fatigue and depression. Many researchers included in this review discussed the opportunity for evidence-based resilience training programs to help protect healthcare workers from the

negative consequence of burnout (Labrague, 2021). Nicklin et al. (2019) found additional support that psychological resources, including resilience, may protect graduate students from the negative effects of stress. Specifically, they found that mindfulness, self-compassion, resilience, and recovery were negatively related to conflict and positively related to enrichment in graduate students. The authors also noted that these positive psychological resources work in combination, rather than isolation to promote positive work-life balance in graduate students (Nicklin et al., 2019).

Not only has research on resilience focused on its protective influence against stressors but it has also focused on its ability to help individuals thrive. A qualitative study of psychiatric nurses identified how they developed resilience to help them thrive in the profession (Prosser et al., 2017). There were four main themes identified by nurses which were keys in developing the resilience to thrive including having a vast perspective in life, learning to be an expert of oneself, ensuring that they stay present in situations, and evaluating their own belief systems (Prosser et al., 2017). Similarly, a recent study examined the influence of resilience behaviors on work and found that resiliency scores were positively related to work performance for nurses (Walpita & Arambepola, 2020). While research on the benefits of resilience in nurses is abundant, there is a dearth of literature on which factors promote resilience in graduate nursing students.

Self-compassion

Along with resilience, research on self-compassion has gained increased interest in recent years. Self-compassion was first defined by Neff (2003) as having self-kindness, common humanity, and mindfulness. Self-kindness involves not being overly critical or judgmental of oneself (Neff, 2003). Common humanity includes the ability for a person

to see themselves as a part of the larger human experience. Lastly, mindfulness allows a person to address negative thoughts or experiences in a balanced way without over-identifying with them (Neff, 2003).

Self-compassion, much like resilience, may have the potential to buffer individuals from the negative consequences of stressors. Several studies have focused on the benefit of self-compassion for doctoral students, though not specific to nursing. For instance, a recent study on doctoral students in psychology found that self-compassion was negatively related to both burnout and depression (Richardson et al., 2020). These authors found that self-compassion mediated the relationship between self-critical perfectionism and burnout and depression (Richardson et al., 2020). Additionally, a study on the mental health of PhD students in various fields of study found that those with high levels of self-compassion had lower levels of stress, anxiety, and depression, as well as high levels of overall well-being after the first year of COVID-19 (Paucsik et al., 2022).

Similar findings on the benefits of self-compassion have been found for nurses and other healthcare professionals. Self-compassion has been associated with less burnout in healthcare providers. In a study by Hashem and Zeinoun (2020), self-compassion explained 29% of the variance in emotional exhaustion and 16% of the variance in depersonalization above the social variables. Additionally, a study of palliative care professionals found that self-care was associated with higher levels of self-compassion ($p < .05$), which in turn increased providers professional quality of life and personal well-being (Galiana et al., 2022). Galiana et al. (2022) also argue that self-compassion is a positive consequence of exercising self-care which can, in turn, protect

individuals from burnout. While the benefits of self-compassion are clear, there is limited research on how to develop self-compassion in doctoral nursing students.

Self-care

Research suggests that self-care prioritization is important for both doctoral students and healthcare providers who experience high levels of stress. According to a study by Zahniser et al. (2017) for psychology graduate students, higher self-care scores were associated with lower stress, less negative and more positive affect, higher flourishing, and improved school performance and success. Knowing the potential benefits of self-care, many researchers have conducted self-care interventions to help improve outcomes for both graduate students and healthcare professionals. For example, Turkal et al. (2018) conducted a four-week mindfulness-based stress reduction intervention for nursing students who were completing a Doctor of Nursing Practice program. Their levels of perceived stress and burnout were significantly lower after the four-week program than prior to the program (Turkal et al., 2018). However, it was unclear in the Turkal et al. (2018) study what percentage of participants were working as nurses while completing their coursework. Similarly, Blackburn et al. (2020) instituted a six-week self-care program for oncology nurses to examine its influence on resilience and burnout. This program included a full-day retreat during which nurses were taught self-care strategies, a six-week social media independent study, and a two-hour wrap-up at the end of the six weeks. Post-test resilience scores were significantly higher ($t = 2.64$, $df = 9$, $p = .0268$) and burnout scores were significantly lower ($t = 5.66$, $df = 4$, $p = .005$) compared to the start of the program (Blackburn et al., 2020).

While the potential benefits of self-care are clear, it is not always easy to prioritize self-care, particularly for those with multiple work-life demands. For instance, a qualitative study of nurses by Andrews et al. (2020) found that many nurses felt they needed to ask permission to engage in self-care. In addition, some felt it was a weakness to practice self-care. While the nurses recognized that to take care of others, it is necessary to take care of oneself first, this was not easy. Many times, self-care was not proactive, but instead was used as a reactive coping mechanism (Andrews et al., 2020). A study by Ross et al. (2019) examined barriers to engagement in health-promoting behaviors for nurses. They found that lack of time and resources, fatigue, and outside commitments were all barriers to engaging in positive health behaviors.

Not only can it be difficult to find time to practice self-care, but individuals practice self-care in unique ways. For instance, for one individual going hiking in nature may be an effective form of self-care, while for another, practicing yoga is more rejuvenating. A study by Wei et al. (2020) examined what strategies were used by critical care nurses and physicians to combat burnout. They found that building a positive attitude, focusing on interpersonal relationships, finding meaning in their work, connecting with a higher power, appreciating one another's contributions, and emotionally caring for oneself were all strategies that were used to help combat emotional and physical exhaustion (Wei et al., 2020). While this study is promising, there is limited research on how individuals facing multiple work-life demands positively engage in self-care.

Framework

The John's Hopkins Nursing Evidence-Based Practice (JHNEBP) model is the evidence-based framework which will guide this project. Burnout in doctoral students and nurses is a problem-focused trigger to initiate a search for ways to protect individuals from burnout. The practice question, evidence, and translation (PET) approach is well-suited as this project is an initial step in the development of a resiliency program for doctoral students at a suburban, Midwestern public university (Melnyk & Fineout-Overholt, 2019). This first phase of the PET approach relates to the question of how self-care influences resilience, self-compassion, and burnout in working doctoral nursing students. The needs assessment, which is the focus of this project will serve as the evidence, when can then be translated into the development of a resiliency program for doctoral nursing students. Additionally, according to Issel (2016), a needs assessment is a required first step in a comprehensive program evaluation. Since the JHNEBP framework is an open system, during each phase in the creation or refinement of this resiliency program, program improvements can be made as new information becomes available. To sustain practice change, when new questions or information arise, a new evidence-based practice (EBP) cycle can be initiated (Melnyk & Fineout-Overholt, 2019).

Summary

Currently, there is insufficient evidence on how doctoral nursing students practice self-care while facing multiple work, life, and school demands. In addition, there is limited evidence on how these busy individuals can develop psychological resources such as self-compassion and resilience to thrive simultaneously at work and school while limiting burnout. This clinical scholarship project will use survey data from doctoral nursing students to examine how self-care practices influence resilience, self-compassion,

and level of burnout. This information will be used to identify needs in this population to guide resiliency program offerings.

Method

Design

This Program Evaluation (PE) project was designed as an exploratory observational needs assessment. Quantitative and qualitative data was collected through voluntary, anonymous survey data. The data collected included baseline data on self-care practices, resilience, and level of burnout in doctoral nursing students at a medium sized Midwestern public university. Due to an error in survey development, the Self-Compassion Scale Short Form (SCS-SF) was not included and thus no self-compassion baseline data was collected.

Setting

This project took place in a college of nursing in a medium-sized, suburban, public university in the Midwest. The college of nursing at this university had both a DNP program with approximately 138 students and a PhD program with approximately 20 students. Both doctoral programs were fully online with students from across the country.

Sample

This project used a purposive, convenience sample of DNP and PhD nursing students who attended the graduate program part- or full-time. These participants did not disclose any identifying information during the survey completion, and all participant data was collected using a unique numeric identifier. Inclusion criteria included part-time or full-time doctoral nursing students at the university who were over the age of 18 years

old. Exclusion criteria included students under the age of 18 years old, those enrolled in a doctoral program other than nursing, and those not enrolled at the participating university.

Approval Process

Prior to the survey implementation, formal Institutional Review Board (IRB) approval was obtained at the University of Missouri St. Louis.

Procedures

An electronic data collection survey was constructed in Qualtrics and included both qualitative and quantitative data collection. Participants were identified using only a unique numeric identifier and all surveys remained anonymous. A recruitment email was sent to all individuals on the doctoral nursing student email distribution list at the university. This recruitment email was re-sent once per week for one month to maximize the number of participants. Participants were passively consented to participate in the survey by agreeing to continue to the survey. Each participant in the study was offered a chance to win one of 40-$25 gift cards as an incentive for participation made possible by being awarded the O'Grady Fellowship Scholarship.

Demographic data collected included gender, age, year in the program, years of nursing experience, work status, type of work, number of children, questions about social support, and race/ethnicity. To evaluate baseline self-care practice of doctoral nursing students, the Self-Care Assessment for Psychologists (SCAP: Dorociak et al., 2017) was administered. To evaluate student resiliency, the Connor-Davidson Resilience Scale –10 item (CD-RISC-10: Campbell-Sills & Stein, 2007) scale was included. The Copenhagen

Burnout Inventory (CBI: Kristensen et al., 2005) was used to evaluate current level of burnout in three domains: personal, work-related, and client-related burnout.

Data Collection and Analysis

Anonymous student data was collected through an electronic Qualtrics survey, then downloaded to a Microsoft Excel spreadsheet and transferred to the Statistical Package for Social Sciences (SPSS) version 27 for data analysis. Data remained on a password-protected laptop owned by the primary investigator and all data remained anonymous. Demographic data, and baseline self-care, resilience, and burnout data were analyzed using descriptive and inferential statistics using SPSS. Descriptive statistics, and multivariate analyses was conducted to determine the effect of self-care practices on resilience, and burnout in doctoral nursing students. Additionally, relationships between demographic variables and resilience, burnout, and self-care scale scores was explored.

Results

A total of 50 online surveys were completed in March of 2023, resulting in a 31.6% overall response rate, well above the program evaluation goal of 20% of students. DNP students completed 45 surveys (32.6% response rate) while PhD students completed five (25% response rate). The sample was primarily female (n = 42, 84%) and Caucasian (n = 43, 86%) with 75% of respondents having a household income of less than $150,000 ($n$ = 38). The majority of participants were employed as a bedside nurse (n = 38, 72%), and 50% worked full-time, while the other 50% were employed part-time or PRN. There were students representing all years in the program including 30% (n = 15) from years one and two in the program and 70% enrolled in their third or fourth years (n = 35). See Appendix A for participant demographic information.

Spearman correlations were conducted with the primary variables (see Table 1). A statistically significant moderate positive correlation was found between overall self-care and resilience r(44) = .405 $p < .01$. Self-care was also negatively correlated with personal (r(48) = -.401, $p < .01$), work (r(48) = -.395, $p < .01$), and patient burnout (r(48) = -.396, $p < .01$). Of the self-care subscales, life balance r(46) = .420, $p < .01$, and cognitive strategies r(46) = .382, $p < .01$ were most highly correlated with resilience. There was also a moderate negative correlation between personal burnout and resilience r(46) = -.358, $p < .05$. Resilience was not significantly correlated with work or patient burnout. A moderate negative correlation was also found between personal burnout and family (r(48) = -.393, $p < .01$), friend (r(48) = -.319, $p < .05$), and coworker (r(48) = -.330, $p < .05$) support. Conversely, a moderate positive correlation was found between self-care and family (r(48) = .322, $p < .05$), friend (r(48) = .328, $p < .05$), co-worker (r(48) = .352, $p < .05$), and student support (r(48) = .312, $p < .05$).

A linear regression was conducted to examine whether student self-care practices predicted resilience. First, the assumptions of regression were tested. The assumption of linearity was established through visual inspection of a scatterplot. Residuals were found to be independent of one another with a Durbin-Watson statistic of 1.895. No outliers were observed. There was homoscedasticity of the data based on an inspection of a plot of standardized residuals versus standardized predicted values. Inspection of a normal probability plot demonstrated that residuals were normally distributed. Upon running the regression analyses, self-care practices significantly predicted student resilience $F(1,44) = 10.59$, $p = .002$. The adjusted R^2 demonstrated that self-care accounted for 19.4% of

student resilience in this model. The prediction equation was Resilience = 23.56 + 0.147(Self-care).

Given that personal burnout was the burnout scale most highly correlated with resilience, a hierarchical multiple regression was run to determine whether the addition of personal burnout improved the prediction of resilience over and above self-care alone. Table 2 contains all details from each regression model. Linearity and homoscedasticity were determined through partial regression plots and plotting studentized residuals against predicted values. The Durbin-Watson statistic of 1.88 demonstrated independence of residuals. There was no evidence of multicollinearity as assessed by tolerance values greater than 0.1. There were no leverage values greater than 0.2, no studentized deleted residuals greater than plus or minus 3 standard deviations, and no Cook's distance values greater than 0.2. A visual inspection of a Q-Q plot demonstrated normality in the data. The full model of self-care and personal burnout to predict resilience (Model 2) was statistically significant, $R^2 = 0.288$, $F(2,43) = 8.685$, $p < .001$. Additional hierarchical multiple regression analyses were run to determine whether gender, program, year in the program, or work status (full versus part-time or PRN) improved the prediction of resilience above self-care alone, but there were no significant findings.

Simple linear regression analyses were conducted to determine whether personal burnout predicts resilience. The assumptions of regression were tested as described above for linear regression. Personal burnout significantly predicts resilience $F(1,48) = 6.929$, $p < .05$. The adjusted R^2 indicated that personal burnout accounts for 10.8% of the variance in resilience. Lastly a linear regression analysis was conducted to explore if self-care predicts personal burnout. Assumptions of regression were again tested. According to the

model, self-care significantly predicts personal burnout $F(1,44) = 10.305$, $p = .002$. Specifically, according to the adjusted R^2, self-care explains 17.1% of the variance in personal burnout.

Discussion

This clinical scholarship project utilized the John's Hopkins Nursing Evidence-Based Practice (JHNEBP) to explore the self-care practices of doctoral nursing students as well as their level of resilience and burnout. From the correlation analyses, self-care in doctoral nursing students was moderately negatively correlated with all three types of burnout (personal, work, and patient burnout). In addition, self-care was positively related to resilience while burnout was negatively correlated. The results of the regression analyses indicate that both self-care and personal burnout together and independently influence the resilience of doctoral nursing students. Therefore, efforts to both combat personal burnout and facilitate self-care in this population may be beneficial to increase resilience.

Self-care strategies significantly predicted resilience based on the linear regression model. Interestingly, the two self-care subscales most highly correlated with resilience were having a life balance and using cognitive strategies. Therefore, the first recommendation for future resiliency program development would be to allow for life balance in students by ensuring that breaks in the academic calendar are actual breaks. This may include not holding an exam or having a big project due directly following a university-observed break.

In this population of doctoral nursing students, using cognitive strategies as a form of self-care was moderately correlated to resilience. While self-compassion data

was not collected in this sample due to a collection error, this underscores findings from prior research suggesting that cognitive strategies such as self-compassion, may help buffer individuals from the negative effects of stress (Paucsik et al., 2022). Cognitive strategies may be particularly important for doctoral nursing students attending a primarily online program, such as those in this sample, due to the relatively independent nature of the program requiring a great deal of self-motivation. Therefore, the second program recommendation would be to offer training in cognitive strategies, including training in mindfulness, self-talk, and self-compassion during one of the in-person intensives. There may also be an opportunity to offer online training on these skills that students can access at their leisure.

In this sample, all forms of support except professional support were moderately correlated with self-care (family support, friend support, coworker support, student support). Therefore, having support from others may be one way by which individuals engage in self-care. Online programs by their nature are largely independent, and students look for much of their support from family friends and co-workers which is evidenced by the moderate negative correlations between these three forms of support and personal burnout. However, support from other students in the program is also positively correlated with self-care suggesting that connections between students may be related to enhancing student self-care. Therefore, the third recommendation is to a) have multiple opportunities for online networking in each class to allow students to get to know one another and b) hold one in-person social activity each semester for students in the program to meet and engage with other students and faculty. During these activities,

students could bring a friend or family member of their choosing given the importance of friend/family support.

One limitation of this project was that an incentive was offered for participation in the study which may have biased the data, though all efforts to mitigate this effect were employed. In addition, it is possible that the results from this project may not generalize to other programs or non-nursing doctoral students. As discussed previously, self-compassion data was not collected in this sample. Future research should examine how cognitive strategies such as self-compassion, self-talk, and self-leadership influence resilience and burnout. In addition, while this project found preliminary evidence that some types of support were positively related to self-care and negatively related to burnout, this was assessed using one question for each. Future research should consider collecting data using validated social support scales.

Conclusion

Many graduate nursing students who work neglect their self-care while being challenged to juggle multiple work, school, and family/life demands (Andrews et al., 2020; Nicklin et al., 2019). The results from this exploratory needs assessment underscores the importance of facilitating self-care and reducing personal burnout to foster increased resilience in doctoral nursing students. In addition, social support may also be beneficial as both a form of self-care and a buffer to burnout. Three program recommendations identified in this project include: 1) ensuring that breaks in the academic calendar are actual breaks, 2) to provide training in cognitive strategies, including training in mindfulness, self-talk, and self-compassion both online during one of the in-person intensives, and 3) to have both online and in-person networking

opportunities for students each semester.

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Appendix A

Figure A1

Demographics of study participants – Gender (N=50)

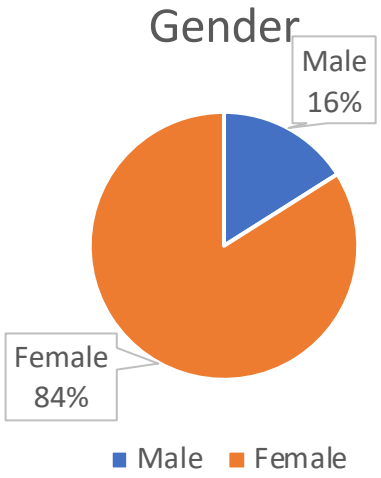


Figure A2

Demographics of study participants – Program enrollment (N=50)

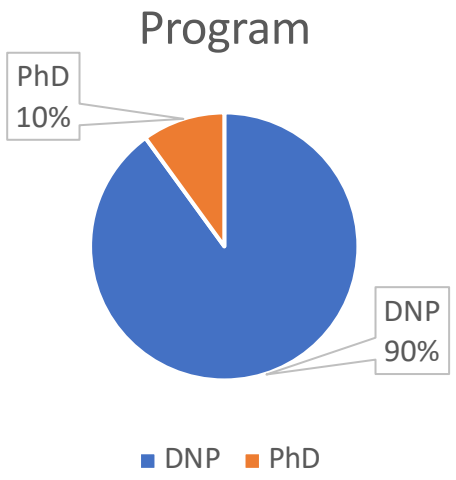


Figure A3

Demographics of study participants – Work status (N=50)

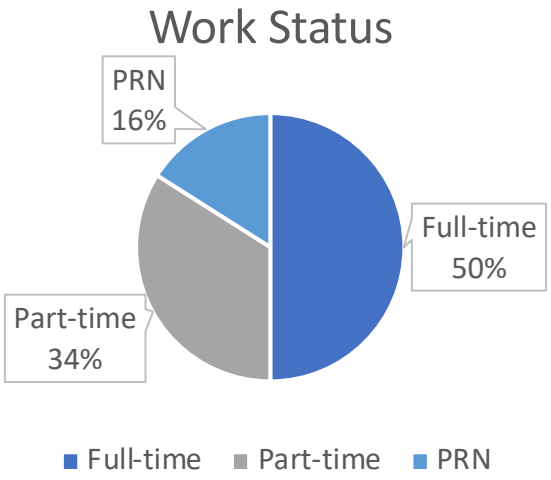


Figure A4

Demographics of study participants – Year in the doctoral program (N=50)

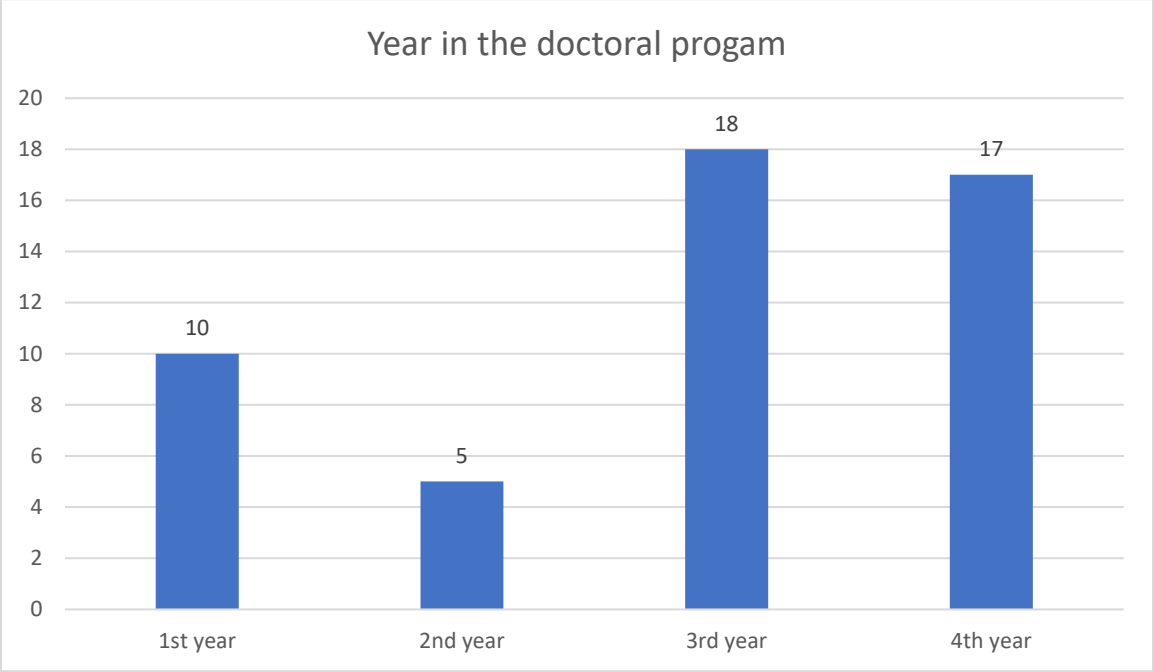


Figure A5

Demographics of study participants – Years of nursing experience (N=50)

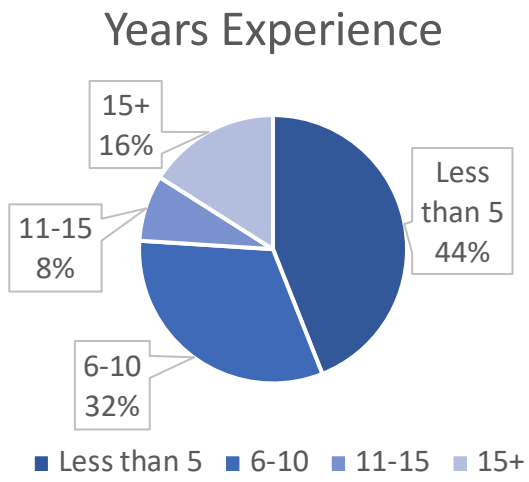


Figure A6

Demographics of study participants – Age (N=50)

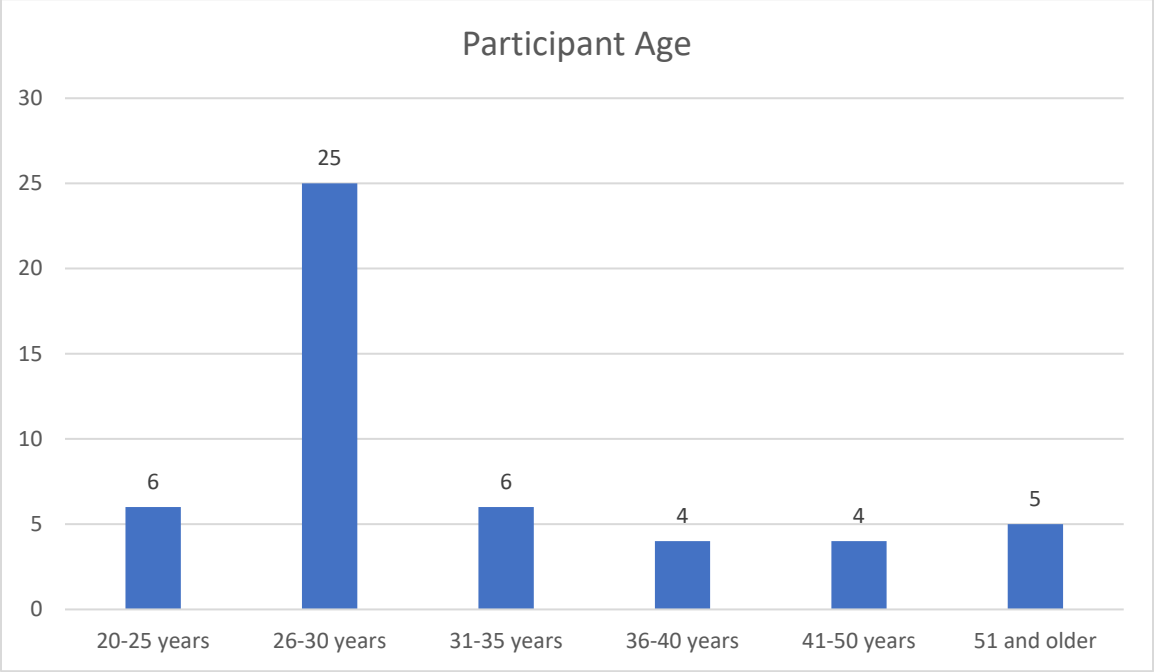
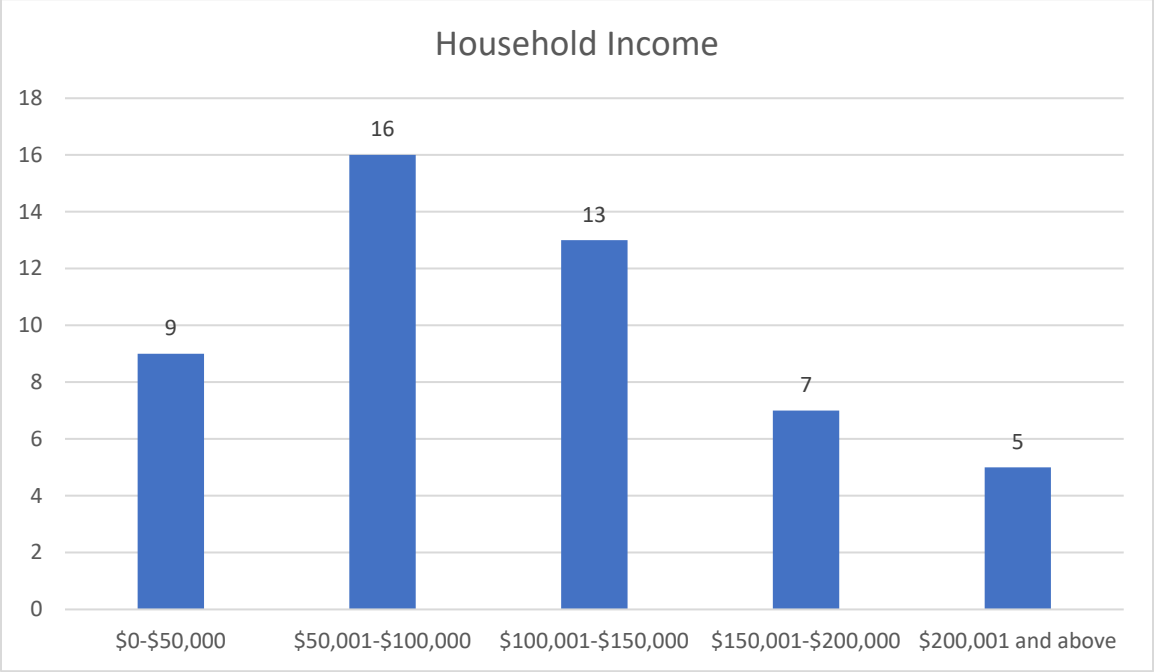


Figure A7

Demographics of study participants – Household income (N=50)



Appendix B

Table 1

Spearman correlations for main study variables

	Resilience	Personal BO	Work BO	Patient BO	SCPS	SCPD	SCLB	SCCS	Self Care total	Family Supp	Friend Supp	Coworker Supp	Professional Supp
Personal BO	-.358*												
Work BO	-.238	.777***											
Patient BO	.053	.318*	.488**										
SCPS	.157	-.147	-.166	-.162									
SCPD	.310*	-.202	-.159	-.240	.430**								
SCLB	.420**	-.345*	-.321*	-.046	.343*	.319*							
SCCS	.382**	-.036	-.228	-.280	.291*	.056	.396**						
Self Care total	.405**	-.401**	-.395**	-.396**	.696**	.690**	.665**	.529**					
Family Supp	.172	-.393**	-.370**	-.092	.081	.170	.625**	.098	.322*				
Friend Supp	.177	-.319*	-.273	-.055	.320*	.257	.458**	.133	.328*	.616**			
Coworker Supp	.151	-.330*	-.275	-.133	.359*	.326*	.294*	.025	.352*	.319*	.568**		
Professional Supp	-.169	-.208	-.058	-.064	.113	.253	.064	-.335*	.097	.062	.313*	.516**	
Student Supp	-.244	-.080	-.151	-.152	.482**	.167	.193	.087	.312*	.339*	.343*	.272	.287*

Note. BO = Burnout, SCPS = Self-care professional support, SCPD = Self-care professional development, SCLB = Self-care life balance, SCCS = Self-care cognitive strategies, Supp = Support

* Statistically significant at the $p < .05$ level, ** Statistically significant at the $p < .01$ level

Appendix C

Table 2

Hierarchical multiple regression predicting resilience from self-care and personal burnout

	Resilience			
	Model 1		Model 2	
Variable	B	β	B	β
Constant	23.56		34.12	
Self Care	.147**	.440	.097*	.292
Personal Burnout			-.101*	-.340
R2	.194		.288	
F	10.59**		8.685***	
ΔR2	.194		.094	
ΔF2	10.59**		5.659*	

Note. *= N=46. * p < .05, ** p < .01, *** p < .001*