

2017

# The Effect of Hospital Nurse Basic Psychological Needs Satisfaction on Turnover Intention and Compassion Fatigue

David Stephen Klein  
*Walden University*

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>

 Part of the [Psychology Commons](#)

---

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact [ScholarWorks@waldenu.edu](mailto:ScholarWorks@waldenu.edu).

# Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

David Klein

has been found to be complete and satisfactory in all respects,  
and that any and all revisions required by  
the review committee have been made.

## Review Committee

Dr. Barbara Chappell, Committee Chairperson, Psychology Faculty

Dr. John Schmidt, Committee Member, Psychology Faculty

Dr. Kizzy Dominguez, University Reviewer, Psychology Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University

2017

Abstract

The Effect of Hospital Nurse Basic Psychological Needs Satisfaction on Turnover  
Intention and Compassion Fatigue

by

David S. Klein

MSW, New York University, 1980

BS, Bowling Green State University, 1968

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Organizational Psychology

Walden University

May 2017

## Abstract

Nursing is a stressful occupation, which can often lead to compassion fatigue (CF) and turnover intention (TI). When their basic psychological needs (BPN) of competence, relatedness, and autonomy are not met, registered nurses (RNs) may develop a higher propensity to experience CF and TI. Amid projected nursing shortages, the loss of these health care providers may threaten the quality of patient care. Although there is research on BPN and their relationship with well-being and functioning, research is lacking on the relationship between BPN satisfaction, CF and TI among RNs. Researchers have also not examined whether RNs' BPN satisfaction moderates the relationship between CF and TI. To examine these relationships, a quantitative study based on self-determination theory was conducted. A convenience sample of 99 RNs from a nursing association in southern Arizona completed 3 online instruments: Basic Need Satisfaction at Work Scale, Turnover Intention Scale, and Professional Quality of Life Scale Version 5. Linear, correlational, multiple, and step-wise regression analyses were used for testing the study's four hypotheses. Results showed that the BPN of autonomy and competence were related to CF, and all three BPN were related to TI. Additional analysis showed that CF and TI were only marginally related. Results from multiple regression analysis revealed that only 2 predictors, competence and autonomy, significantly predicted TI. Social change implications include the potential to recognize the significance of meeting RNs' BPN, and a consequent reduction of both CF and TI, thus potentially contributing to improved patient care as well as increased productivity and morale.

The Effect of Hospital Nurse Basic Psychological Needs Satisfaction on Turnover  
Intention and Compassion Fatigue

by

David S. Klein

MSW, New York University, 1980

BS, Bowling Green State University, 1968

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Organizational Psychology

Walden University

May 2017

## Dedication

I would like to dedicate the completion of this dissertation to my two amazingly wonderful daughters, Cassidy and Megan, my niece Dianne, her husband Scott, and my life-long friend, Drew. Their support, patience, and encouragement was always available regardless of how frequently I reached out to them during this incredibly challenging experience. To them I will be forever grateful.

*“It’s not what we have in life, but who we have in our life that matters most”*

-Unknown-

## Acknowledgment

This was one of the most challenging and yet rewarding processes of my life. It has changed me personally, professionally, and academically. In light of this, I want to thank my committee chair, Dr. Barbara Chappell, my methods committee member, Dr. John Schmidt, and also my URR, Dr. Izzy Dominguez, for their invaluable guidance and support. Having a good committee is “everything”!

I also extend my gratitude to all my family, friends, and others who were kind enough to listen to the challenges, setbacks, and triumphs I experienced along the way without challenging the ultimate value of my goal. Finally, my thanks to the one character in my life who never left my side throughout this entire journey...my four-legged friend Charlie. His wagging tail did wonders during the darkest hours in this process.

## Table of Contents

Table of Contents.....	i
List of Tables .....	v
Chapter 1: Introduction to the Study.....	1
Background.....	2
Problem Statement.....	5
Purpose of the Study .....	6
Research Questions and Hypotheses .....	7
Theoretical Foundation.....	8
Nature of the Study.....	10
Definitions of Terms.....	11
Assumptions.....	12
Limitations .....	13
Significance of the Study.....	13
Summary and Transition.....	14
Chapter 2: Literature Review.....	16
Literature Search Strategy.....	16
Theoretical Foundation.....	17
Self-Determination Theory .....	19
Cognitive Evaluation Theory.....	19
Organismic Integration Theory.....	20
Causality Orientation Theory.....	21



Basic Needs Theory .....	22
Goal Content Theory.....	23
Basic Psychological Needs .....	25
Autonomy .....	26
Competence.....	27
Relatedness .....	29
Basic Psychological Needs and Nurse Well-Being .....	29
Compassion Fatigue.....	30
Compassion Fatigue and Burnout.....	32
Turnover Intention in Nursing .....	33
Compassion Fatigue and Turnover Intention.....	35
Summary and Transition.....	35
Chapter 3: Research Methods .....	37
Research Design and Rationale .....	38
Design of the Study.....	39
Population and Sample .....	40
Instrumentation .....	42
Basic Psychological Needs at Work Scale.....	42
Turnover Intentions Composite Measure.....	43
Professional Quality of Life Scale Version 5 .....	44
Data Collection .....	45
Validity .....	47

Data Analysis .....	48
Protection of Human Subjects .....	50
Summary and Transition.....	51
Chapter 4: Results.....	52
Participation Rate.....	53
Participant Characteristics .....	54
Reliability of Measures.....	56
Descriptive Statistics.....	57
Correlation Matrix .....	57
Effect of Types of Care Providers on Variables .....	58
Tests of Assumptions.....	59
Normality .....	59
Homoscedasticity.....	66
Hypotheses Testing Results .....	71
Research Question 1 .....	71
Research Question 2 .....	75
Research Question 3 .....	79
Research Question 4 .....	81
Summary and Transition.....	82
Chapter 5: Discussion, Conclusions, and Recommendations.....	84
Introduction.....	84
Interpretations of Findings.....	85

Limitations of the Study.....	88
Recommendations for Social Change.....	90
Education .....	90
Practice.....	90
Policies.....	91
Implications.....	91
Conclusion .....	92
References.....	94
Appendix A: Letter of Participation .....	119
Appendix B: Basic Psychological Needs at Work Scale .....	121
Appendix C: Turnover Intentions Composite Measure .....	123
Appendix D: Compassion Satisfaction and Compassion Fatigue Scale Appendix	
Appendix E: Demographic Questionnaire .....	126
Appendix F: Permission to Use BPNEWS .....	127
Appendix G: Permission to Use TICM.....	128
Appendix H: Permission to Use ProQOL.....	129

## List of Tables

Table 1. Participation Rate by Measure .....	53
Table 2. Demographic Characteristics .....	55
Table 3. Education and Work-Related Characteristics .....	56
Table 4. Descriptive Statistics of Study Variables.....	57
Table 5. Intercorrelations Among Study Variables .....	58
Table 6. One-Way ANOVAs Using Type of Care Provider as the Independent Variable.....	59
Table 7. Simple Linear Regression Analyses Using Compassion Fatigue as Dependent Variable .....	73
Table 8. Simple Linear Regression Analyses Using Turnover Intentions as Dependent Variable .....	76
Table 9. Multiple Linear Regression Using Competence and Autonomy as Predictors of Turnover Intentions .....	82

## List of Figures

Figure 1. Relationship of BPN satisfaction to CF.....	48
Figure 2. Relationship of BPN satisfaction to TI.....	49
Figure 3. Relationship of CF to TI.....	49
Figure 4. Moderating effect of BPN satisfaction on the relationship between CF and TI.....	50
Figure 5. P-P plot of standardized residuals from regression of CF on autonomy.....	60
Figure 8. P-P plot of standardized residuals from regression of TI on autonomy.	62
Figure 13. P-P plot of standardized residuals from regression of TI on autonomy and competence.....	66
Figure 16. Residual plot from the regression of CF on relatedness.....	68
Figure 17. Residual plot from the regression of TI on autonomy.....	69
Figure 19. Residual plot from the regression of TI on relatedness.....	70
Figure 21. Residual plot from the regression of TI on autonomy and competence. ....	71
Figure 22. Scatterplot of the relationship between BPN autonomy and CF.....	73
Figure 23. Scatterplot of the relationship between BPN competence and CF.....	74
Figure 26. Scatterplot of the relationship between BPN competence and TI.....	78
Figure 27. Scatterplot of the relationship between BPN relatedness and TI.....	79
Figure 28. Scatterplot of the relationship between CF and TI.....	80

## Chapter 1: Introduction to the Study

Registered nurses (RNs) perform critical roles in a wide variety of functions in contemporary U.S. hospitals (Cowden, Cummings, & Profetto-Mcgrath, 2011; Sovie & Jawad, 2001). Their responsibilities can involve planning and managing patient care, supervising other health-care workers, and working autonomously or in teams with medical doctors and others on practical applications of preventive and curative measures (Hairr, Salisbury, Johannsson, & Redfern-Vance, 2014). RNs can function as clinical nurses, district nurses, nurse anesthetists, nurse educators, nurse practitioners, public health nurses, and specialist nurses (American Association of Colleges of Nursing [AACN], 2012; Currie & Carr-Hill, 2013).

Researchers expect that demand for RNs in the United States will increase with the aging of Baby Boomers, longer life expectancies, and the use of nurse practitioners instead of physicians to reduce health-care costs (Aiken et al., 2002; Coetzee & Klopper, 2010; Sovie & Jawad, 2001). At the same time, the number of practicing RNs is projected to continue to decrease due to fewer training venues, increased workloads, greater patient expectations and demands, and regulatory requirements that lessen interest in entering the profession or remaining in it (Kovner, Brewer, Fatehi, & Jun, 2014; Nielson, 2015). RNs frequently experience stress and low morale due to staff cutbacks, reduced budgets, higher work expectations, and increased nurse-to-patient ratios (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Gelinas & Bohlen, 2002; Sovie & Jawad, 2001). These factors can often lead to turnover intention (TI); Boyle, 2011; Coetzee & Klopper, 2010; Hooper, Craig, Janvrin, Wetsel, & Reimels, 2010) as well as compassion fatigue (CF); AACN, 2012; Coetzee & Klopper, 2010; Hassmiller & Cozine, 2006).

By 2020, the RN shortage could grow to 29% if RNs' CF and TI continue to rise (AACN, 2012; Cowden et al., 2011; Hassmiller & Cozine, 2006). At the current rate, experts project that the shortage of RNs will be anywhere from 285,000 to 1,000,000 by 2022 (AACN, 2012; McHugh & Stimpfel, 2012). This figure is more than triple the size of any previously experienced shortage in the United States and could have significant implications for all aspects of health care, including CF and TI (Carver & Candela, 2008; Hairr et al., 2014; Kovner et al., 2014).

Short-term measures to address RN shortages in the United States include hiring foreign born nurses, yet that strategy has problems. Research by Neff, Cimiotti, Sloane, and Aiken (2013) showed that since the 1960s international nurses who were qualified to work in the United States and become RNs waited 1-2 years to obtain a green card. Due to changes in federal government regulations and visa limitations beginning in 2006, the waiting time has increased from 5 to 8 years (Matsumaira, 2014). Since 2006, from 3,500 to 5,000 nurses have received visas each year to work in the United States, compared to 20,000 before government regulations changed in 2006 (Kaestner & Neeraj, 2012).

### **Background**

CF is a progressive condition resulting from prolonged and intense contact with patients and stressful environments (Coetzee & Klopper, 2010; Hooper et al., 2010). RNs experiencing CF often demonstrate specific behavioral responses to providing extended care to the sick and suffering (Austin, Goble, Leier, & Byrne, 2009). As their capacity to empathize with patients erodes, they often exhibit anger, helplessness, and emotional suppression (Yoder, 2010). CF and burnout are similar but not the same (Coetzee & Klopper, 2010; Gilmore, 2012). Unlike burnout, CF may require personal interventions to

help nurses strengthen their coping skills and empathy while maintaining appropriate professional distance with their patients, which is often the most challenging aspect of the caring process (Slatten, Carson, & Carson, 2011).

Work environments, such as health care in hospitals where there are shortages of RNs, often negatively affect RNs' sense of value and self-worth due to reduced quality of patient care (Carver & Candela, 2008; Hassmiller & Cozine, 2006). These factors, if left unaddressed, can increase TI, disengagement from patients, apathy towards work, absenteeism, and overall lack of concern for others (Baard, Deci, & Ryan, 2004; Francke & de Graaff, 2012; Poghosyan, Clarke, Finlayson, & Aiken, 2010; Wagner, 2007).

Hospitals with high RN turnover rates have reported longer patient stays, higher patient mortality rates, and higher costs per patient discharge than have hospitals with lower RN turnover rates (Aiken et al., 2002; Gelinas & Bohlen, 2002; Meyer & Maltin, 2010).

CF and TI among RNs can affect not only the quality of patient care but also the morale of other health-care providers (Bernard et al., 2014; Cowden et al., 2011; Dacoco, 2015).

TI is both an important concept and also a complex, multifaceted processes that includes cognitive and behavioral components that affect the possibility of withdrawal from ones' job (Griffeth, Allen, Steel, & Bryan, 2005). Based on their metaanalysis, Griffeth et al. (2000) researchers affirmed that predicting individual turnover decisions is a complicated challenge that requires a multidimensional approach. Based on existing research, Griffeth et al. (2000) concluded that the best predictors of TI are behavioral intentions (planned intentions to leave one's job within a specific timeframe), cognitions of resigning (thoughts of withdrawal), and behaviors directly focused on leaving ones' job (actively searching for a different position).



In recent studies, RNs have rated work relationships, job meaningfulness, and interpersonal respect as the most important factors affecting their work motivation and organizational commitment (Gaki et al., 2013; Lambrou, Kontodimopoulos, & Niakas, 2010). RNs appear able to achieve and sustain higher motivation if they feel a sense of connection and value and can use personal initiative in their work environments (Lambrou et al., 2010; Smart et al., 2014). According to researchers, RNs who have the knowledge and ability to perform their tasks well, and who are driven by achievement, growth, and learning, are intrinsically motivated (Coetzee & Klopper, 2010; Oldham & Hackman, 2010; Smart et al., 2014).

Hospitals administrators who utilize fewer RNs and more certified nursing assistants (CNAs) and licensed practical nurses (LPNs) to deliver direct patient care often have higher incidents of patient falls and infections and decreased satisfaction with pain control and overall care (McHugh, Kutney-Lee, Cimiotti, Sloane, & Aiken, 2011; McHugh & Stimpfel, 2012; Sovie & Jawad, 2001). RNs commonly experience numerous demands for their time and expertise in environments with constant distractions and interruptions (Schreuders, Bremner, Gelhoed, & Finn, 2012; Shamliyan, Mueller, Duval, & Wilt, 2007). Hospital RNs often must attend to the needs of numerous patients with complex medical conditions that can change frequently (McHugh & Stimpfel, 2012; Sovie & Jawad, 2001). Most RNs perceive that the current nursing shortage negatively affects their ability to meet the Institute of Medicine's six goals of quality care, which are that care be safe, timely, beneficial, patient-centered, equitable, and efficient (Leggat, Bartram, Casimir, & Stanton, 2010; Morgan & Lynn, 2009).

Given the critical role of RNs and the increasing demand for their skills, experts view it as important to identify and mitigate their vulnerability to CF as well as the causes of their TI (Boyle, 2011; Leggat et al., 2010; McHugh & Stimpfel, 2012). Failure to address these issues may perpetuate increased lengths of stay, higher mortality rates, higher costs per patient discharge, and lower rates of patient satisfaction (Aiken et al., 2002; Gelinas & Bohlen, 2002; Meyer & Maltin, 2010). CF, left unaddressed, can have significant and permanent effects on RNs' ability to empathize with and care for their patients (Boyle, 2011; Coetzee & Klopper, 2010; Poghosyan et al., 2010).

### **Problem Statement**

Researchers have repeatedly found that low RN-to-patient ratios as well as low RN turnover rates lead to higher levels of patient safety and improved health outcomes (Gelinas & Bohlen, 2002; Sovie & Jawad, 2001). Given the continuing shortage of RNs in hospital settings, it is important for health-care organizations to not only retain the RNs they currently employ but also improve the care these professionals provide. According to Hairr, Salisbury, Johannsson, and Redfern-Vance (2014) and Yücel (2012), two key factors affecting RN retention and levels of care are CF and TI.

Researchers have not yet identified a single model or method for addressing CF and TI in hospital environments. However, there is evidence showing that meeting basic psychological needs (BPN) of competence, autonomy, and relatedness can have a significant effect on individuals' sense of commitment and fulfillment. According to some researchers, BPN satisfaction helps facilitate optimal functioning and increase intrinsic motivation for personal and professional growth, social development, and personal well-being (Gregarus & Diefendorff, 2009; Ryan & Deci, 2011).

One limitation of extant research is that although researchers have examined burnout and TI among health-care providers, they have not conducted research to identify a possible relationship between hospital RN BPN satisfaction and TI (Gregarus & Diefendorff, 2009; Slatten, Carson, & Carson, 2011). Additional limitations are that although researchers have addressed the relationship of BPNs to employee well-being and functioning (Gregarus & Diefendorff, 2009), they have not, with the exception of researchers studying workplace bullying (Trépanier, Fernet, & Austin, 2016), examined the relationship between RNs' BPN satisfaction and CF, the relationship of CF to TI, and any mediating effect of BPNs on the relationship of CF to TI. In reviewing literature published after 2011, I could find no studies on the possible relationship between these variables. In this study, I explored the strength of the relationships between BPN of hospital RNs and their levels of CF and TI. Understanding the relationships among BPN satisfaction, CF and TI, could lead to more responsible practices and policies by hospital administrators to provide social-contextual conditions that help facilitate optimal RN functioning and vitality. Results of this study could lead to improved patient care, reduced operating costs, and higher morale among hospital RNs.

### **Purpose of the Study**

There is a growing shortage of RNs in today's health care organizations in the United States (Boyle, 2011; Coetzee & Klopper, 2010), which is having an adverse impact on RN morale and job commitment (Boyle, 2011; Smart et al., 2014). Based on my review of research literature, I concluded that this problem is the failure of health care organizations, specifically hospitals, to provide improved methods and practices to retain RNs by meeting their BPN and their ability to manage CF and TI. In this quantitative

study, I examined direct and indirect relationships among BPN, CF, and TI in order to offer insights about RN retention and the care that RNs provide.

### **Research Questions and Hypotheses**

I sought to answer four research questions. They are listed below with their associated hypotheses, which are stated in null and alternative form.

RQ1: Is there a relationship between hospital RN BPN satisfaction (in terms of competence, relatedness, and autonomy) and CF?

$H_01$ : There is no relationship between hospital RN BPN satisfaction and CF such that BPN satisfaction will not have an impact on CF scores.

$H_a1$ : There is a relationship between hospital RN BPN satisfaction and CF such that BPN satisfaction will impact on CF scores.

RQ2: Is there a relationship between hospital RN BPN satisfaction (in terms of competence, relatedness, and autonomy) and TI?

$H_02$ : There is no relationship between hospital RN BPN satisfaction and TI such that BPN satisfaction will not impact TI scores.

$H_a2$ : There is a relationship between hospital RN BPN satisfaction and TI such that BPN satisfaction will impact TI scores.

RQ3: Is there a relationship between hospital RN CF and TI?

$H_03$ : There is no relationship between hospital RN CF and TI such that CF will not impact TI scores.

$H_a3$ : There is a relationship between hospital RN CF and TI such that CF will impact TI scores.

RQ4: Does BPN satisfaction (in terms of competence, relatedness, and autonomy) moderate the relationship between CF and TI among hospital RNs?

*H<sub>0</sub>4*: BPN satisfaction does not moderate the relationship between CF and TI among hospital RNs such that BPN satisfaction does not impact the relationship scores between CF and TI.

*H<sub>a</sub>4*: BPN satisfaction does moderate the relationship between CF and TI among hospital RNs such that BPN satisfaction does impact the relationship scores between CF and TI.

### **Theoretical Foundation**

The theoretical foundation for this study was self-determination theory (SDT) and its focus on how inherent growth tendencies and innate psychological needs affect self-motivation and well-being (Deci & Ryan, 2011; Deci & Vansteenkiste, 2004). According to researchers who have used SDT, satisfaction of BPNs is vital for developing and maintaining intrinsic motivation and well-being in any domain of life (Deci & Ryan, 2000; Ryan & Deci, 2011). A person's sense of competence, relatedness, and autonomy is important in forming attachments in any relationship, including those in one's place of employment (Gillet, Fouquereau, Forest, Brunault, & Colombat, 2012; Hairr et al., 2014). Employees' emotional attachment to, identification with, and involvement in their jobs are significant factors in workplace commitment, compassion for others, and TI (Francke & de Graaff, 2012; McHugh, Kutney-Lee, Cimiotti, Sloane, & Aiken, 2011; McHugh & Stimpfel, 2012).

The central feature of SDT is the distinction between autonomous and controlled motivation. Autonomous motivation comprises intrinsic motivation and certain types of

extrinsic motivation (Deci & Ryan, 2012; Deci & Vansteenkiste, 2004; Hairr et al., 2014). Extrinsic motivation in SDT theory is based on an assumption that when people can identify with the value of certain behaviors or activities, they can internalize it into their own sense of value (Gaki, Kontodimopoulos & Niakas 2013; Ryan & Deci, 2000, 2012).

Unlike motivational theories based on the assumption that needs are learned and differ from person to person, SDT is based on the premise that all people—regardless of cultural background, personality differences, or work environments—have universal needs for competence, relatedness, and autonomy (Bernard, Martin, & Kulik, 2014; Deci & Ryan, 2011). The emphasis is on how these needs are satisfied or thwarted and what effect this has on one's consequent motivation (Deci & Ryan, 2012; Deci & Vansteenkiste, 2004). This theoretical approach provides a basis from which to study how BPN, which is a subset of SDT, contribute to optimal functioning, natural growth, and motivation in the workplace due to the model's emphasis on sustainable motivation as opposed to situational motivation (Deci & Ryan, 2012; Deci & Vansteenkiste, 2004; Dysvik, Kuvaas, & Gagne, 2013). The theory of SDT helps delineate between behaviors and attitudes that are volitional and based primarily on a sense of autonomy and freedom, versus those that are based on external control and subsequent pressure to behave in a prescribed manner (Deci & Ryan, 2012; Dysvik et al., 2013; Ryan & Deci, 2000).

Enabling nurses to meet their BPN through feelings of competence, value-based relationships, and autonomous work can be the most efficient means of increasing and sustaining their workplace motivation (Bernard et al., 2014; Dacoco, 2015). These delineations, when examined in the context of a workplace, can help organizations create

and sustain work environments that support feelings of competence, autonomy, and relatedness, which serve as the basis for intrinsically driven motivation. The current study can contribute to improved patient care by decreasing hospital RNs' CF and TI. This research can also help expand an understanding and application of SDT and BPN in the health-care field, where people's lives and the quality of the patient care they receive daily is affected by RNs.

### **Nature of the Study**

This quantitative study was designed to discover any significant relationships between the independent variable of BPN and the variables CF and TI. Regarding the study's second research question, CF is the dependent variable; regarding the third and fourth research questions, CF is the independent variable. A quantitative design using linear and multiple regression analysis allowed for testing the study's four hypotheses. To test the moderating effect of BPN on the relationship of CF and TI and avoid missing some true moderating effects (Type II errors; MacKinnon, Fairchild & Fritz, 2007), the indirect effect was calculated and tested for significance.

A quantitative design enables a researcher to make predictions about a population based on a representative sample of that population (Creswell, 2013), which in this study was RNs from a nursing association in Arizona. Data collection was based on online surveys. According to De Leeuw and Dillman (2008), surveys provide concise and rapid feedback from participants. In my study, participants completed three surveys: (a) the Basic Need Satisfaction at Work Scale (BNSWS), which measured 21 items related to needs for competence, autonomy, and relatedness (Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001); (b) the Turnover Intentions Composite Measure (TICM), which

measured seven items, used a 5-point Likert scale to measure turnover cognitions such as thinking of quitting, intention to search, and intention to quit (Bothma & Roodt, 2013); and (c) the Professional Quality of Life Scale Version 5 (ProQOL5), a 29-item, 5-point Likert instrument that measured the effects of helping others (Stamm, 2012). Data were analyzed using both linear and multiple regression analysis.

### **Definitions of Terms**

*Autonomy*: The attempt to sustain a sense of self-choice and self-control while interacting with others without feeling compelled to behave or perform in ways that are not incongruent with one's values and beliefs (Ryan & Deci, 2000).

*Basic psychological needs (BPN)*: Components of SDT that are essential to optimal psychological development, integrated functioning, and well-being (Deci & Ryan, 2012; Deci & Vansteenkiste, 2004; Dysvik et al., 2013).

*Certified Nursing Assistant (CNA)*: A health care professional who helps patients or clients with health care needs under the supervision of a RN or LPN. In many cases, CNAs serve as a source of information between patients and nurses (Currie & Carr-Hill, 2013).

*Compassion fatigue (CF)*: Loss of the capacity for nurturing that is the foundation for compassionate care. Symptoms include a sense of helplessness, anger, and emotional detachment when dealing with patients. Compassion fatigue is different from burnout, which is a broader phenomenon extending beyond direct patient care (Smart et al., 2014).

*Licensed Practical Nurse (LPN)*: A health care professional who provides direct care for patients who are recovering from illnesses, injured, or disabled. LPNs work under the direct supervision of registered nurses or physicians (Currie & Carr-Hill, 2013,



Wilson, Bremner, Hauck, & Finn, 2011).

*Relatedness*: The need to feel connected to others in meaningful and in-depth ways, either personally or professionally (Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010). Relatedness is an inherent need for connection and a sense of belonging with others, along with a desire for a reciprocal contribution to others' well-being.

*Registered Nurse (RN)*: A nurse who has completed either an associate's degree in nursing (ADN) or a bachelor of science degree in nursing (BSN) and who has successfully passed the National Council Licensure Examination (NCLEX-RN) and any additional state requirements (Wilson, Bremner, Hauck, & Finn, 2011). All subjects in this study were RNs involved in direct care of hospital patients.

*Turnover intention (TI)*: Cognitions and behaviors concerning a persons' current work role and their intention to remain or leave (Hom, Griffeth, & Sellaro, 1984). TI does not necessarily translate directly to quitting.

### **Assumptions**

It was assumed that participants in the study understood the questions on the BPNSW, ProQOL, and TICM questionnaires and provided honest and accurate responses. Another assumption was that the online survey platform would be easily accessible and would operate in a manner so as to not hinder participation. An additional assumption was that the sample was representative of RNs who work as direct care providers in various areas of hospitals.

### **Limitations**

This study was limited to RNs working in direct care roles in the southwest United States. This limitation precludes generalizing the findings to other nursing and health-care settings, or to other industries and countries. Data collection was limited to three self-administered surveys. Using self-administered surveys limits a researcher's ability to gather in-depth information (Sproull, 2002). Also, respondents may not feel comfortable providing answers that could present themselves unfavorably. In addition, any survey has the potential for nonresponses to particular questions, which could lead to skewed response data (Sproull, 2002).

Additional limitations were that the sample included RNs with different demographic characteristics (e.g., gender, education, and training) as well as dissimilar levels of CF, based on the patient populations with whom they work. There was also the possibility of disproportionate representation from particular specializations, as well as the effect of different direct patient care practice requirements of RNs in different health-care systems.

### **Significance of the Study**

It is predicted that demand for RNs in the United States will increase with the aging of Baby Boomers, longer life expectancies, and the use of nurse practitioners in place of physicians to reduce health-care costs (Aiken et al., 2002; Coetzee & Klopper, 2010; Sovie & Jawad, 2001). Also, RNs' availability will continue to decrease due to fewer training venues, increased workloads, greater patient expectations and demands, and regulatory requirements, resulting in loss of interest in entering or remaining in the profession (AACN, 2012; Kovner et al., 2014). By 2020, the RN shortage could grow as

much as 29% if RNs' burnout, CF, and TI continue to rise (AACN, 2012; Cowden et al., 2011; Hassmiller & Cozine, 2006). In spite of recruiting foreign nurses, it is projected that the shortage of RNs will be anywhere from 285,000 to 1,000,000 by 2022 (AACN, 2012; McHugh & Stimpfel, 2012). This figure is more than triple any previously experienced shortage in the United States and could have significant implications for all health-care professionals (Carver & Candela, 2008; Hairr et al., 2014; Kovner et al., 2014).

Professional practice models that emphasis increased autonomy, a greater sense of competence, and more supportive relationships at all levels will likely have significant impact on RN morale and commitment, CF, and TI. Without significant changes in health-care practices and policies, a shortage of RNs could have wide-ranging consequences, financially as well as with quality of patient care. The results of this quantitative study can provide hospital administrators and nurse leaders with better awareness and understanding of the importance of meeting RNs' BPN, thereby contributing to a more highly motivated and committed nursing staff. These changes may translate to improved patient care as well as lower health-care costs.

### **Summary and Transition**

Nurses continue to play critical roles in the health-care system, with 63.2% of RNs providing vital care to patients in both inpatient and outpatient settings in U.S. hospitals. Nurses represent a profession heavily affected by ongoing change in today's turbulent health-care environment (U.S. Department of Health and Human Services [USDHHS], 2013). Without more informed approaches to RNs' work environments and

psychological needs, there is an ongoing risk for low morale, increased turnover, reduced quality of patient care, and financial losses for the institutions where they work.

This study sought to expand understanding of BPN in hospital environments in order to create practices and policies for greater success and well-being of RNs. It aimed to promote RN success and well-being by an examination of the relationships among BPN satisfaction and CF, BPN satisfaction and TI, and the possible mediating relationship between BPN satisfaction and CF that affects TI among hospital RNs. The sample included RNs from a nursing association in southern Arizona. Each participant completed the BNSW, the TICM, and the ProQOL5. Data were analyzed using multiple regression analysis.

In Chapter 2, the relevant literature on BPN, CF, and TI is reviewed in the context of RNs and the impact of their work environment on motivation, productivity, and commitment. In Chapter 3, the study's methods are described, including research design, population, sample, instrumentation, data collection and analysis procedures, and ethical guidelines and procedures. Chapter 4 consists of a summary of the study's results. In Chapter 5, conclusions and recommendations are presented.

## Chapter 2: Literature Review

RNs serve in a wide variety of roles in health care environments. RNs frequently experience stress and low morale due to staff cutbacks, reduced budgets, higher work expectations, and increased nurse-to-patient ratios (Aiken et al., 2002; Gelinias & Bohlen, 2002; Sovie & Jawad, 2001). These factors can lead to CF (AACN, 2012; Coetzee & Klopper, 2010) as well as TI (Boyle, 2011; Coetzee & Klopper, 2010; Hooper et al., 2010). Predictions are that demand for RNs in the United States will increase with the aging of Baby Boomers, longer life expectancies, and the use of nurse practitioners in place of physicians to reduce health-care costs (Aiken et al., 2002; Coetzee & Klopper, 2010; Sovie & Jawad, 2001). RN availability continues to decrease due to fewer training venues, increased workloads, greater patient expectations and demands, and regulatory requirements, resulting in increased loss of interest in entering the profession or remaining in it (Kovner et al., 2014; Nei, Anderson-Synder & Litwiller, 2015). To address the increasing gap between the availability of RNs and the demand for their services, I examined the relationship between BPN of RNs in hospital environments and two critical areas that can impact retention: CF and TI.

### **Literature Search Strategy**

The literature review began with a search of the following databases: Academic Search Complete, Business Search Complete, ERIC, Medline, PsychARTICLES, PsychINFO, CINAHL, Health and Medical Complete, and Ovid Nursing Journals. Google Scholar was also used in this literature search. Key terms used in the literature search were *self-determination theory*, *basic psychological needs*, *intrinsic motivation*, *compassion fatigue*, *turnover intention in nursing*, *burnout*, and *patient care*.

## Theoretical Foundation

The theoretical framework of SDT used in this study examined the effect of hospital RNs' intrinsic motivation on CF and TI. Deci and Ryan (2012) posited that motivation is primarily based on intrinsic factors, though extrinsic factors are more influential if they become internalized over time. According to Hagger and Chatzisarantis (2011) and Deci and Ryan (2011), motivators are based on people's subjective experiences. They are founded on people's interpretation of internal or external control, which in turn affects how circumstances are experienced and what reactions and behaviors are demonstrated (Deci & Ryan, 2011; Hagger & Chatzisarantis, 2011).

For over 40 years, empirical researchers have used SDT to explain motivation in education, sports, and the workplace (Deci & Ryan, 2008, 2012). Meyer and Maltin (2010) and Meyer and Parfyonova (2010) found that, in general, organizational commitment and higher personal and professional motivation are associated with basic needs satisfaction. However, to date, SDT has not been utilized to examine the effect of BPN on hospital RNs' CF and TI (Almost & Laschinger, 2002; Meyer & Parfyonova, 2010).

Competence, autonomy, and relatedness comprise the BSN that, according to SDT tenets, are foundational for all individuals to experience intrinsically driven growth and behavior regulation (Gagne & Deci, 2005). Deci and Ryan (2012) referred to BSN as "innate psychological nutrients that are necessary for psychological and physical health, and social wellness" (p. 131). Vansteenkiste, Niemiec, and Soenens (2010) proposed that all people—regardless of culture, gender, or age—need a sense of impact and competence in their environment, engagement in activities without coercion,

autonomy, and connection or relatedness to others in order to enhance or maintain their intrinsic motivation.

SDT is referenced as a motivational theory by both psychological and organizational researchers (Dysvik, Kuvaas, & Gagné, (2013). Work motivation, in particular, has been the focus of much attention in organizational psychology, due to the premise that motivated employees are healthier and more committed and productive (Gagné, & Deci, 2005; Gillet et al., 2012). Motivation is the subject of numerous studies and has resulted in a multitude of theories since 1954 when Maslow first presented his theory on the hierarchy of needs (Maslow, 1954). According to Rainey (2000), motivation has become an “umbrella concept” (p. 19) that refers to numerous variables and conditions that can affect volition, enthusiasm, and commitment. The high number of definitions and theories for motivation—according to Rainey, over 140, have been developed since 1970—have made it difficult for researchers and theorists to come to an overall agreement concerning the construct.

The term *motivation* is derived from the Latin *motus*, which means “to move” (Rainey, 2000, p. 20). When examined in the context of a work environment, motivation refers to the amount of energy an individual is willing to expend to meet performance goals (Hofer & Busch, 2011; Rainey, 2000). Work motivation has also been described as a stimulating force that originates either internally or externally and influences work-related behavior (Latham & Pinder, 2005; Meyer et al., 2004). Work motivation is directly affected by the interaction between individuals and their work environment (Deci & Ryan, 2000; Latham & Pinder, 2005).

According to researchers using SDT, one's sense of self-determination is based on whether one acts according to one's own sense of volition (intrinsic motivation), or responds to some form of perceived outside control or requirement (extrinsic motivation). When people act according to intrinsic motivation, they exercise self-determination in order to have their needs for competence, relatedness, and autonomy met (Vallerand, Pelletier, & Koestner, 2008). Extrinsic motivation results in engaging in an activity to achieve an outcome that is related to but is discernible from the activity itself (Deci & Ryan, 2012). Extrinsically motivated behaviors are thus considered to be based on a means-end process and are experienced as having a separable consequence (Eccles & Wigfield, 2002; Simons, Vansteenkiste, Lens, & Lacante, 2004).

### **Self-Determination Theory**

SDT, while often referred to as a singular entity, comprises several subtheories and can be viewed as a "metamodel" (Roche & Haar, 2013, p. 2). According to Leroy, Anseel, Gardner, and Sels (2015), the underlying premise of SDT is that people have an innate drive to experience a greater sense of self in their life experiences. Although Deci and Ryan (2011) considered BPN to be universal regardless of culture, gender, social status, or age, Gillet et al. (2012) argued that that assertion is unsubstantiated. It is important to note that each subtheory associated with SDT not be seen as an independent construct, but rather as a theory that addresses specific components of SDT (Deci & Ryan, 2000; 2002; 2008; Gagne & Deci, 2005; Gagne & Forest, 2008).

### **Cognitive Evaluation Theory**

Cognitive evaluation theory (CET) is based on Deci's (1975) examination of the relationship between extrinsic/external rewards and tasks that intrinsically provide



enjoyment and fulfillment. For Milyavskaya and Koestner (2011) and Raj and Chettiari (2012), intrinsically motivated behavior occurs when one experiences high levels of internal satisfaction from an activity or involvement. When examined from an attributional perspective, intrinsic behavior is seen as an internal sense of causation due to one's perception that a behavior is based on one's own sense of motivation rather than external control or coercion (Burton, Lydon, D'Alessandro, & Koestner, 2006; Deci, & Ryan, 2008; Dysvik et al., 2013).

CET was initially controversial because psychology in the 1950s' was dominated by B. F. Skinner's theory of operant conditioning which emphasized neutral, positive, or negative reinforcement imposed by an outside source (Strohacker, Galarraga, & Williams, 2014). CET offered a broader perspective on human behavior than Skinner's focus on behavioral manipulation driven by extrinsic reinforcement (Cautilli, Rosenwasser, & Hantula, 2003; Strohacker, Galarraga, & Williams, 2014). According to Ryan, Huta, and Deci (2008), when fulfillment is derived from intrinsic motivation, it is more likely to be experienced as personally relevant and longer lasting, compared to externally imposed reinforcement.

### **Organismic Integration Theory**

Organismic integration theory (OIT) is based on the assumption that intrinsic motivation and extrinsic motivation are not opposites but points on a continuum. Organismic integration theory suggests that intrinsic motivation, which is central to CET, is not relevant for some behaviors or situations. Studies in the 1980s (Mandigo & Holt, 2000; Ryan, 1982) showed that in some cases extrinsic motivation can be internalized and moderated when a circumstance is perceived as more autonomously based and less

externally controlled, suggesting that extrinsic motivation can be examined in terms of different conditions and how they are internalized. “The process of internalization involves endorsing the value of extrinsically motivated behaviors, and is critical for the self-initiation and maintenance of socially important, yet non-intrinsically motivated behavior” (Vansteenkiste et al., 2010, p. 113). For example, successful socialization can reflect one’s internal endorsement of social or group norms and the willingness to follow them, even if there is no overt external pressure from authority figures such as parents, teachers, or managers (Deci & Ryan, 2000). According to OIT, internalizing societal norms and values can help facilitate social responsibility in individuals who are not necessarily intrinsically motivated (Deci & Ryan, 2000; Vansteenkiste et al., 2010).

### **Causality Orientation Theory**

Causality orientation theory (COT) is based on motivational differences and behavioral regulation centered on an individual’s perceptions and consequent reactions to external events. According to COT, an individual’s personality and level of functioning are seen as causal (Vansteenkiste et al., 2010). The core premise of COT is that individuals differ in how they perceive and react to their environment, which affects their consequent level of motivation (Roche & Haar, 2013; Seo, Barrett, & Bartunek, 2004)

The three causal orientations are autonomy oriented, control oriented, and impersonal oriented (Deci & Ryan, 1985; Deponete, 2004, Vansteenkiste et al., 2010). People who are autonomy oriented tend to react to their environment based on their own interests and values, and to see external experiences as informational in support of their autonomous behavior. It is important to note that Deci and Ryan’s (2011) concept of autonomy is based on the prominence of self-regulation and the importance of motivation

and ability to regulate behavior in order to realize (self-actualizing) goals. Control-oriented people regulate their behavior based on their perception of being controlled by external factors, such as other people or circumstances. Their reactions to their environment are founded on the belief that they will be rewarded based on their compliance with external expectations (Vansteenkiste et al., 2010). People with strong impersonal orientation tend to perceive their personal or professional environment as beyond their control and as a consequence feel ineffectual, powerless, and passive (Deci & Ryan, 2011; Deponte, 2004, Vansteenkiste et al., 2010). Such people have a strong external locus of control (Deci & Ryan, 2011).

According to Milyavskaya, Philippe, and Koestner (2013), there is a meaningful relationship between different individuals and their domain-specific motives. The three causality orientations are potentially present in all people and are conditional, based on unique situational factors. The causality orientations identified by Deci and Ryan in 1985 are generally perceived as personality dimensions that are malleable and adaptive, based on specific environmental or interpersonal circumstances. This assumption differs from constructs such as the Big Five, which are considered deeply ingrained personality characteristics and not likely to change regardless of situational or environment factors (Gosling, Rentfrow, & Swann, 2003; Kelly, Zuroff, Leybman, Martin, & Koestner, 2008).

### **Basic Needs Theory**

Basic needs theory (BNT) addresses psychological elements considered critical for psychological well-being, physical health, and successful social relationships (Burton et al., 2006; Ryan & Deci, 2002). These elements—basic psychological needs—are

autonomy, competence, and relatedness. In contrast to early theories of motivation, which focused on physiological drives such as hunger, thirst, shelter, and sex, BNT is based on satisfying psychological needs in order for a person to thrive (Hofer & Busch, 2011; Raj & Chettiar, 2012; Ryan & Deci, 2002). Basic psychological needs are considered innate and universal, transcending culture, age, gender, or socioeconomic status. Their satisfaction is not based on conscious awareness or specific cognitive processes, and pursuing BPN satisfaction continues throughout a person's life (Hofer & Busch, 2011; Ryan & Deci, 2002; Vansteenkiste et al., 2010).

When BPN satisfaction is thwarted by a person's environment, maladaptive responses may result, based on external substitutes such as social status, financial success, or power attainment (Milyavskaya & Koestner, 2011; Ryan & Deci, 2002; Vansteenkiste et al., 2010). Such substitutes can create derivative satisfaction but are often short-lived and ultimately do not fulfill a person's BPN. Unsuccessful satisfaction of BPN creates greater sensitivity to one's environmental cues in hopes of identifying additional possibilities for BPN satisfaction. Moller, Deci, and Ryan (2006) found that need-satisfied and need-deprived people often experience new need-satisfying situations differently. Satisfied individuals frequently expect and experience satisfaction from certain types of events. On the other hand, deprived individuals tend to devalue the importance of needs-satisfying events, which limits their ability to find BPN satisfaction (Sheldon & Gunz, 2009).

### **Goal Content Theory**

Goal content theory (GCT) is based on both intrinsic and extrinsic goals. Intrinsic goals include personal growth, contribution to others, physical health, and general well-

being. Examples of extrinsic goals are financial success, notoriety, and power (Bartholomew, Ntoumanis, Ryan, Bosch, & Thogersen-Ntoumani, 2011; Deci & Ryan, 2011). Vansteenkiste et al. (2008) claimed that intrinsic and extrinsic goals have different relations with the fulfillment of BPN. Not all goals should be seen as having the same type of impact on an individual's sense of psychological, social, or physical well-being (Deci & Ryan, 2011; Sheldon et al., 2004; Vansteenkiste et al., 2010).

Although GCT is not primarily descriptive, due to the conceptual complexities of intrinsic and extrinsic motivation, it does help identify predictive tendencies in people due to its correlation with types of goals and satisfying BPN (Deci & Ryan, 2011; Gillet et al., 2012). An example is someone who seeks to fulfill an intrinsic need for relatedness through volunteer work and forming relationships with others. In contrast is someone who seeks extrinsic goals such as wealth or social status and is likely to view relationships with others as increasing one's own vulnerability, which could hinder satisfaction of an underlying psychological need for relatedness (Vansteenkiste et al., 2010). According to Duriez, Meeus, and Vansteenkiste (2012), in some instances people who place high value on social status may feel threatened by members of minority groups whom they fear might endanger their social standing as the dominant group. People with greater interest in satisfying BPN, rather than obtaining social status or money, often place high value on community, relationships with others, and personal development. They are less likely to see minority groups as a threat but more as opportunities for increased social relationships, well-being, and a stronger sense of community (Duriez et al., 2012). In some situations, satisfying intrinsic goals is superseded by external realities, such as one's socioeconomic status (Guillen-Royo & Kasser, 2015).

## **Basic Psychological Needs**

According to SDT, the three BPN are universal regardless of age, gender, or culture (Deci & Ryan, 2011; Deci & Vansteenkiste, 2004) and are foundational for optimal functioning and psychological well-being (Deci & Ryan, 2011; Milyavskaya & Koestner, 2011). People need to feel confident in their abilities, that they are valued and accepted by others, and that performance expectations are harmonious with their values (Deci & Ryan, 2011; Milyavskaya & Koestner, 2011; Sheldon & Gunz, 2009).

Need satisfaction, as described by SDT, mirrors that of numerous drive theories of motivation, but as opposed to being grounded on physiological and social needs (Hull, 1943), the needs recognized in SDT are psychological, which individuals intuitively work to satisfy during their lifetime (Deci & Ryan, 2000). When BPN are met, that is based on undertakings that are intrinsically gratifying, and are in line with one's values and beliefs, there is a high level of psychological satisfaction (Deci & Ryan, 2000). Conversely, when the needs for autonomy, competence, and relatedness are not met, unlike the numerous drive theories that predict cognizant actions focused on unmet social or survival needs, SDT predicts behavior that seeks to fulfill BPN deficiencies, which increases motivational and well-being efforts (Deci & Ryan, 2000, 2011).

According to SDT, there are three key motivational states for people: amotivation, extrinsic, and intrinsic (Deci & Ryan, 2000; Duriez et al., 2012). The minimum self-determined type of motivation is amotivation, which is characterized by a complete absence of motivation (Deci & Ryan, 2011). When functioning in an amotivational state, a person believes that positive outcomes are not likely and that individual effort will not have any valuable effect on a situation.

Extrinsic motivation refers to the determination to engage in actions based on their expected outcome (Gagne & Deci, 2005; Gagne et al., 2003). Ryan and Deci (2000) identified four categories of extrinsic motivation: external regulation, introjected regulation, identified regulation, and integrated regulation. External regulation and introjected regulation are the consequence of inadequate satisfaction of one or all of BPN, and are considered controlling types of motivation (Gagne & Deci, 2005; Ryan & Deci 2000; Vallerand, 2000). External regulation occurs when an action or behavior satisfies external requirements or expectations. Introjected regulation is the internalization of external regulation but not experienced as one's own (Ryan & Deci, 2000). With introjected regulation, one's actions are an attempt to avoid guilt, shame, or anxiety.

Identified regulation and integrated regulation, although considered forms of autonomous motivation, are more closely linked with BPN satisfaction than either external regulation or introjected regulation. Identified regulation represents a more autonomous form of extrinsic motivation, where a person consciously or volitionally values a goal, behavior, or expectation. The fourth type of extrinsic motivation is integrated regulation—the most autonomous. It occurs when external regulations are interpreted as being in alignment with one's values and needs (Gagne & Deci, 2005; Ryan & Deci 2000). The primary difference between integrated and intrinsic motivators is that goals or behaviors are based upon extrinsic criteria, as opposed to any inherent joy or fulfillment associated with an expectation or task itself.

### **Autonomy**

Ryan and Deci (2000, 2006) posited that autonomy is a fundamental human need and defined it as the belief that one is acting of one's own volition and in harmony with

one's values. Autonomy, from an SDT standpoint, does not refer to independence or necessarily the capacity to choose. Instead, a person is said to be acting autonomously "even when acting in accord with an external demand, provided the person fully concurs with or endorses doing so" (Ryan & Deci, 2006, p. 156). Deci and Ryan (2000) argued that autonomy, an intrinsic form of motivation, is a basic human need in which a person engages in an activity primarily for the enjoyment of it, and not as the result of any externally imposed requirement. In the early 1970s, Deci (1971, 1972) began studying the consequences of rewards on peoples' motivation. That research identified the significance of an internal, as opposed to external, perceived locus of causation. Other researchers (Amabile, DeJong, & Lepper, 1976; Deci & Cascio, 1972; Lepper & Greene, 1975) found that people who attributed their participation in an activity based on their own interest (i.e., internal perceived locus of causality) exhibited higher levels of enjoyment and motivation than did those who ascribed their participation to an external reward, punishment, threat, or deadline related to the activity. Deci and Ryan (2000) later contended that the effect of a perceived sense of control on a person's motivation and behavior is based on a supposed sense of autonomy.

### **Competence**

Deci and Ryan (2000) defined competence as the need to feel effective in one's pursuits. A perceived sense of competence is similar to Bandura's (1977) concept of self-efficacy; however, key differences exist. First, self-efficacy defines situation-specific beliefs about whether a person is able to perform the behaviors needed to achieve preferred results (Bandura, 1977). Self-efficacy has significance because it increases the probability that someone will realize a preferred end-state (Bandura, 1994). The theory of



self-efficacy does not differentiate among desired outcomes but instead considers all desired outcomes as equivalent sources of motivation.

Self-determination theory, on the other hand, posits that a person's perceived sense of competence or efficacy has significance in and of itself, apart from any efforts toward goal achievement. Deci and Ryan (2000) drew on the work of White (1959), who introduced the concept of competence and its effect on motivation. Deci and Ryan contended that human beings have an innate need to feel effective, and when that need is satisfied, their sense of psychological well-being escalates. Although both self-efficacy and perceived competence describe states wherein individuals believe themselves capable of engaging in behaviors required to accomplish desired outcomes (Bandura, 1977; Deci & Ryan, 2000), self-determination theorists argue that perceived competence has value in and of itself based on its fulfillment of people's innate need for efficacy (Deci & Ryan, 2000).

Including perceived competence as a BPN stemmed from research on the effects of verbal feedback on intrinsic motivation (Deci, 1971; Deci & Cascio, 1972). Deci found that participants who received positive feedback experienced greater intrinsic motivation than did participants who received no feedback, whereas Deci and Cascio found that intrinsic motivation was decreased more by negative feedback than by no feedback. Further research showed that the increase in intrinsic motivation experienced as the result of positive feedback was contingent upon attributing the competent performance to oneself rather than to outside forces (Fernet, 2013; Gillet et al., 2012). The importance of perceived competence to developing and sustaining intrinsic motivation was additionally supported by Vallerand and Reid (1984), who established that the impact of both positive

and negative feedback on intrinsic motivation was mediated by a person's perceived sense of competence.

### **Relatedness**

Deci and Ryan (2000) described relatedness as having a sense of belonging and connectedness to others. Self-determination theory suggests that autonomous motivation is more likely to be experienced when people feel they are recognized and valued members of a group. Relatedness as a BPN has its origins in attachment theory (Bowlby, 1979; Lopez & Brennan, 2000), which suggests that individuals who are securely attached to others are inclined to display more positive attitudes, greater adaptive rational appraisals, increased self-awareness, and more effective emotional coping and social skills (Lopez & Brennan, 2000). Securely attached individuals also tend to engage in more of the exploratory behaviors typically associated with intrinsic motivation than do individuals who are not securely attached, with the former showing greater resilience and less vulnerability to stress than do the latter (Lopez & Brennan, 2000). According to SDT, "intrinsic motivation will be more likely to flourish in contexts characterized by a sense of secure relatedness" (Deci & Ryan, 2000, p. 235). In general, researchers have found that work motivation is primarily affected by the perception and interaction between employees and their work environment. Ideally, a work environment allows one to express personal traits, align values and skills, and fulfill personal needs (Locke & Latham, 2004; Milyavskaya & Koestner, 2011).

### **Basic Psychological Needs and Nurse Well-Being**

Although researchers have studied BPN and health-care environments (Deci & Ryan, 2012), none to date has focused specifically on hospital RNs' BPN fulfillment and

its impact on TI or CF. According to Hagger and Chatzisarantis (2011), the absence of intrinsic motivation in a work environment can have a significant impact on personal satisfaction and dedication to one's work. Reducing TI and CF is important in today's health-care field, where RNs are in diminishing supply (Bernard et al., 2014).

### **Compassion Fatigue**

Positive quality of life for health-care providers depends on a work environment that promotes effective patient care (Dodge, Daly, Huyton, & Sanders, 2012; Halbesleben, 2010). Although CF is similar to burnout and secondary stress disorder, each has different characteristics and can be caused by different environmental factors (Austin, Goble, Leier, & Byrne, 2009; Aycock & Boyle, 2009). Figley (1995) first used the term *compassion fatigue* in conjunction with secondary traumatic stress disorder. In 2002, Figley developed the model of CF most commonly referenced today in the health-care field. For purposes of this research, compassion is defined as recognizing the suffering of others and attempting to help alleviate that suffering (Smart et al., 2014). Compassion fatigue is a complex psychological, physiological, and situational phenomenon where a care provider experiences a diminished ability to experience empathy, support, or caring for someone experiencing physical or emotional trauma (Austin et al., 2008). Results of a study by the Compassion Fatigue Awareness Project (2012) indicated that symptoms of CF often include mental and physical fatigue, reduction or absence of caring about others, tendencies toward isolation, compulsive behaviors, substance abuse, decreased self-care, poor sleep patterns, depression, apathy, increased vulnerability to illness, chronic physiological ailments, difficulty concentrating, and denial about having CF.

The impact of CF can be both psychological and financial (Austin et al., 2009; Hooper et al., 2010; McMullen, 2007). With increasing numbers of nurses suffering from CF, there is a negative impact on the quality of patient care, increased attrition of nurses, and greater pressure placed on remaining health-care providers (Figley, 2002; McMullen, 2007; Sprang, Clark, & Whitt-Woolsey, 2007). A nurse's long-term exposure to patients with chronic conditions, combined with a felt need for empathic interactions, can in some instances lead to neuropsychological disorders (Coetzee & Klopper, 2010).

When CF occurs, disengagement and loss of satisfaction can develop in nurses' relationship with patients, often leading to cumulative compassion stress. Increased somatic problems such as headaches, gastrointestinal problems, insomnia, and eating disorders can also occur (Coetzee & Klopper, 2010). Psychologically, a nurse may experience fatigue, depression, anger, lowered self-efficacy, apathy, and general detachment in relationships (Boyle, 2011). Personal problems can also exacerbate a nurse's propensity to experience CF (Abendroth & Den-Dulk, 2011; Hairr et al., 2014).

Although many factors contribute to CF, one's work environment and the presence or absence of social support, and by extension the satisfaction of BPN, are especially influential (Austin et al., 2009; Johnson, 2008). Recent research suggests that CF is growing among health-care providers (Hairr et al., 2014). Acute-care patients are living longer, and emergency rooms are treating increased numbers of (uninsured) patients needing acute care who cannot be treated elsewhere (Hooper et al., 2010). Finally, too few hospitals provide adequate training and support for nurses to help them better understand and avoid CF (Kamel & Hashish, 2015).

## Compassion Fatigue and Burnout

Compassion fatigue and burnout are similar in that they can create feelings of helplessness, loneliness, anxiety, and depression. However, they are dissimilar in that burnout is a process in which previously committed professionals disengage from their work because of excessive and prolonged stress in their work environment (Cherniss, 1980; Poghosyan et al., 2010). Burnout has a broad range of causal factors: work overload, nonsupportive work environment, poor communication between peers and supervisors, lack of peer cohesion, and institutional changes in policies and procedures (Poghosyan et al., 2010). Compassion fatigue is unlike burnout in that it can produce fear, sadness, and detachment that its sufferers do not relate to the actual cause (Clarke et al., 2010; Pearlman & Saakvitne, 1995). Compassion fatigue has been distinguished from burnout in that it is more specifically the response a nurse has to providing ongoing help to chronically ill and suffering patients (Boyle, 2011; Coetzee & Klopper, 2010; Hayes, Bonner & Pryor, 2010). The ability to experience empathy for others diminishes over time as normal levels of compassion are exhausted. Another difference is that burnout can result from any situation where a person feels overworked and is not unique to caring professions (Maslach & Leiter, 2008; Yoder, 2010). Figley (1995) defined CF as “the natural behavior and emotion that arises from knowing about traumatizing events experienced by a significant other, the stress resulting from helping or wanting to help a traumatized person” (p. 7). Clark and Gioro (1998) used the term *indirect trauma* in relation to CF, posttraumatic stress, and vicarious trauma.

## **Turnover Intention in Nursing**

Turnover intention in hospital nurses is a growing concern as the ratio between qualified RNs and patients continues to widen (Sprang et al., 2007). Intention to leave is one of the prime predictors of employee turnover (Griffeth, Hom, & Gaertner, 2000; Rizwan, Shahid, Shafiq, Tabassum, Bari, & Umer, 2013). Twigg and McCullough (2014) found a strong correlation between job satisfaction and TI. Job satisfaction is a multifaceted phenomenon based on both extrinsic and intrinsic factors in the work environment (Poghosyan et al., 2010; Simons & Jankowski, 2008). Intrinsic factors such as perceived value to a department or organization, collaboration with peers, and recognition of accomplishments—as well as extrinsic factors such as compensation, benefits, work schedules, and responsive management—have been linked to job satisfaction and consequently lower TI (Hayes et al., 2010; Murrells et al., 2008). Of these factors, intrinsic motivation related to BPN appears to have the most consistent impact on an employee's decision to stay in or leave a job (Deci & Ryan, 2000).

Turnover intention rarely occurs abruptly. The final determination is usually based on a reflective and lengthy decision-making process (Galletta, Portoghese, Battistelli, & Leiter, 2013; Poghosyan et al., 2010). A final decision to leave an organization or practice usually involves a multitude of factors unique to each individual (Aiken et al., 2008; Patrician, Shang, & Lake, 2010). According to Sharp (2008), common factors affecting job satisfaction and intention to leave are hours, workload, teamwork, quality of work relationships, opportunities for professional development, stress, and sense of autonomy. It is important to note that intention to leave is not equivalent to quitting. Contemplating quitting one's job is not equivalent to actual

attrition (Cowden, Cummings, & Profetto-McGrath, 2011; Perrine, 2009). Studies by Griffeth et al. (2000) indicated that the best predictors of TI include measures of three primary areas: behavioral intentions (planned intentions to leave ones' job within a specific timeframe), cognitions of resigning (thoughts of withdrawal), and behaviors directly focused on leaving ones' job (actively searching for a different job). Nei, Anderson, Snyder, and Litwiller, (2015) found that frequently, once a problem or conflict is resolved, quitting is seldom given further consideration. According to studies by Ariapooran (2014) and Atefi, Abadullah, Wong and Mazlom (2014), a nurse's decision to leave the job seldom occurs suddenly but instead is based on a deeply reflective and extensive decision-making process. Commonly, RNs who quietly network or actively explore other work possibilities have the strongest proclivity for TI (Hairr et al., 2014). Most RNs have a deep sense of commitment to provide the highest level of care for their patients, and considering the possibility of leaving their job weighs heavily on their self-perception and sense of job satisfaction (Simons & Jankowski, 2008).

Studies by Aiken et al. (2008) and Patrician et al. (2010) revealed that nurses consider a multitude of personal and professional factors when contemplating leaving a job. Usually, nurses' professional work environment has the most direct effect on their satisfaction and retention (Rush, Adamack, Gordon, Lilly, & Janke, 2013). Staffing, patient complexity and acuities, collaboration, work schedules, autonomy, and quality of supervision have a significant impact on RNs' sense of value, motivation, and consequent job satisfaction (Rush et al., 2013; Tervo-Heikkinen, Partanen, Aalto, & Vehvilainen-Julkunen, 2008). Poor practice environments account for 48% of nurses reporting job dissatisfaction and 51% of nurses reporting job burnout (Lin et al., 2011).

Nielsen, Yarker, Brenner, Randall, and Borg (2008) found connections among nurses' sense of well-being, job satisfaction, and retention. Among a range of reasons for high turnover cited in various studies, job satisfaction is a strong and consistent predictor of retention, whereas the lack of it frequently accounts for TI (Galletta, Portoghese, Battistelli & Leiter, 2013; Shields & Wilkins, 2009). Intention to leave is one of the biggest predictors of ultimate employee turnover (Griffeth et al., 2000; Rizwan et al., 2013).

### **Compassion Fatigue and Turnover Intention**

Han, Sohn, and Kim (2009) found that the most significant predictive factors for RN TI were CF, mental stress, length of employment, self-efficacy, and workload. The researchers found positive correlations between CF and mental stress ( $r = .37, p < .001$ ), and between CF and TI ( $r = .55, p < .001$ ). Given the highly probable relationship between TI and CF, it was important to examine how RN BPN satisfaction affects nurses' vulnerability to TI and CF, as well as possible ways to minimize this occurrence.

### **Summary and Transition**

Research in organizational psychology and nursing reveals an increasing need for health-care organizations to expand an understanding of RN BPN and their relationship to retention and quality of patient care. The intent of the current study was to examine BPN satisfaction and its relationship with TI and CF among RNs—a profession experiencing increasing losses and consequent gaps in health-care service and patient care.

Health care systems, medical centers, and the nursing profession as a whole have an ongoing need for research that can help identify meaningful practices and policies to



help minimize TI and CF among RNs. According to Boyatzis (2015), the field of organizational psychology is well-suited for research that will result in solutions for health-care organizations and the RNs they employ. Nurses and the organizations they work for are best served when there is a cultural environment that supports professional as well as personal well-being (AACN, 2012).

In Chapter 3, I describe the current study's methods: design, population and sample size, instrumentation, data collection and analysis procedures, validity, and ethical protections. Chapter 3 will also include a discussion of the regression analysis conducted on the identified variables. Chapter 4 consists of a summary of the study's results. In Chapter 5, conclusions and recommendations are presented.

### Chapter 3: Research Methods

The purpose of this quantitative study was to determine whether a relationship exists among the BPN satisfaction of hospital RNs and CF, the BPN satisfaction of hospital RNs and their TI, and any mediating relationship between RN BPN satisfaction and effect of CF on the TI of hospital RNs. My objective was to contribute to existing knowledge and practices that affect RN behavior in the workplace. Study findings may help health care administrators and supervisors maximize RN performance, well-being, retention, and patient care. This study was based on four research questions, which are stated below with their corresponding hypotheses:

RQ1: Is there a relationship between hospital RN BPN satisfaction (in terms of competence, relatedness, and autonomy) and CF?

$H_01$ : There is no relationship between hospital RN BPN satisfaction and CF such that BPN satisfaction will not have an impact on CF scores.

$H_a1$ : There is a relationship between hospital RN BPN satisfaction and CF such that BPN satisfaction will impact on CF scores.

RQ2: Is there a relationship between hospital RN BPN satisfaction (in terms of competence, relatedness, and autonomy) and TI?

$H_02$ : There is no relationship between hospital RN BPN satisfaction and TI such that BPN satisfaction will not impact TI scores.

$H_a2$ : There is a relationship between hospital RN BPN satisfaction and TI such that BPN satisfaction will impact TI scores.

RQ3: Is there a relationship between hospital RN CF and TI?

$H_03$ : There is no relationship between hospital RN CF and TI such that CF will not impact TI scores.

$H_a3$ : There is a relationship between hospital RN CF and TI such that CF will impact TI scores.

RQ4: Does BPN satisfaction (in terms of competence, relatedness, and autonomy) moderate the relationship between CF and TI among hospital RNs?

$H_04$ : BPN satisfaction does not moderate the relationship between CF and TI among hospital RNs such that BPN satisfaction does not impact the relationship scores between CF and TI.

$H_a4$ : BPN satisfaction does moderate the relationship between CF and TI among hospital RNs such that BPN satisfaction does impact the relationship scores between CF and TI.

### **Research Design and Rationale**

A quantitative method was chosen for this study based on the particularities of my research. According to Babones (2016), quantitative research provides the opportunity for numeric measurement and examination of the key variables being studied. Qualitative research, on the other hand, is primarily used to gain insight and understanding of the underlying reasons, perspectives, and motivations of participants in a study (Babones, 2016). Creswell (2013), stated that personal involvement, partiality, and the pursuit of empathetic understanding are typically more pervasive in qualitative research, whereas quantitative researchers attempt to stay detached and objective. Qualitative research can provide additional insight into an identified problem and support the development of ideas or hypotheses for additional research, if needed (Babones, 2016, Creswell, 2013). It

can also be used to help identify patterns in participants' thoughts and opinions, and can help provide deeper insights into the problem being studied (Creswell, 2013).

Particularities and unique occurrences are typically explored in greater depth in a mixed-methods study allowing for greater generalizability and comprehensiveness (Cooper & Shindler, 2008; Creswell, 2013).

In this study using quantitative methods helped me identify and explain relationships among the variables I examined. Identifying predictive relationships between the independent and dependent variables in this study might help health care leaders in hospitals understand how BPN satisfaction and CF affect TI of hospital RNs. This knowledge may also contribute to more supportive working environments that increase the well-being and retention of hospital RNs, who play critical roles in the quality of patient care and success in U.S. hospitals (Hairr, Salisbury, Johannsson, & Redfern-Vance, 2014)

### **Design of the Study**

The current study was designed to identify (a) the relationship of RNs' BPN satisfaction and CF, (b) the relationship of RNs' BPN satisfaction and TI, (c) the relationship between RNs' CF and TI, and (d) any mediating effects of RNs' BPN satisfaction on the relationship between CF and TI. Three instruments were used in this study. The TICM (Hom, Griffeth, & Sellaro, 1984) was used to measure participants' behavioral intentions. The ProQOLS (Stamm, 2010) was used to measure participants' CF. The BPNWS (Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992) was used to measure participants' perceived sense of well-being. Participants completed the three instruments

online. According to Dillman (2008), surveys or questionnaires provide the most concise and timely information, compared to other means of data collection. Creswell (2013) noted that in predictive relationship studies, surveys and questionnaires are the most commonly used methods.

The research design consisted of six steps: (a) planning the study, (b) defining the population, (c) identifying the sample, (d) identifying and using specific research instruments, (e) administering the survey(s), and (f) analyzing collected data (Ary, Jacobs, Sorenson, and Razavieh, 2009). Data were collected through SurveyMonkey, an online survey platform, which enables the researcher to convert responses in to a format that helps facilitate analysis. Both optional and mandatory questions can be specified. Informed consent was determined by having participants place a check in a designated box in order to continue. Survey responses were anonymous. The information participants provided was demographic data (age, gender, length of time in current role as an RN, educational level, professional training, and ethnicity).

### **Population and Sample**

A convenience sample consisting of RNs who were members of a national nursing association chapter in southern Arizona and who were involved in direct patient care in hospitals were invited to participate in this study. None of the sample population included RNs in temporary nursing roles. Prospective participants were contacted via email from their nursing association with an explanation of the research and the survey process, along with a request for their voluntary participation. Although I had no direct influence on participation, my goal was to oversample the RNs from the association to help ensure reliability of the study. I used Cohen's (1992) estimates for a sample size

based on desired effect size, power, probability level, and type of statistic. According to Dillman (2008), the traditional response rate for remote surveys is 15-30%. Cohen noted that for a multiple regression study with two predictor variables with medium effect size (power = .80 and alpha = .05), the minimum sample size is 67, although the goal in this study was to have 100 or more participants to help insure a higher degree of validity.

To participate, RNs needed to have been in their current position and providing direct patient care for a minimum of 1 year. I set this time requirement as a criterion to ensure that participants would have enough experience to provide meaningful feedback. In this study, direct patient care was identified as services provided personally by an RN and involved a multitude of health-care procedures such as medical treatments, counseling, teaching self-care, patient education, and administering medication. Study participants worked in direct patient care such as intensive care (ICU), the emergency room (ER), oncology, pediatric intensive care (PICU), neonatal intensive care (NICU), and trauma surgery. RNs in leadership, education, administration or advanced practice positions were excluded from the study.

A letter of participation (see Appendix A) helped filter out any non-RNs from participating in the study by accident. Qualified participants did not self-identify by name; they were asked only to provide their age, gender, type of current work, length of time as an RN, educational level, professional training, and ethnicity. These demographic data were referenced in conjunction with the results of the BPNWS, TICM and ProQOL surveys.

## Instrumentation

### Basic Psychological Needs at Work Scale

Perceived satisfaction of autonomy, competence, and relatedness were assessed with the BPNWS (Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992), which consisted of 21 items (see Appendix B). Seven items assessed an individual's perceived sense of autonomy (e.g., "I feel like I can pretty much be myself at work"). Six items assessed perceived competence (e.g., "Most days I feel a sense of accomplishment from working"). Eight items assessed a person's perceived sense of relatedness (e.g., "People at work are pretty friendly toward me"). The BPNWS uses a 7-point Likert-scale, where 1 = not at all true, 4 = somewhat true, and 7 = very true. Higher scores indicated greater levels of perceived satisfaction.

The BPNWS was available at no cost for academic research purposes and only required that a researcher register and log on to a website ([selfdeterminationtheory.org](http://selfdeterminationtheory.org); see Appendix F). The Cronbach's alpha for the BPNWS's overall need satisfaction scale reported by Deci et al. (2001) was .89. Cronbach's alphas for the three factors (autonomy, competence, and relatedness) were .73, .84, and .79, respectively. Baard et al. (2004) conducted a components factor analysis to confirm items used for the autonomy, competence, and relatedness scales. The researchers' results showed a Cronbach's alpha of .87 for the overall scale, and Baard et al. found that autonomy support had a strong predictive influence on perceived need satisfaction (autonomy, competence, and relatedness). Need satisfaction was shown to be highly predictive of performance levels

and workplace adaptation in a study that involved 698 front-line employees working in a large banking organization (Baard et al., 2004).

### **Turnover Intentions Composite Measure**

Turnover intention was measured with the TICM (Hom, Griffeth, & Sellaro, 1984), which was available at no cost (Appendix C). Professor Griffeth granted permission to use the TICM (Appendix G). Cronbach's alpha for the overall composite TICM measure was 0.83 (Trivellas, Gerogiannis, & Svarna, 2013). According to Van Dyk and Coetzee (2012) and Yücel (2012), TI models suggested that employees' psychological and behavioral intentions represented the most reliable determinant of actual behavior. Britt and Jex (2008) drew on Mobley's turnover model (Mobley, Griffeth, Hand, & Meglino, 1979), in distinguishing between two types of employee turnover. Avoidance turnover is when employees leave an organization because of dissatisfaction with their job and during a time the organization could have acted to prevent them from leaving. Unavoidable turnover occurs when an organization cannot influence an employee's decision to leave due to factors outside of their control (e.g., illness, spouse changing jobs, etc.).

Hom, Griffeth, and Sellaro (1984) suggested that attempts to measure TI should include questions to identify the probability of turnover-based activities, such as searching for other employment, updating resumes, and having frequent and persistent thoughts of quitting. Hom et al. (1984) created a 7-item composite measure in which two factors evaluate the probability of turnover-related behaviors (e.g., "What is the percentage chance that you will engage in the following?"). Five Likert items assessed thoughts of withdrawal (e.g., "What is the extent to which you agree/disagree with the



following?”).

Hom et al. (1984) reported several significant correlations with turnover: thoughts of quitting ( $r = .23$ ), intention to quit ( $r = .24$ ), intention to search ( $r = .31$ ), and search behavior ( $r = .30$ ). Reliability coefficients were all within a range of acceptability: thoughts of quitting (.87), intention to quit (.75), intention to search (.91), and actual search behavior (.78). In the current study, TICM scores were averaged to generate three primary scores: (a) overall turnover intention score—the average of all seven items, (b) behavioral score—the average of the two likelihood-of-quitting items, and (c) withdrawal cognitions score—the average of the five items identified with withdrawal cognitions. In this study, the overall turnover intention score, comprised of the scores of all seven items, was used to test the related hypotheses. Professional Quality of Life Scale Version 5

Compassion fatigue was measured using the secondary trauma subscore on the ProQOLS (Stamm, 2010; Appendix D). The ProQOLS can be administered online or by paper and is a 30-statement, self-report assessment that takes approximately 5-10 minutes to complete. It consists of two primary scales: compassion satisfaction (CS) and compassion fatigue (CF). The CS scale is a single score based on responses to 10 of the 30 statements. The CF scale comprises two subscales: burnout and secondary trauma, each of which has an independent total score based on 10 of the 30 statements in the assessment. The ProQOLS creates three independent scores and one singular composite score. For the current study, only the subscore of secondary trauma was used because it has the highest correlation to CF.

The ProQOLS is free of charge for use by the general public (Stamm, 2010). Professor Stamm provided permission to use the ProQOLS (Appendix H). Participants were asked to respond to 30 statements based on a 5-point Likert scale, ranging from 1 (“never”) to 5 (“very often”). In the current study, participants were able to self-score the assessment and review their results. Using this information, participants were able to assess how effectively they are managing their work stress and if they could benefit from additional support.

Based on a sample of 1,187 respondents, Stamm (2010) found that the average raw score on each subscale of the ProQOLS was 50 ( $SD = 10$ ). The three subscales reportedly measure separate constructs, with CF being distinct. Cronbach’s alphas for each scale were as follows: compassion satisfaction .88, burnout .75, and compassion fatigue .81. Inner-scale correlations showed 2% shared variance with secondary trauma stress ( $r = -.23$ ,  $co-\sigma = 5\%$ ;  $n = 1187$ ) and 5% shared variance with burnout ( $r = -.14$ ,  $co-\sigma = 2\%$ ;  $n = 1187$ ). Although there is shared variance between burnout and secondary traumatic stress ( $r = .58$ ;  $co-\sigma = 34\%$ ), the two scales measure different constructs, with the shared variance likely reflecting the distress that is similar to both conditions.

The ProQOLS has strong external validity. It has been used for over 15 years and in over 50 different experiments. Analysis by Stamm (2010) found the instrument to be effective across multiple populations with participants over 18 years of age.

### **Data Collection**

Data collection was accomplished through a five-step process:

1. Obtain permission from Walden University’s Internal Review Board (IRB) to conduct the study.

2. Upload the three study surveys (BPNWS, TICM & ProQOLS) as well as the demographic questionnaire (Appendix E) to the SurveyMonkey website. The demographic questionnaire consisted of items recommended by the American Psychological Association (2010) for identifying general characteristics of a sample group s: age, gender, race/ethnicity, educational level, current organization role, and tenure in the field. Additional professional training was added for the current study.
3. Sent emails to the identified groups of hospital RNs by their respective nursing association, inviting them to participate in the study (Appendix A), with an explanation of the reason for the study, the expectations associated with it, confidentiality, and clarification regarding compensation. The invitation also included a link to the secure website that hosted the surveys.
4. Collect survey data. Participants were required to indicate their consent (see Appendix F) before completing surveys. The website prevented anyone who did not give consent or was not an RN from continuing. Those people were sent to a page on the website thanking them for their consideration and directing them to exit the survey. Once engaged in completing the surveys, participants were able either to stop and return to the surveys at a later time or drop out completely if they did not wish to continue. Reminders were emailed to eligible participants on a weekly basis until a sample size of 100 was attained.

5. Following closing of access to the website, the data were downloaded, transferred to a spreadsheet, and uploaded to a statistical analysis program (SPSS) for statistical processing.

### **Validity**

Well-designed studies should have internal validity, external validity, statistical conclusion validity, and construct validity (Creswell, 2013). Regarding internal validity, the nonexperimental nature of the current study and its cross-sectional design prevent any conclusions about possible causal relationships. Because the three instruments used in this study are self-report questionnaires, self-perception bias and response style bias were possible. Participants might have answered questions in a manner that presented themselves in a positive light. Also, it is possible that responses were arbitrary and not representative of participants' true perspectives. Threats to construct validity were minimal due to the validated, published measures used in the three instruments.

The main threat to external validity results from the random sampling approach used in this study. Although the sample was intended to represent the larger population of hospital RNs, results will not be generalizable to that population because of potential bias in sample variability. Also, because the sample consisted entirely of RNs from one nursing association, the results may not be generalizable to other types of nurses in different health-care environments. Threats to statistical conclusion validity were minimized by ensuring a power level of at least 0.80 and a 95% confidence level. Also, the probability of a Type I or Type II error was minimized by setting the probability for such an occurrence at 0.5, as recommended by Gravetter and Wallnau (2016).

## Data Analysis

Following completion of data collection, data were downloaded from SurveyMonkey and uploaded to SPSS (Version 21) for analysis. Each instrument used in the study was scored based on instructions in its respective manual. Data were screened for multivariate and univariate normality. The internal consistency of the data, the construct validity of all variables, and the reliability of scores on all assessments were also tested. Upon completion of scoring, descriptive statistics (mean, mode, standard deviation, and frequency) were computed to create an overview of the data. Cronbach's alpha was used to evaluate each scale and subscale.

Data analysis was based on the study's four research questions:

RQ1: Is there a relationship between hospital RN BPN satisfaction (in terms of competence, relatedness, and autonomy), as measured by the BPNWS and CF (see Figure 1)? To analyze this question, relationships were computed between each BPN and CF. A significance level of 95% was used, with a power level of > 80%.



*Figure 1.* Relationship of BPN satisfaction to CF.

RQ2: Is there a relationship between hospital RN BPN satisfaction (in terms of competence, relatedness, and autonomy), as measured by the BPNWS and TI, as measured by the TICM (see Figure 2)? To analyze this question, relationships were computed between each of the BPNs and TI. A significance level of 95% was used.



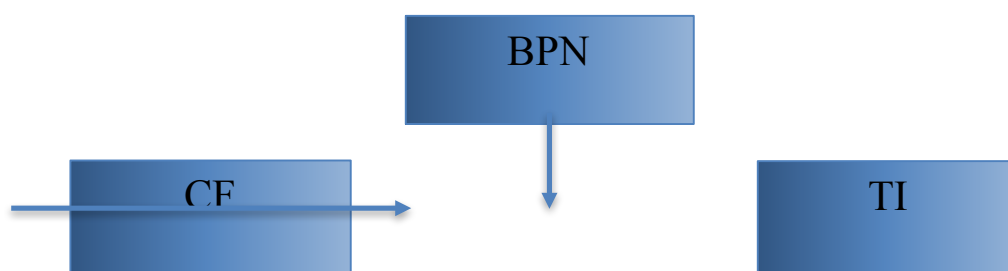
*Figure 2.* Relationship of BPN satisfaction to TI.

RQ3: Is there a relationship between hospital RN CF, as measured by the ProQOLS, and TI, as measured by the TICM (see Figure 3). To analyze this question the relationship between CF and TI was computed. A significance level of 95% was used.



*Figure 3.* Relationship of CF to TI.

RQ4: Does BPN satisfaction (in terms of competence, relatedness, and autonomy), as measured by the BPNWS, moderate the relationship between CF, as measured by the ProQOLS, and TI, as measured by the TICM among hospital RNs (see Figure 4)? To examine this question, I used multiple regression, where TI was the dependent variable and the seven independent variables were CF, autonomy, competence, relatedness, and the interactions between CF and each of the BPNs. The null hypothesis was tested to see which independent variables were significant. More precisely, I used the following regression model:  $TI = aCF + bAutonomy + cRelatedness + dCompetence + eCF \times Autonomy + fCF \times Relatedness + gCF \times relatedness + h$ . A significance level of 95% was used.



*Figure 4.* Moderating effect of BPN satisfaction on the relationship between CF and TI.

In statistical modeling, regression analysis is a statistical process often used for assessing the relationships among variables. This process includes various techniques for modeling and analyzing several variables when the focus is on the relationship between a dependent variable and one or more independent variables. In some studies, these independent variables are referred to as predictors or predictive variables (Creswell, 2013).

### **Protection of Human Subjects**

An email invitation (Appendix A) stated that no physical, psychological, economic, or legal harm would occur as a result of participation in this study (Creswell, 2013). The letter also stated that participation would not only be appreciated but also could help improve RNs' well-being and patient care. A private email server was used to send invitations. The list of participant email addresses was destroyed after they were entered into the SurveyMonkey system.

All participants completed an informed consent form (Appendix F) that explained the purpose of the study, the approximate length of time needed to complete the surveys, and contact information in the event of questions or problems. The form also made it clear that participation in the study is voluntary and can be suspended at any time without

consequence, and that all responses will be anonymous. The informed consent form was presented on the first page of the SurveyMonkey website. Each participant was required to check a box indicating that he or she had read the informed consent form and agreed to participate in the study.

No names were collected in this study. Individual surveys are identified by randomly selected numbers. Analyzed data are reported only in aggregate. Data are stored in a password-protected storage device separate from my computer. Data, both electronic and hard copies, will be destroyed after 3 years.

### **Summary and Transition**

Chapter 3 was a presentation of the research design and methodology chosen to address the study's four key research questions regarding the relationship between BPN satisfaction (in terms of competence, relatedness and autonomy) and CF; between BPN satisfaction (in terms of competence, relatedness and autonomy) and TI; the relationship between CF and TI; and any mediating effect of BPN satisfaction on the relationship between CF and TI of hospital RNs. A nonexperimental research design was used, and data were collected from three self-report measures: BPNSW, TICM, and ProQOLS. Participants completed these instrument through a secure website. Data were analyzed using SPSS online software. Descriptive statistics, linear regression, multiple regression, and Pearson's  $r$  were used to analyze the data. Confirmatory factor analyses were also used to ensure the internal validity of all instruments. In Chapter 4, the study's results are summarized. In Chapter 5, conclusions and recommendations are presented.



## Chapter 4: Results

In this chapter, I present the results of my nonexperimental study of the relationships between the satisfaction of BPNs of direct-care hospital RNs, CF, and TI. A convenience sample of RNs from a nursing association in southern Arizona, was used in this study. Participants completed three online instruments: BPNWS, TICM, and ProQOLS, as well as a demographic survey. These instruments were chosen because they have been shown to be valid and reliable measures of BPN, CF, and TI (Baard et al., 2004; Trivellas & Stamm, 2010; Gerogiannis, & Svarna, 2013).

The data were analyzed using linear and multiple regression to answer four research questions centering on the relationships between the dependent variables CF and TI and the independent variable BPN. The four research questions and associated hypotheses are as follows:

RQ1: Is there a relationship between hospital RN BPN satisfaction (in terms of competence, relatedness, and autonomy) and TI?

$H_01$ : There is no relationship between hospital RN BPN satisfaction and CF such that BPN satisfaction will not have an impact on CF scores.

$H_a1$ : There is a relationship between hospital RN BPN satisfaction and CF such that BPN satisfaction will impact on CF scores.

RQ2: Is there a relationship between hospital RN BPN satisfaction (in terms of competence, relatedness, and autonomy) and TI?

$H_02$ : There is no relationship between hospital RN BPN satisfaction and TI such that BPN satisfaction will not impact TI scores.

$H_{a2}$ : There is a relationship between hospital RN BPN satisfaction and TI such that BPN satisfaction will impact TI scores.

RQ3: Is there a relationship between hospital RN CF and TI?

$H_03$ : There is no relationship between hospital RN CF and TI such that CF will not impact TI scores.

$H_{a3}$ : There is a relationship between hospital RN CF and TI such that CF will impact TI scores.

RQ4: Does BPN satisfaction (in terms of competence, relatedness, and autonomy) moderate the relationship between CF and TI among hospital RNs?

$H_04$ : BPN satisfaction does not moderate the relationship between CF and TI among hospital RNs such that BPN satisfaction does not impact the relationship scores between CF and TI.

$H_{a4}$ : BPN satisfaction does moderate the relationship between CF and TI among hospital RNs such that BPN satisfaction does impact the relationship scores between CF and TI.

### **Participation Rate**

A total of 146 people participated in the survey. I excluded 16 participants based on the initial screening questions. An additional 31 participants were excluded based on the nature of their RN roles, which did not fit the target population criteria. The study was completed by 98.98 % of participants who fit the criteria. Most participants answered all questions necessary for each measure to be computed and analyzed (see Table 1). Study participants who had missing data were excluded from the final dataset.

Table 1

*Participation Rate by Measure*

Variable	No. begun	No. completed	% complete
Autonomy	99	98	99
Competence	99	99	100
Relatedness	99	99	100
CF	99	97	98
TI	99	99	100

**Participant Characteristics**

Table 2 (see page 55) displays the participant demographic characteristics. Of the 99 participants, 26.3% were male and 72.7% were female. Most participants (69.7%) were between the ages of 25-44. European Americans were the largest ethnic group (88.9%), with other ethnicities making up a small portion of the sample (10.1%).

Table 2

*Demographic Characteristics*

Variable	<i>n</i>	%
Gender		
Male	26	26.3
Female	72	72.7
Did not answer	1	1.0
Age category		
18-24 years	7	7.1
35-34 years	36	36.4
35-44 years	33	33.3
45-54 years	14	14.1
55-64 years	8	8.1
65 years or older	1	1.0
European American		88.9
African American	3	3.0
Hispanic	7	7.1
Asian	1	1.0
Total	99	100

Table 3 (see page 56) displays the education and work-related characteristics of the sample. The majority of respondents (66.7%) had a 4-year college degree while 18.2% had less than 2 years of college. Regarding areas of care, 47.5% of participants worked in intensive care, 28.3% in noncritical direct care, and 24.2% in emergency care. Study participants, who worked in their current role fewer than 5 years (52.6%), provided the majority of the data in this research.

Table 3

*Education and Work-Related Characteristics*

Variable	<i>n</i>	%
Education		
2-year degree (Associate)	18	18.2
4-year degree (BA, BS)	66	66.7
Master's degree	13.0	13.1
Doctoral degree	2.0	2.0
Type of care		
Emergency care	24	24.2
Intensive care	47	47.5
Direct care	28	28.3
Years in current role		
1	17	17.2
2	12	12.1
3	9	9.1
4	6	6.1
5	8	8.1
6	7	7.1
7	6	6.1
8	4	4.0
9	3	3.0
10	5	5.1
11	2	2.0
12	7	7.1
13	2	2.0
14	1	1.0
15	3	3.0
> 16	7	7.1

**Reliability of Measures**

Cronbach's alpha was computed for each of the three BPNs at work scales as well as the CF measure. The estimated internal consistency reliability estimates for autonomy, competence, and relatedness were .80, .70, and .89, respectively. The estimated reliability for competence in this study was lower than that found by Deci et al. (2001), which was

.84. For CF, internal consistency reliability estimates were .88 for compassion satisfaction, .75 for burnout, and .81 for compassion fatigue. For TI, the reliability estimates were .87 for thoughts of quitting, .75 for intention to quit, .91 for intention to search, and .78 for actual search behavior.

### Descriptive Statistics

Table 4 displays descriptive statistics of the study variables. As noted above, the predictors were the three dimensions of BPN—autonomy, competence, and relatedness—and the dependent variables were CF and TI. Given the range of each variable, means and standard deviations were generally consistent with previous research. For BPN, the means for competence ( $M = 5.26$ ,  $SD = .92$ ) and relatedness ( $M = 5.35$ ,  $SD = 1.05$ ) were slightly greater than for autonomy ( $M = 3.91$ ,  $SD = 1.10$ ). The mean for compassion fatigue was 24.24 with a standard deviation of 6.37, and the mean for turnover intentions was 3.05 with a standard deviation of 1.24.

Table 4

#### *Descriptive Statistics of Study Variables*

	Min	Max	$M$	$SD$
Autonomy	1.14	6.57	3.91	1.10
Competence	2.83	7.00	5.26	0.92
Relatedness	2.63	7.00	5.35	1.05
CF	12.00	43.00	24.24	6.37
TI	1.00	5.00	3.05	1.24

### Correlation Matrix

Pearson correlation coefficients were calculated for all study variables (Table 5). All bivariate correlation coefficients were statistically significant, with the exception of

that between relatedness and CF and between CF and TI. In particular, BPNs were all positively correlated with one another, with  $r$  values ranging between .532 and .642. Autonomy was negatively related to CF ( $r = -.222$ ) and TI ( $r = -.409$ ), indicating that as autonomy increased, CF and TI decreased. Similarly, competence was negatively related to CF ( $r = -.222$ ) and TI ( $r = -.422$ ), indicating that as competence increased, CF and TI decreased. Relatedness and TI were negatively associated ( $r = -.373$ ). Thus, as relatedness among hospital RNs increased, TI decreased.

Table 5

*Intercorrelations Among Study Variables*

	Autonomy	Competence	Relatedness	CF
Autonomy				
Competence	.593**			
Relatedness	.532**	.642**		
CF	-.222*	-.222*	-0.119	
TI	-.409**	-.422**	-.373**	0.195

*Note.* Sample sizes vary between 97 and 99. \* $p < .05$  (two-tailed). \*\* $p < .01$  (two-tailed).

**Effect of Types of Care Providers on Variables**

To determine whether the type of care provider affected any of the predictors (autonomy, competence, and relatedness) or outcomes (CF and TI), one-way ANOVAs were conducted using type of care provider as the categorical independent variable (emergency, ICU, and direct care), with each of the five variables serving as the dependent variable. Type of care provider did not influence any of the variables. All  $p$  values associated with the test statistics were greater than .10, indicating that none of the five  $F$  statistics were statistically significant. In other words, the population means on

autonomy, competence, relatedness, CF, and TI did not differ due to the type of care provider. The  $F$  tests from the ANOVAs are displayed in Table 6.

Table 6

*One-way ANOVAs Using Type of Care Provider as the Independent Variable*

Variable	$df_{num}$	$df_{denom}$	$F$	$p$
Autonomy	2	95	0.763	0.469
Competence	2	96	0.240	0.787
Relatedness	2	96	2.350	0.101
CF	2	99	0.471	0.626
TI	2	96	0.692	0.503

### Tests of Assumptions

To test the hypotheses, linear regression and correlation analyses were conducted. These statistical procedures require that various assumptions are satisfied. Linear regression requires normally distributed and homoscedastic errors (Fox, 2008). Linear regression was used to test Research Questions 1, 2, and 4. For Research Question 3, a correlation analysis was conducted. Tests on a correlation coefficient require that the data follow a bivariate normal distribution. In addition, the homoscedasticity assumption is required. Described below are the analyses that assessed whether the normality and homoscedasticity assumptions were met for each analysis.

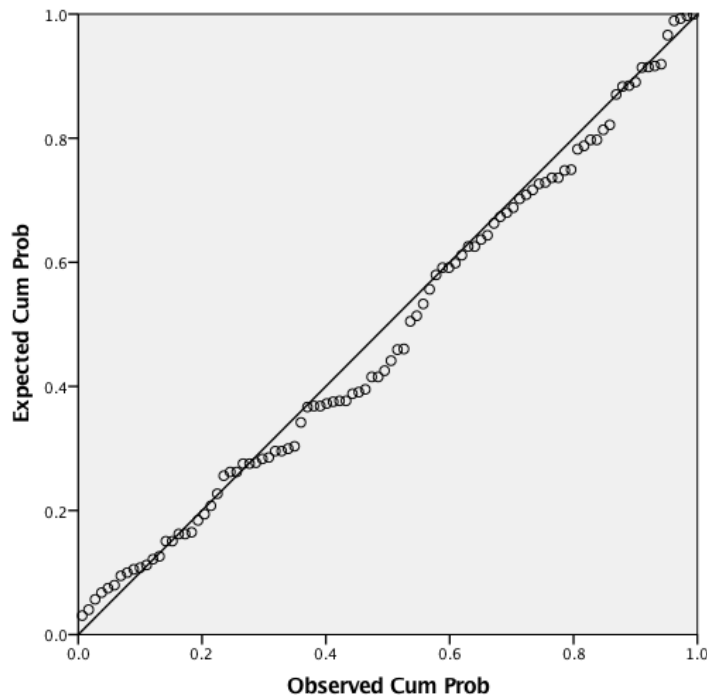
#### Normality

To assess the tenability of the normality assumption, for each linear regression a p-p plot was constructed using the standardized residuals from each analysis. A p-p plot is used to examine whether a variable follows a specified distribution. In the current study, the standardized residuals from each analysis should be normally distributed. Thus, consistent with the normality assumption, when the standardized residuals are plotted



against the expected cumulative probabilities of the standard normal distribution, the residuals should closely follow a straight line.

**Hypothesis 1.** The p-p plots associated with the test of Hypothesis 1 are depicted for the regression of CF on (a) autonomy in Figure 5, (b) competence in Figure 6, and (c) relatedness in Figure 7. All three p-p plots follow a straight line, suggesting that there was no serious departure from the normality of the errors assumption for any of the three regression analyses used to test Hypothesis 1.



*Figure 5.* P-P plot of standardized residuals from regression of CF on autonomy.

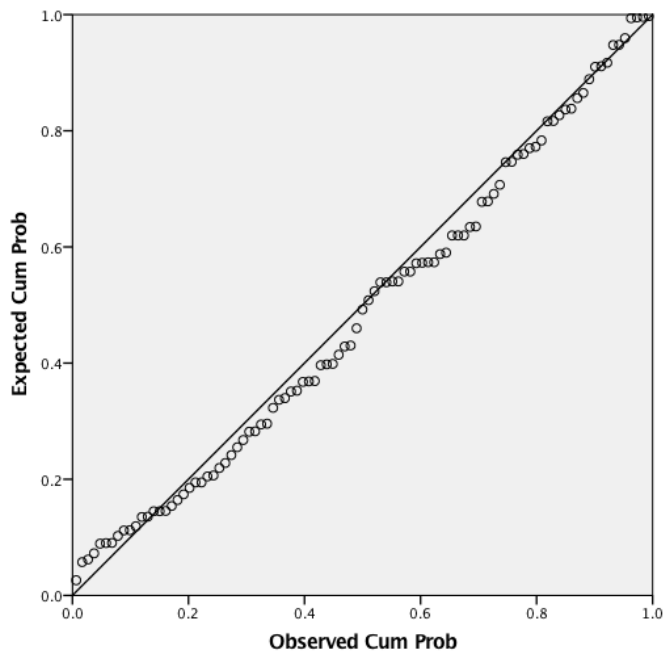


Figure 6. P-P plot of standardized residuals from regression of CF on competence.

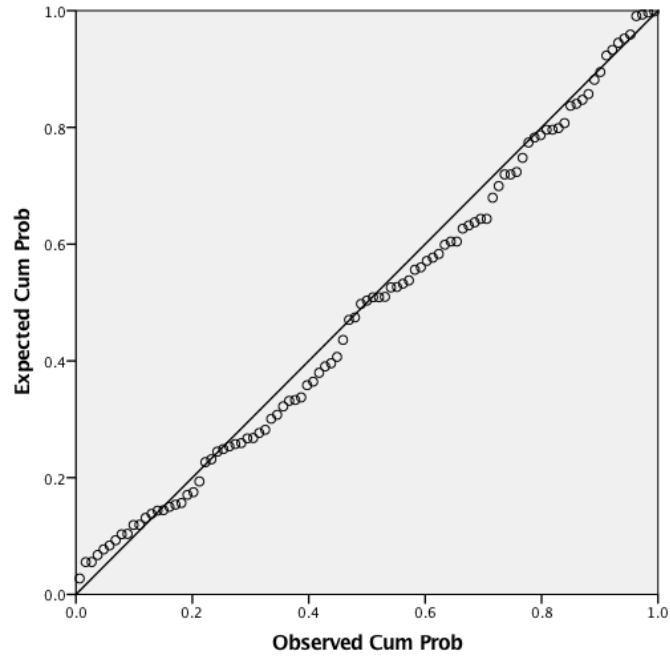
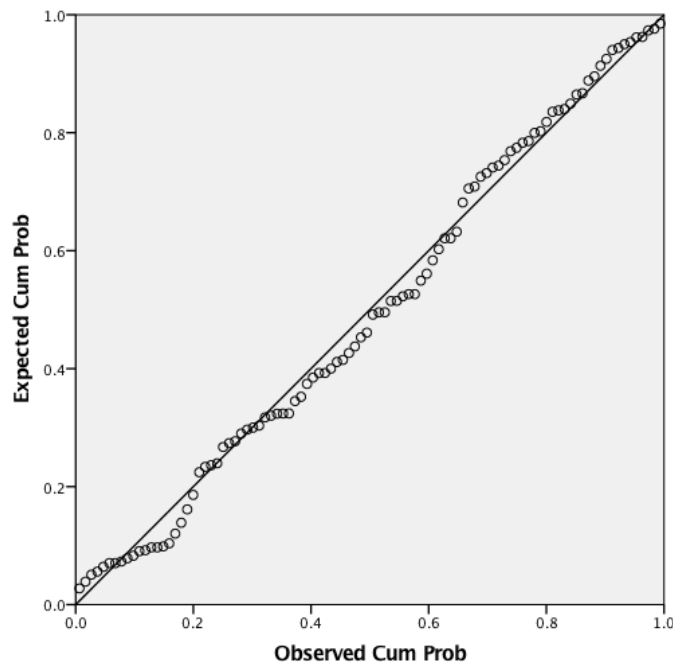


Figure 7. P-P plot of standardized residuals from regression of CF on relatedness.

**Hypothesis 2.** The p-p plots associated with the test of Hypothesis 2 are depicted for the regression of TI on (a) autonomy in Figure 8, (b) competence in Figure 9, and (c) relatedness in Figure 10. All three p-p plots follow a straight line, suggesting that there was no serious departure from the normality of the errors assumption for any of the three regression analyses used to test Hypothesis 2.



*Figure 8.* P-P plot of standardized residuals from regression of TI on autonomy.

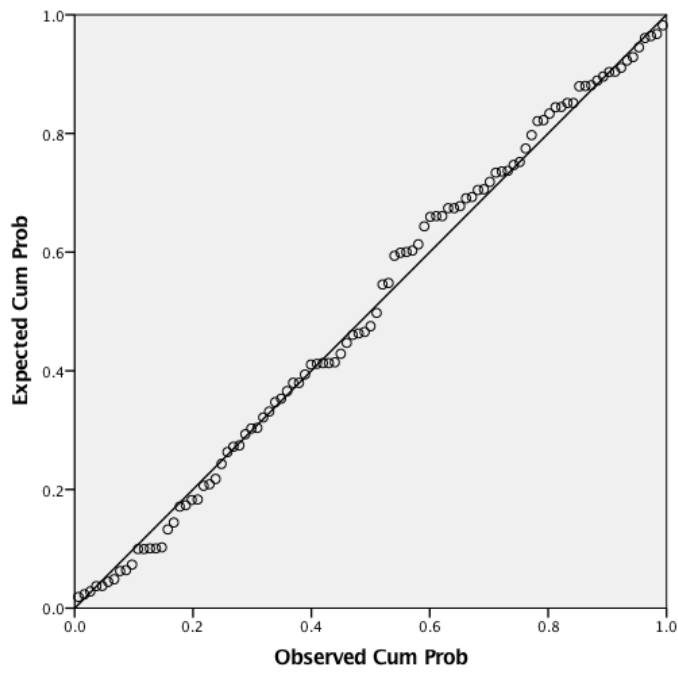


Figure 9. P-P plot of standardized residuals from regression of TI on competence.

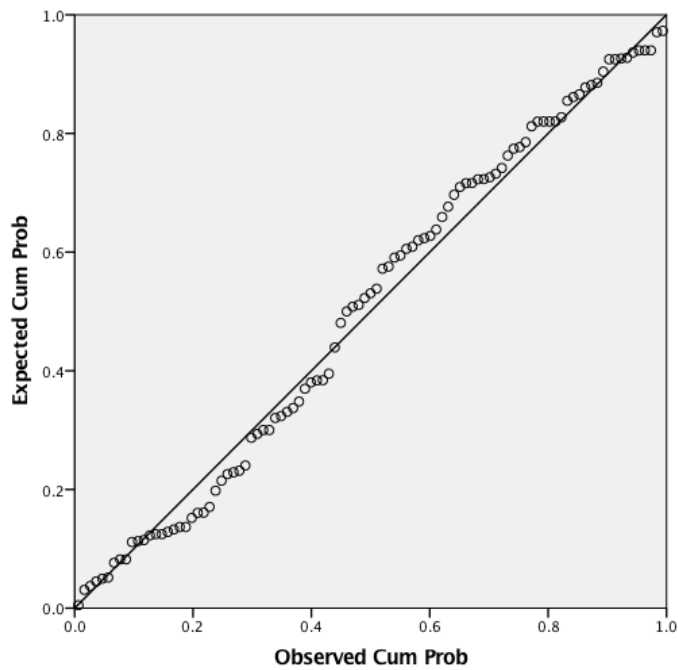
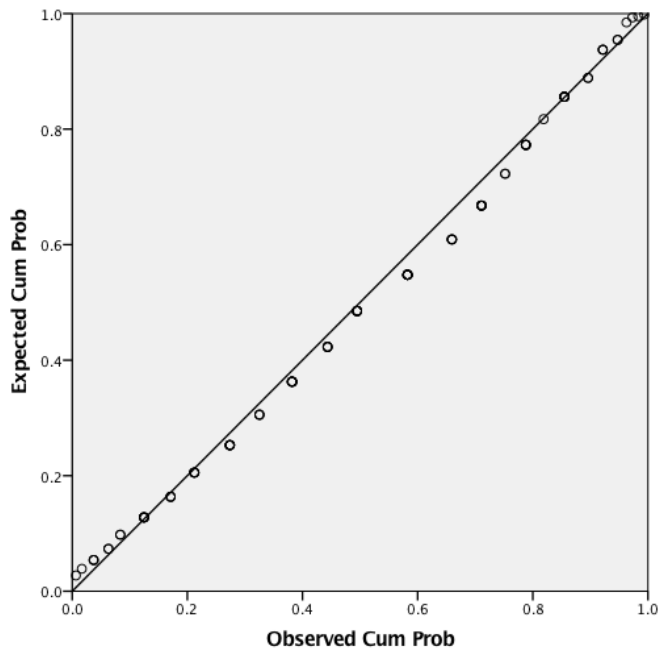
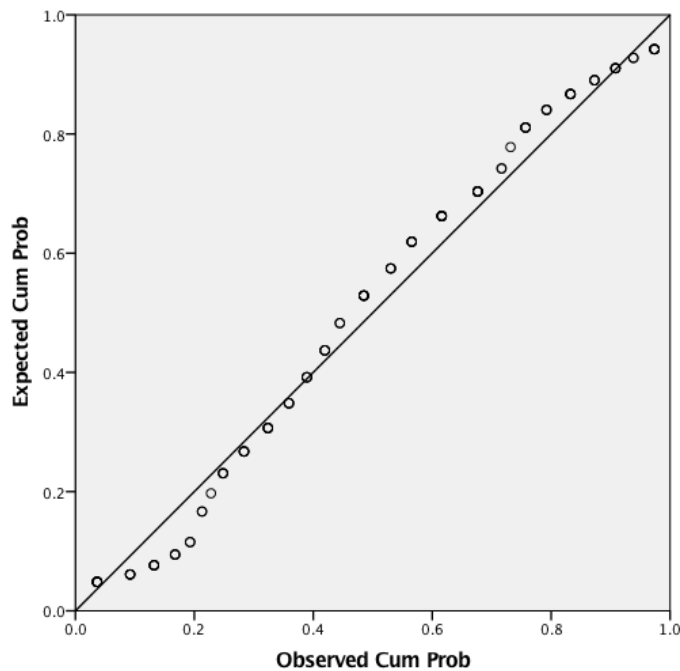


Figure 10. P-P plot of standardized residuals from regression of TI on relatedness.

**Hypothesis 3.** Correlation analysis was used to test Hypothesis 3. Because correlation coefficients are assumed to follow a bivariate normal distribution, p-p plots were used separately for each variable: CF (Figure 11) and TI (Figure 12). Both plots follow a straight line, suggesting that both variables were normally distributed.



*Figure 11.* P-P plot of CF.



*Figure 12.* P-P plot of turnover intentions.

**Hypothesis 4.** To test Hypothesis 4, linear regression was conducted. The ordinary least squares residuals from the final model (described below) were used to construct the p-p plot (see Figure 13). The p-p plot closely follows a straight line, suggesting that the residuals were normally distributed.

Based on the results of various p-p plots using the standardized residuals from each analysis, there was evidence to suggest that the normality of the errors assumption was satisfied for each of the analyses. In other words, there was reason to believe that the normality assumption was tenable for each analysis described below.

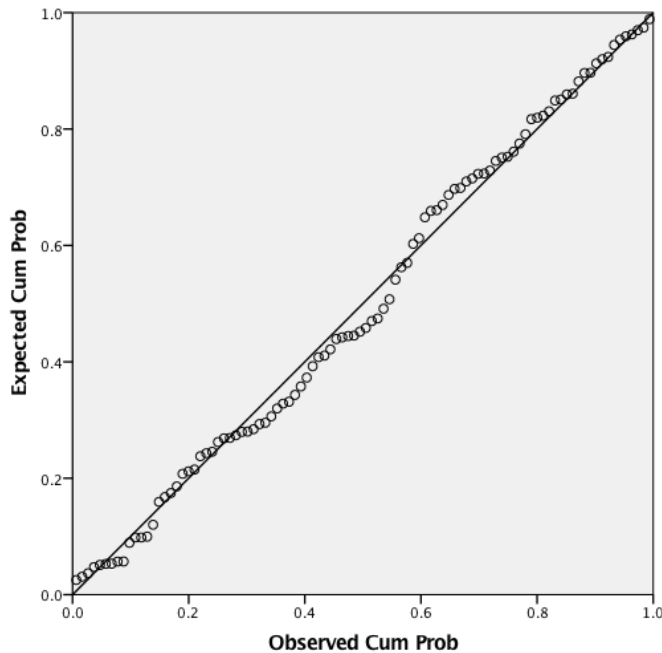


Figure 13. P-P plot of standardized residuals from regression of TI on autonomy and competence.

### **Homoscedasticity**

For both linear regression and correlation, the homoscedasticity assumption must be satisfied to ensure the validity of statistical tests (e.g.,  $F$  and  $t$ ). For a review of the homoscedasticity assumption, see Rosopa, Schaffer, and Schroeder (2013). Consistent with recommendations by Rosopa et al., to examine whether the homoscedasticity assumption was satisfied, the standardized residuals were plotted against the predicted values from each linear regression analysis.

**Hypothesis 1.** Because the test of Hypothesis 1 involved three simple linear regressions, there were, by necessity, three residual plots. Residual plots are depicted for the regression of CF on (a) autonomy in Figure 14, (b) competence in Figure 15, and (c) relatedness in Figure 16. An inspection of each of the three plots suggests that the

residuals were homoscedastic. That is, the errors did not appear to be heterogeneous in any of the plots.

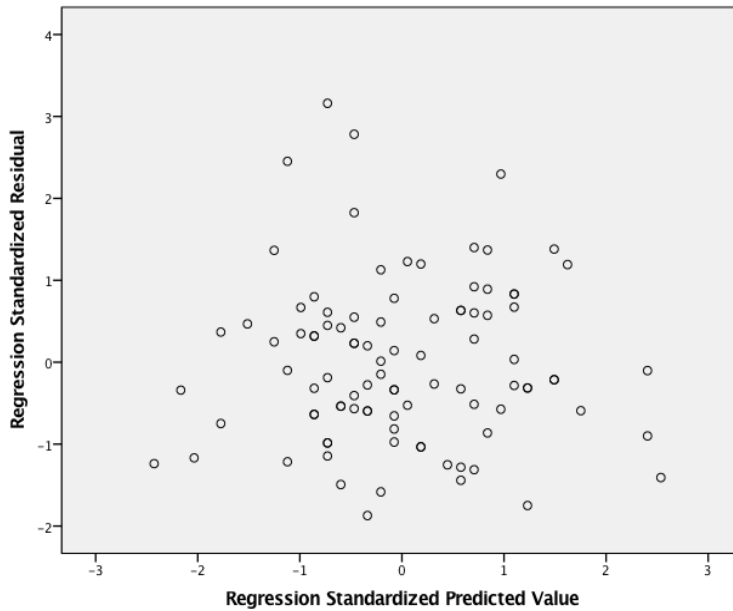


Figure 14. Residual plot from the regression of CF on autonomy.

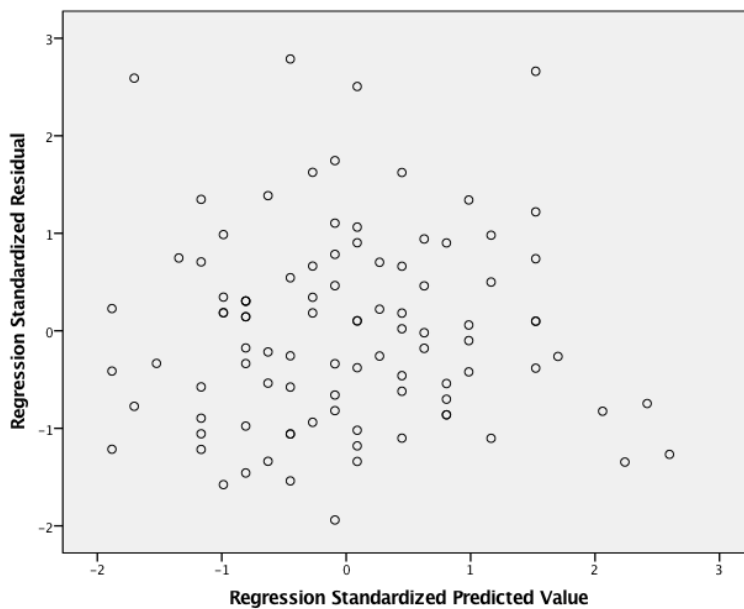
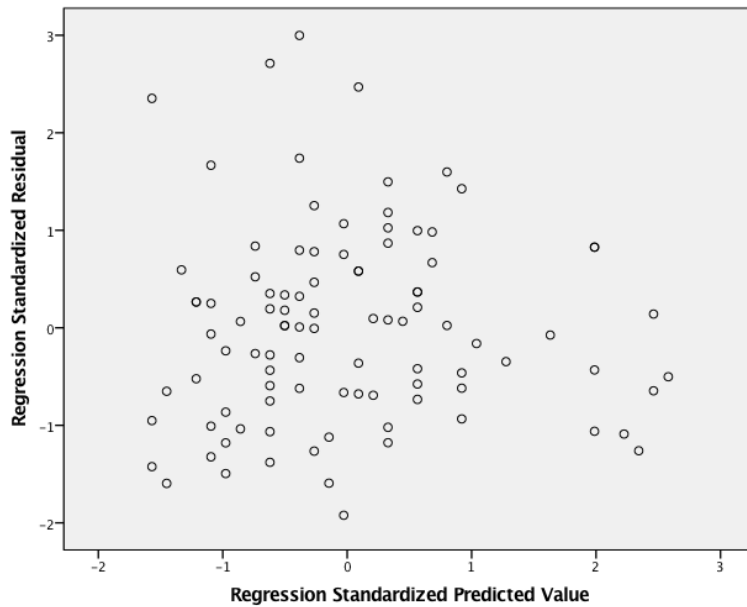


Figure 15. Residual plot from the regression of CF on competence.





*Figure 16.* Residual plot from the regression of CF on relatedness.

**Hypothesis 2.** Because the test of Hypothesis 2 involved three simple linear regressions, there were three residual plots. Residual plots are depicted for the regression of TI on (a) autonomy in Figure 17, (b) competence in Figure 18, and (c) relatedness in Figure 19. An inspection of each of the three plots suggests that the residuals were homoscedastic. That is, the errors did not appear to be heterogeneous in any of the plots.

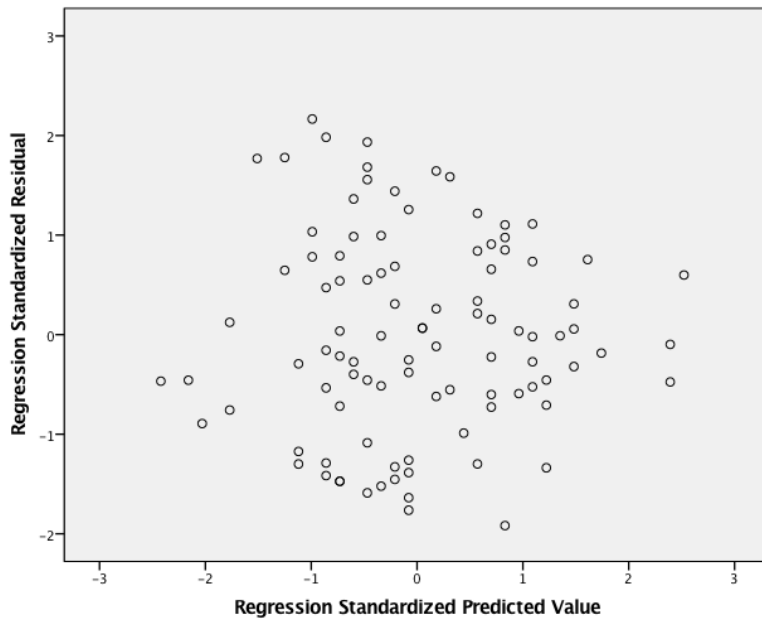


Figure 17. Residual plot from the regression of TI on autonomy.

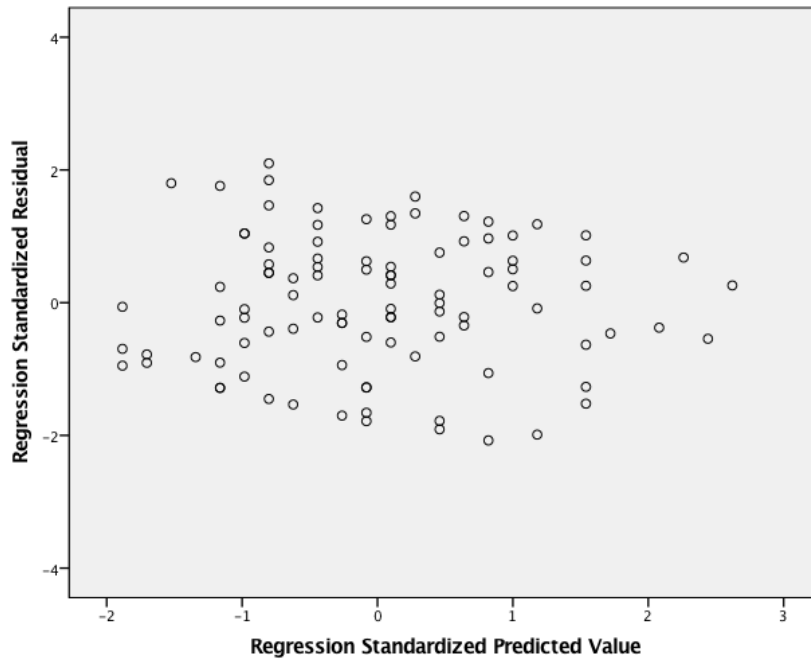


Figure 18. Residual plot from the regression of TI on competence.

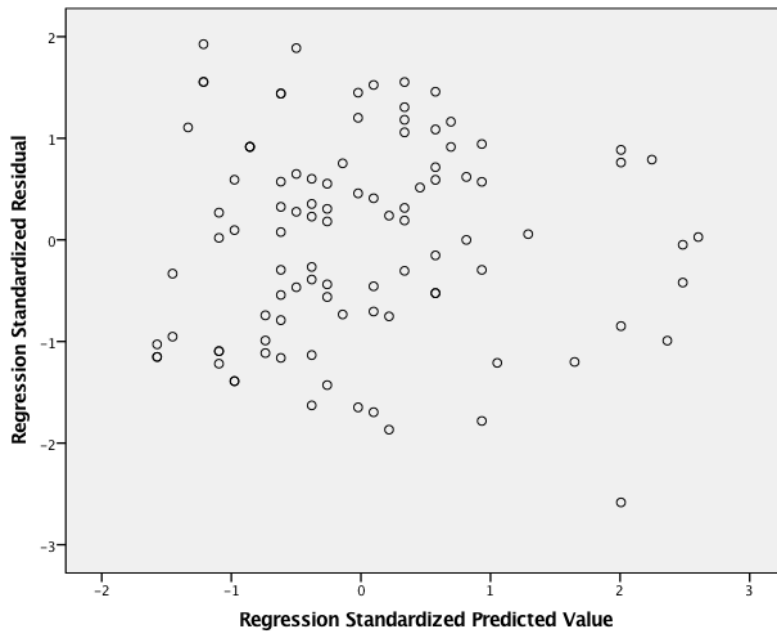


Figure 19. Residual plot from the regression of TI on relatedness.

**Hypothesis 3.** For Hypothesis 3, a residual plot based on the residuals from using CF to predict TI was constructed. In Figure 20, it appears that the residuals were not systematically related to the predicted values; thus, homoscedasticity was not violated.

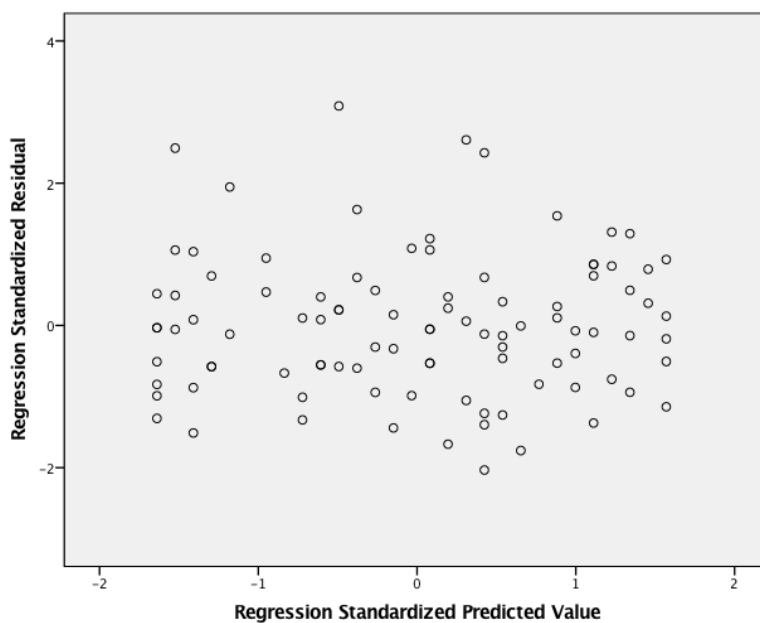
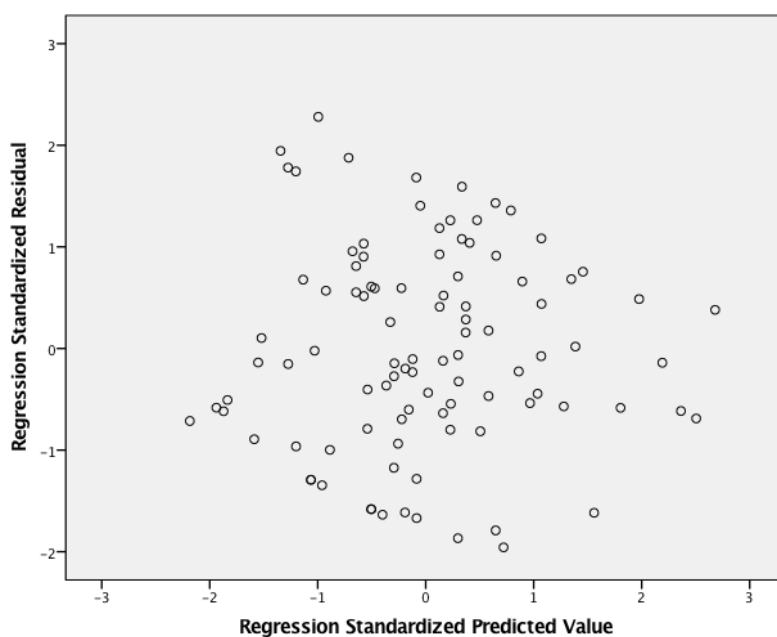


Figure 20. Residual plot from the regression of CF on TI.

**Hypothesis 4.** To ensure that the homoscedasticity assumption was not violated in the test of Hypothesis 4, the standardized residuals from the final model (described below) were used to construct a residual plot. Figure 21 suggests that the residuals were homoscedastic, indicating that the homoscedasticity assumption was not violated.



*Figure 21.* Residual plot from the regression of TI on autonomy and competence.

Taken together, from each of the analyses used to test the study's four hypotheses, all the p-p plots and all the residual plots indicated that statistical assumptions were not violated. That is, the normality assumptions and the homoscedasticity assumptions were satisfied for each of the analyses.

## Hypotheses Testing Results

### Research Question 1

Is there a relationship between hospital RNs' BPN satisfaction (in terms of competence, relatedness, and autonomy) as measured by the BPNWS and CF as measured by the ProQOLS?

$H_01$ : There is no relationship between hospital RN BPN satisfaction and CF such that BPN satisfaction will not have an impact on CF scores.

$H_a1$ : There is a relationship between hospital RN BPN satisfaction and CF such that BPN satisfaction will impact on CF scores.

To test this hypothesis, three simple linear regressions were computed between each BPN score (autonomy, competence and relatedness) and CF (Table 7). The test on the standardized regression slope in simple linear regression is equal to the statistical test on a Pearson correlation. That is, the correlation coefficient is equal to the standardized regression slope when there is one predictor (King, Rosopa, & Minium, 2010). Thus, the standardized regression slopes (i.e., beta weights) in Table 7 are the same as the correlation coefficients found in Table 5. The following section discusses each separate regression analysis, and associated with each are the plotted results.

Table 7

*Simple Linear Regression Analyses using Compassion Fatigue as Dependent Variable*

Predictor	<i>B</i>	<i>SE</i>	Beta	<i>t</i>	<i>p</i>
Constant	29.314	2.391		12.259	< .001
Autonomy	-1.301	0.588	-0.222	-2.212	0.029
Constant	32.209	3.651		8.822	< .001
Competence	-1.519	0.685	-0.222	-2.217	0.029
Constant	28.079	3.351		8.379	< .001
Relatedness	-0.719	0.615	-0.119	-1.168	0.246

A significant weak negative relationship was found between autonomy and CF ( $\beta = -0.222$ ), indicating that individuals with higher levels of autonomy had lower levels of CF (Figure 22). In terms of unstandardized units, a 1-unit increase on autonomy is expected to result in a decrease in CF by 1.301 units.

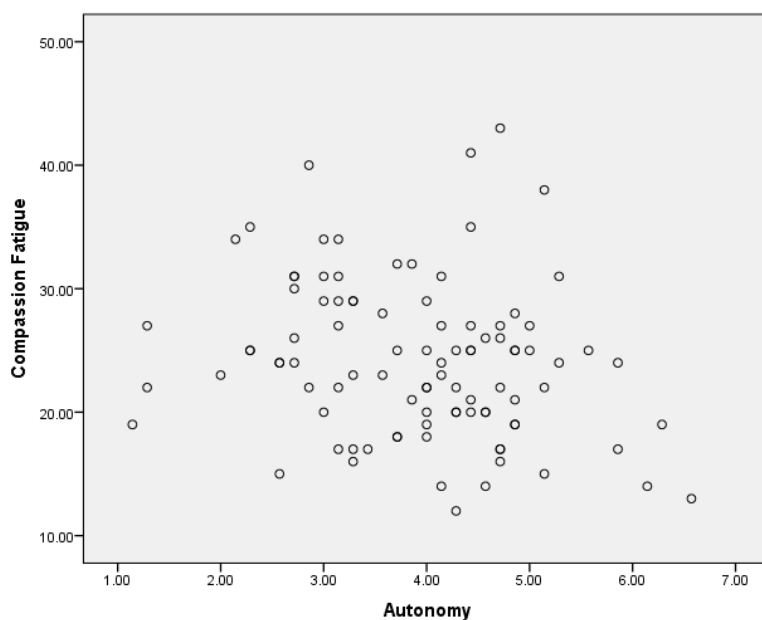


Figure 22. Scatterplot of the relationship between BPN autonomy and CF.

A significant weak negative relationship was also found between competence and CF ( $\beta = -0.222$ ), suggesting that individuals with higher levels of competence had lower

levels of CF (Figure 23). In unstandardized units, a 1-unit increase on competence is expected to result in a decrease in CF by 1.519 units.

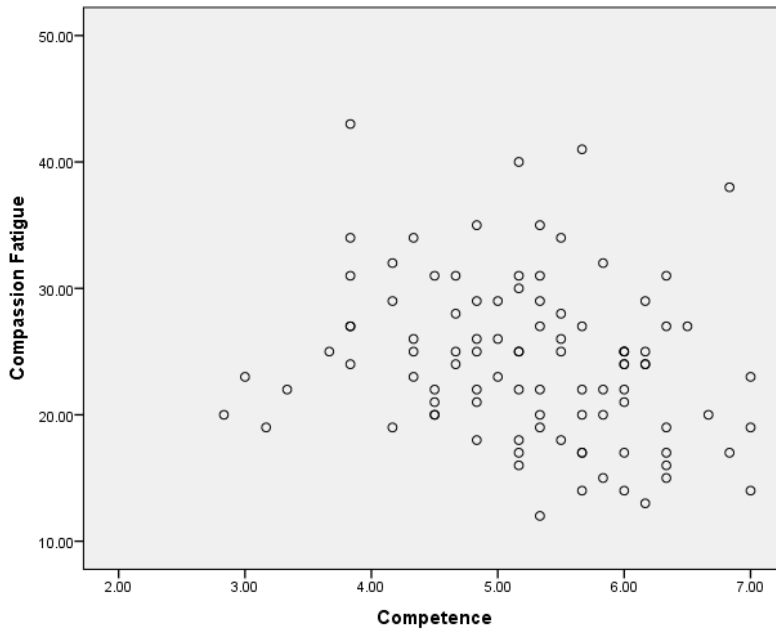
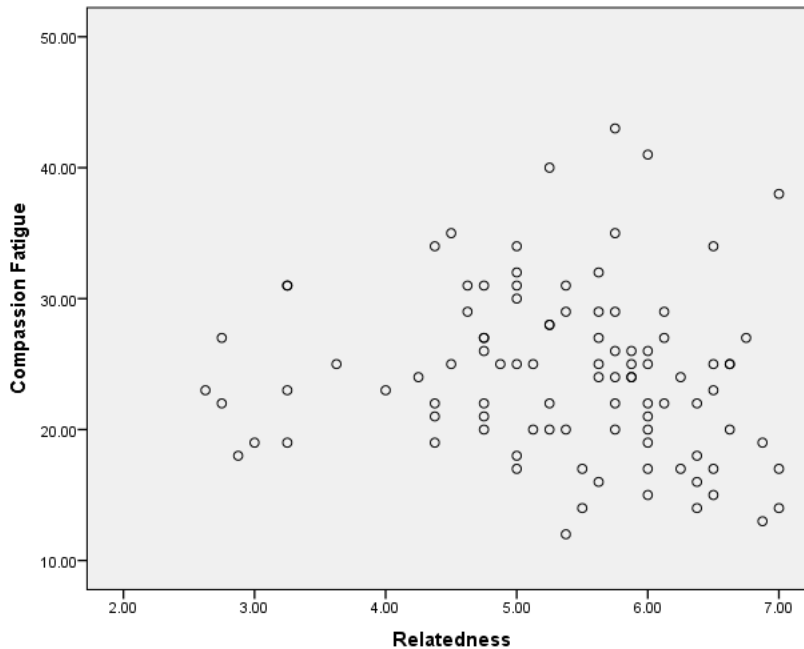


Figure 23. Scatterplot of the relationship between BPN competence and CF.

No significant relationship was found between relatedness and CF (Figure 24).

The slope in Table 7 was not statistically significant.



*Figure 24.* Scatterplot of the lack of a relationship between BPN relatedness and CF.

For Hypothesis 1, there was a relationship between hospital RNs' BPN satisfaction and CF for autonomy and competence, but not for relatedness. In other words, the null hypothesis of no linear relationship between autonomy and CF was rejected and the alternative hypothesis of a linear relationship between autonomy and CF was accepted. In addition, the null hypothesis of no linear relationship between competence and CF was rejected and the alternative hypothesis of a linear relationship between competence and CF was accepted. However, for relatedness, I was unable to reject the null hypothesis of no linear relationship between relatedness and CF. Thus, the null hypothesis was retained for relatedness. In other words, autonomy and competence each significantly predicted CF.

## **Research Question 2**

Is there a relationship between hospital RNs' BPN satisfaction (in terms of competence, relatedness, and autonomy), as measured by the BPNWS, and TI, as measured by the TICM?

$H_02$ : There is no relationship between hospital RN BPN satisfaction and TI such that BPN satisfaction will not impact TI scores.

$H_a2$ : There is a relationship between hospital RN BPN satisfaction and TI such that BPN satisfaction will impact TI scores.

To test this hypothesis, simple linear regressions were computed between each BPN component (autonomy, competence and relatedness) and TI. Note that this analysis was analogous to that conducted for Research Question 1. However, the dependent variable was TI. Because the test on the standardized regression slope in a simple linear



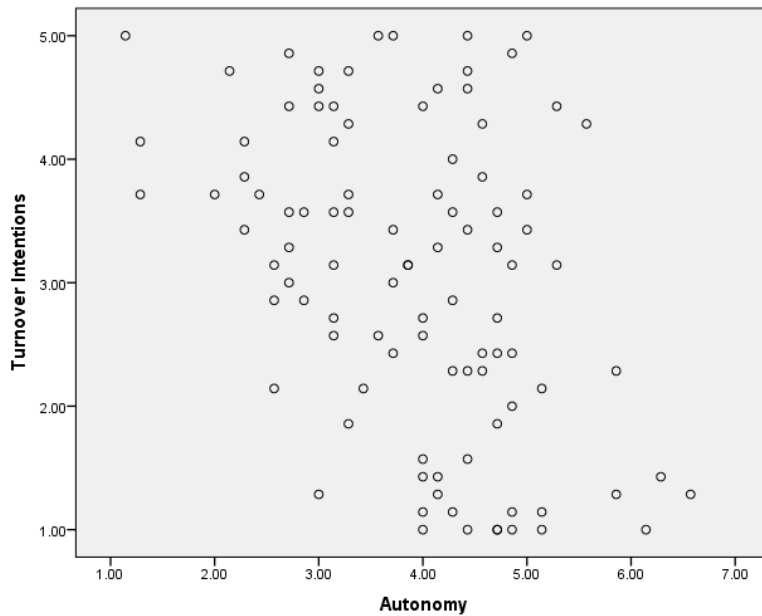
regression (i.e., one predictor) is equivalent to the test on the correlation coefficient, Table 5 (see page 58) depicts the correlations that were the same as the standardized regression slopes (i.e., beta weights). That is, the beta weights in Table 8 (see page 75) are equal to the correlations found in the last row of Table 5.

Table 8

*Simple Linear Regression Analyses using Turnover Intentions as Dependent Variable*

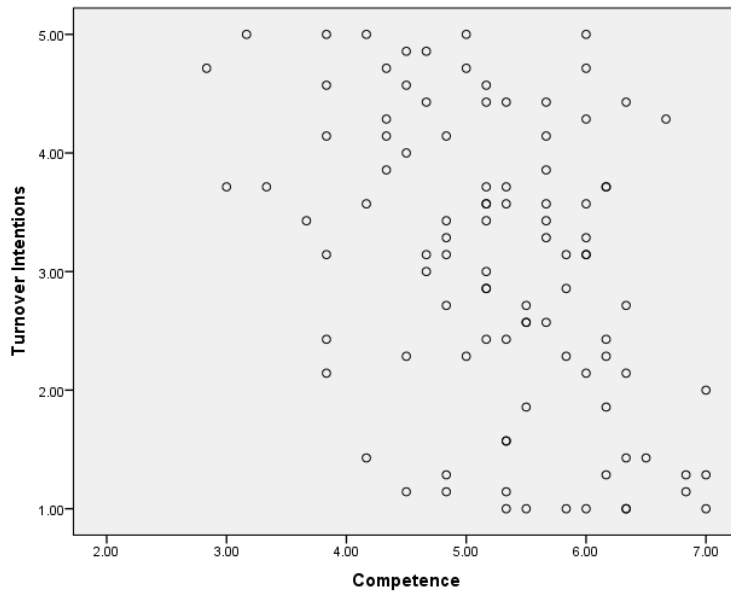
Predictor	<i>B</i>	<i>SE</i>	Beta	<i>t</i>	<i>p</i>
Constant	4.847	0.426		11.368	< .001
Autonomy	-0.461	0.105	-0.409	-4.394	< .001
Constant	6.020	0.657		9.167	< .001
Competence	-0.564	0.123	-0.422	-4.586	< .001
Constant	5.409	0.606		8.922	< .001
Relatedness	-0.440	0.111	-0.373	-3.959	< .001

As seen in Table 8, a significant moderate negative relationship was found between autonomy and TI ( $\beta = -.409$ ). Individuals with higher levels of autonomy tended to have lower TI scores. In unstandardized units, a 1-unit increase on autonomy is expected to result in a decrease in TI by 0.461 units. See Figure 25 for a scatterplot of this relationship.



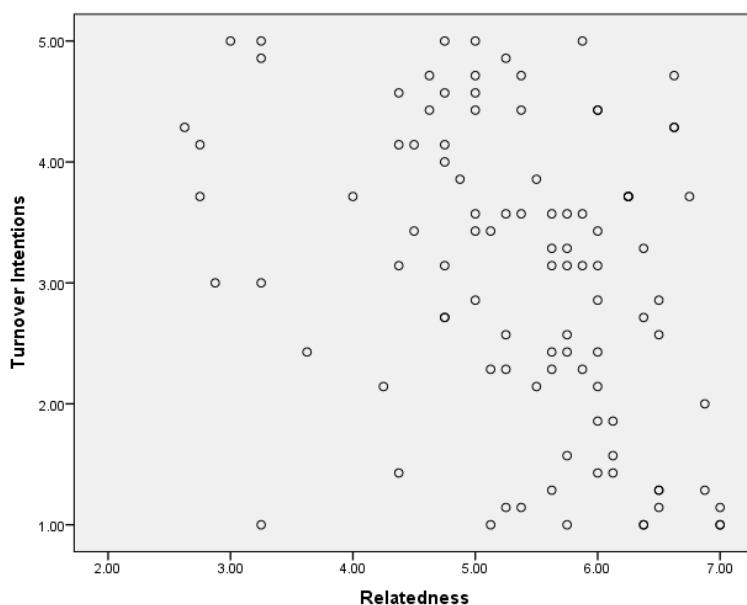
*Figure 25.* Scatterplot of the relationship between BPN autonomy and TI.

As noted in Table 8, a significant moderate negative relationship was found between competence and TI ( $r = -.422$ ), indicating that individuals with higher levels of competence tended to have lower TI scores. In unstandardized units, a 1-unit increase on competence is expected to result in a decrease in TI by 0.564 units. See Figure 26 for a scatterplot of this relationship.



*Figure 26.* Scatterplot of the relationship between BPN competence and TI.

Finally, as seen in Table 8, a significant moderate negative relationship was found between relatedness and TI ( $\beta = -.373$ ), suggesting that individuals with higher levels of relatedness had lower TI scores. In unstandardized units, a 1-unit increase on relatedness is expected to result in a decrease in TI by 0.440 units. See Figure 27 for a scatterplot of this relationship.



*Figure 27.* Scatterplot of the relationship between BPN relatedness and TI.

Regarding Hypothesis 2, there was a significant relationship between hospital RNs' BPN satisfaction and TI for all three types of basic psychological needs (autonomy, competence, and relatedness). In other words, the null hypothesis of no linear relationship between autonomy and TI was rejected and the alternative hypothesis of a linear relationship between autonomy and TI was accepted. In addition, the null hypothesis of no linear relationship between competence and TI was rejected and the alternative hypothesis of a linear relationship between competence and TI was accepted. The null hypothesis of no linear relationship between relatedness and TI was also rejected, and the alternative hypothesis of a linear relationship between relatedness and TI was accepted. In sum, autonomy, competence, and relatedness each significantly predicted TI.

### **Research Question 3**

Is there a relationship between hospital RNs' CF, as measured by ProQOLS, and TI, as measured by TICM?

$H_03$ : There is no relationship between hospital RN CF and TI such that CF will not impact TI scores.

$H_a3$ : There is a relationship between hospital RN CF and TI such that CF will impact TI scores.

To test this hypothesis, a Pearson correlation was computed between CF and TI (Table 5). A marginally significant weak positive relationship was found ( $r = .195$ ,  $p < .10$ ). Individuals with higher levels of CF tended to have higher TI scores. Figure 28 depicts the relationship in a scatterplot. Thus, for this hypothesis, the null hypothesis of no linear relationship between CF and TI is rejected, and the alternative hypothesis of a linear relationship between CF and TI is accepted.

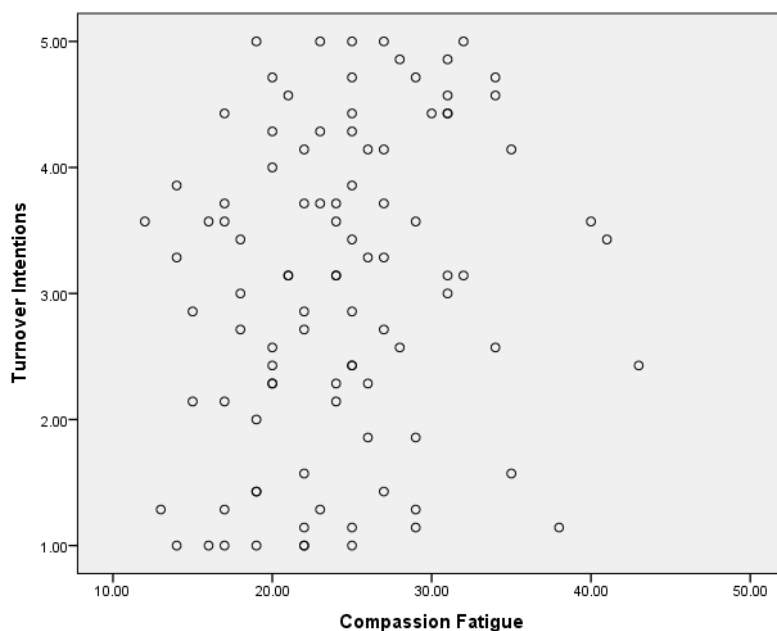


Figure 28. Scatterplot of the relationship between CF and TI.

**Research Question 4**

Does BPN satisfaction (in terms of competence, relatedness, and autonomy), as measured by BPNWS, moderate the relationship between CF, as measured by ProQOLS, and TI, as measured by TICM, among hospital RNs?

*H<sub>0</sub>4*: BPN satisfaction does not moderate the relationship between CF and TI among hospital RNs such that BPN satisfaction does not impact the relationship scores between CF and TI.

*H<sub>a</sub>4*: BPN satisfaction does moderate the relationship between CF and TI among hospital RNs such that BPN satisfaction does impact the relationship scores between CF and TI.

To test this hypothesis, stepwise multiple linear regression was used to predict TI based on the following independent variables: autonomy, competence, relatedness, CF, the interaction between autonomy and CF, the interaction between competence and CF, and the interaction between relatedness and CF. Stepwise regression begins by examining all seven potential predictors to determine which has the strongest relationship with (i.e., the greatest power to predict) the dependent variable. That variable is then entered into a model, and the remaining potential predictors are considered to determine whether they add any predictive power. This process continues until all variables that add predictive power have been entered into the model.

In this analysis, the first variable entered into the model was competence because it had the strongest relationship to TI. The second variable entered into the model was autonomy because it added significantly more predictive power. None of the other variables significantly contributed to the prediction of TI at that point. Thus, the resulting

model predicted a significant proportion of the variability in TI ( $R^2 = .216$ ). That is, 21.6% of the variance in TI was explained by competence and autonomy. Table 9 depicts a summary of the regression results for the final model with two predictors.

Table 9

*Multiple Linear Regression Using Competence and Autonomy to Predict Turnover Intentions*

Predictor	<i>B</i>	<i>SE</i>	Beta	<i>t</i>	<i>p</i>
Constant	6.06	0.66		9.203	< .001
Autonomy	-0.37	0.16	-0.28	-2.360	0.02
Competence	-0.28	0.13	-0.24	-2.059	0.042

Note.  $F(2, 93) = 12.839, p < .05. R^2 = .216. \text{ Adjusted } R^2 = .200.$

Using the estimated unstandardized regression coefficients, the regression equation that can be used to predict TI based on these two independent variables was  $TI = 6.055 - .370 \text{ Competence} - .275 \text{ Autonomy}$ . Hypothetically, if a person scored 6 on the competence subscale and 5 on the autonomy subscale, the following equation could be used to predict the TI score:

$$TI = 6.055 - .370(6) - .275(5) = 6.055 - 2.22 - 1.375 = 2.46$$

Regarding  $H_{A4}$ , although two of the BPN were significant predictors of TI, it does not appear that they moderate the relationship CF and TI among hospital RNs since none of the interaction terms, nor CF itself, were statistically significant predictors.

### Summary and Transition

In this chapter, I presented descriptive statistics to summarize the nature of the sample. To test each hypothesis, simple linear regression, correlations, and a stepwise multiple regression analysis were conducted. Specifically, simple linear regression analyses were used to test Hypotheses 1 and 2. Correlation analysis was used to test

Hypothesis 3. Stepwise multiple linear regression was used to test Hypothesis 4. For each of these analyses, I ensured that residuals were normally distributed by inspecting p-p plots, and an examination of residual plots indicated that the homoscedasticity assumption was satisfied.

Overall, these analyses explored the satisfaction of BPN (autonomy, competence, and relatedness) of hospital RNs, and their relation with CF and TI. The BPN of autonomy and competence were related to CF ( $H_{a1}$ ), and all three BPN were related to TI ( $H_{a2}$ ). Additional analysis showed that CF and TI were marginally related ( $H_{a3}$ ). The results of the multiple regression analysis revealed that, although two of the BPN were significant predictors of TI, it did not appear that they moderated the relationship of CF and TI among hospital RNs ( $H_{04}$ ).

In Chapter 5, a comprehensive summary of the analysis is provided. I begin with interpretations of the findings and the actual limitations, compared to the foreseen limitations presented in Chapter 1. Recommendations for future research are presented, and implications for positive social change are discussed. Chapter 5 concludes with a summary of the study's findings and significance.



### **Introduction**

Currently, there is a growing shortage of RNs in health care organizations (Boyle, 2011; Coetzee & Klopper, 2010). This shortage is having an adverse impact on RN morale and the quality of patient care (Boyle, 2011; Smart et al., 2014). One possible cause of the problem is health care organizations not recognizing and providing improved methods and practices to retain RNs by meeting their BPN and their ability to manage CF and TI.

Enabling RNs to meet their BPN through feelings of autonomy, workplace competence, and value-based relationships can be an efficient means of minimizing CF and TI (Bernard et al., 2014; Dacoco, 2015). I believe these issues, when examined in the context of a workplace, can help health care organizations understand and develop work environments for direct-care RNs in hospitals that support their needs for autonomy, competence, and relatedness. I hope that this study's findings will help direct-care RNs understand and minimize CF and TI and increase their commitments to providing both higher quality patient care and to the health care organizations that employ them.

The purpose of this nonexperimental quantitative study was to discover whether any significant relationships exist between the independent variable of BPN (in terms of autonomy, competence, and relatedness) and the variables of CF and TI. I also sought to examine whether the relationship between CF and TI is significant and whether BPN has any moderating effect on the relationship between CF and TI. I used a quantitative design using linear, correlational, multiple, and step-wise regression analysis to test the study's four hypotheses.

Participants in the study were volunteers from a random sample of RNs from a nursing association in southern Arizona. Ninety-nine qualified participants completed the survey instruments, which included (a) the BNSWS, (b) the TICM, (c) the ProQOL5, and (d) a demographics questionnaire.

### **Interpretations of Findings**

The research questions and hypotheses in this study were chosen to examine the relationships between the satisfaction of BPN of hospital RNs providing direct care and CF and TI. BPNs were measured using the BPNSW (see Appendix B) which has three subscales: autonomy, competence, and relatedness. TIs were operationalized as the average of three primary scores using the TICM (see Appendix C): (a) overall TI score (the average of seven items), (b) behavioral score (the average of two likelihood-of-quitting items), and (c) withdrawal cognitions score (the average of five items). CF was measured using the ProQOLS (see Appendix D), which consists of two primary scales: compassion satisfaction (CS) and compassion fatigue (CF). Compassion satisfaction is a single score based on responses to 10 of the 30 statements (Stamm, 2010). The CF score is based on two subscales: burnout and secondary trauma, each of which has an independent total score based on 10 of the 30 statements in the assessment (Stamm, 2010). The ProQOLS used in this study resulted in three independent scores and one composite score. For this study, only the subscore of *secondary trauma stress* was used because it has been shown to have the strongest correlation with CF (Sung, Youngsook, & Jee Hee, 2012; Yoder, 2010).

The first hypothesis in this study was that there would be a relationship between hospital RN BPN satisfaction in terms of competence, relatedness, and autonomy, and

CF. In analyzing data, I found that two BPN subscales, autonomy and competence, were statistically related to CF. A significant weak negative relationship was found between autonomy and CF ( $r = -0.222$ ), which indicates that individuals with higher levels of autonomy had lower levels of CF. A significant weak negative relationship was also found between competence and CF ( $r = -0.222$ ), which suggests that individuals with higher levels of competence had lower levels of CF.

However, there was no statistically significant relationship between relatedness and CF. This finding is not consistent with research literature. Previous studies suggest that although many factors can contribute to CF, one's work environment, with the presence or absence of social support, can affect a person's susceptibility to CF (Austin et al., 2009; Johnson, 2008). One possible explanation for my finding could be related to some RNs' resistance to psychological interdependence and fear of emotional vulnerability or openness to compassion from others because they see themselves as providers and not receivers of care (Gustin & Wagner, 2013). Recent research suggests that CF is increasing among health care providers (Hairr et al., 2014). Acute-care patients are living longer, and emergency rooms are treating increased numbers of uninsured patients needing acute care who cannot be treated elsewhere (Hooper et al., 2010).

The second hypothesis was that there would be a relationship between hospital RN BPN satisfaction in terms of autonomy, competence, relatedness, and TI. I found statistical significant relationships between hospital RN BPN satisfaction and TI for all three subscales of BPN (autonomy, competence, and relatedness). A significant moderate negative relationship was found between autonomy and TI ( $r = -0.422$ ). Individuals with higher levels of autonomy tended to have lower TI scores. A significant moderate

negative relationship was found between competence and TI ( $r = -.422$ ), which indicates that individuals with higher levels of competence tended to have lower TI scores. Additionally, a significant moderate negative relationship was found between relatedness and TI ( $r = -.373$ ), suggesting that individuals with higher levels of relatedness had lower TI scores.

In this study, although some RNs may have had high TI scores, it could not be predicted that they were going to leave their current roles. Gellatly, Cowden, and Cummings (2014) found that commitment to a job or organization depended on several variables, including perceptions of the organization, relationships with coworkers, and the nature of services performed, which in this study was direct patient care. Because I did not conduct interviews, I was not able to discern which factors were most personally important to participants.

The third hypothesis in this study was there would be a relationship between CF and TI with hospital RNs. Based on the results of this study, a statistical significant relationship was identified between hospital RN CF and TI. A marginally significant weak positive relationship was found ( $r = .195, p < .10$ ). Individuals with higher levels of CF tended to have higher TI scores. Therefore, if an individual has a higher score on CF, he or she will tend to have a higher score on TI. Similarly, if an individual has a low score on CF, he or she will tend to have a low score on TI.

The fourth hypothesis in this study was that BPN satisfaction (in terms of autonomy, competence, and relatedness) would moderate the relationship between CF and TI among hospital RNs in direct-care roles. Although two of the BPNs, autonomy and competence, were significant predictors of TI, the results did not indicate that they

moderated the relationship between CF and TI because none of the interaction terms, nor CF itself, were significant predictors. In other words, in the final model, only autonomy and competence were statistically significant predictors of TI. Specifically, as autonomy and competence increased, TI tended to decrease.

### **Limitations of the Study**

The sample involved in this study consisted of hospital RNs who were involved in direct patient care in hospitals in southern Arizona. My use of this sample limits my ability to generalize findings to RNs who work in different geographical locations or health care environments. It also precludes my ability to generalize findings to RNs who are involved in nondirect patient care. The quantitative nature of this study posed research limitations because it did not allow me to analyze RNs' subjective perceptions and experiences (Babones, 2016). As such, this study did not obtain a full range of direct-care RN information concerning their needs for autonomy, competence, and relatedness, and their subjective experiences with CF and TI.

Internal and external validity are potential limitations in any study. Internal validity factors can affect a researcher's confidence in the relationships between dependent and independent variables (Babones, 2016). External validity factors can affect the generalizability of a study to a broader population that is analogous to the sample group (Fowler, 2007).

Creswell (2013) identified eight confounding or extraneous variables that can affect the internal validity of studies. They are maturation, testing, instrumentation, selection maturation, history, differential selection, regression to the mean, and mortality. These topics are discussed on page 88.

Maturation refers to changes in participants' behavior, moods, physical well-being, fatigue, and any events in their professional and personal world that affect their perceptions and consequent responses (Sacco, Ciurzynski, Harvey, & Ingersoll, 2015). In the current study, time constraints and extensive job responsibilities may have affected the amount of time participants allotted for reflection in responding to the surveys. Pre- and post testing to measure change was not a validity issue in the current study because it was designed to measure perceptions in a current work environment and not to evaluate change. Instrumentation, which involved three surveys (BPNWS, TICM, and ProQOLS), was explained to participants in concise written instructions. All instruments used in the study were examined for validity and reliability (see Chapter 4). Selection maturation was not a threat to internal validity because this study did not involve comparing groups during a time period. History was not seen as a threat to the internal validity of this study because this was not an experimental study completed over a time period during which the dependent variable might have changed. Differential selection was also not seen as a threat to the internal validity because participants self-selected through random sampling based on three screening questions. Regression to the mean was not seen as a validity factor because participants were not selected based on extreme scores on any instrument. Mortality or attrition of participants over time was not a threat because completion of the surveys took place over a short period of time (2 weeks), with the surveys assumed to have been completed together.

Another possible limitation for studies such as this one is that survey-based research is susceptible to false positive negative responses. In spite of a letter of participation clearly stating that each person's responses would be confidential, some

RNs may have provided answers that were more inclined toward positive rather than negative responses out of fear of retribution from their employer.

### **Recommendations for Social Change**

Given the results of this study and its limitations, it is recommended that further study and analysis be conducted to identify interventions in three primary areas to help minimize CF and TI with direct care RNs in hospitals: (a) education, (b) practice, and (c) organizational policies.

#### **Education**

Additional research is needed to help develop evidence-based pedagogies to educate nursing students regarding the psychological and emotional challenges of working in the health-care profession, in both general and direct care, where CF is most prevalent. Clinical training and education should be augmented to include comprehensive understanding and awareness of the causes and symptoms of CF for RNs in hospital environments. In addition to training provided in nursing school, it would be beneficial to conduct education on the entry-to-practice level as well as during continuing professional development in hospitals. According to Hunsaker et al. (2015), awareness and understanding of risk factors associated with CF is a key factor in preventing emotional exhaustion and helping nurses maintain their roles as empathetic and compassionate professionals.

#### **Practice**

In most health-care institutions, the role of the nurse supervisor can be a significant factor in preventing or minimizing CF and TI (Francke, & de Graaff, 2012). It is important that nurse supervisors be trained to identify and intervene in situations when

the symptoms of CF begin to emerge with their nursing staff. Nursing supervisors have significant influence on how their staff react and respond to stress. Kelly, Runge and Spencer (2015) found that when nurses received meaningful recognition from their supervisor, they demonstrated lower levels of CF, a greater sense of value, and higher job satisfaction.

### **Policies**

The effect of CF on TI and patient care can leave nurses feeling unsure about their motivation, competence, and even the status of their employment should their condition continue to worsen (Meadors, Lamson, Swanson, White, & Sira, 2010). Hospitals and other health-care organizations could offer employee assistance programs to help RNs with exposure to patient care situations where CF is likely to occur. Another possibility is to institute policies and practices that require annual reviews to examine nurses' psychological, physical, spiritual, and educational needs. This review could be accomplished through individual interviews and quantitative assessments such as the Professional Quality of Life Scale, which measures compassion satisfaction, CF, and burnout. Such data could serve as a basis for identifying any trends, individually or collectively, toward CF and other staff-care issues that need to be addressed.

### **Implications**

Acknowledging the prevalence of CF and its effect on RN turnover and patient care is vital to health-care organizations' long-term success (Johnson, 2008; Sacco et al., 2015). Focusing on improved methods and practices to retain RNs by meeting their BPN and ability to manage CF, as well as TI, ultimately helps improve RN morale, commitment, and the quality of patient care they provide. The implications for positive



social change include developing a higher percentage of nurses who experience a higher level of compassion satisfaction, leading to higher quality patient care and less costly turnover of qualified RNs. This study provided important information regarding the satisfaction of BPN with direct care RNs in hospital environments, and the relationships with CF and TI, which has implications for future policy and practice changes in hospitals. With the number of RNs declining and the population of patients they serve increasing, it is critical for hospital administrations, nurse managers, and nurse educators to be proactive to help minimize existing CF and TI and to design programs and policies to help prevent them.

### **Conclusion**

The purpose of this study was to examine the relationships among the satisfaction of BPN, CF, and TI among direct-care RNs in hospitals, in light of the growing shortage of RNs in health-care organizations and the impact on quality of patient care. Numerous researchers have examined CF, burnout, and TI in diverse populations (e.g., firefighters, police, military personnel, therapists, health-care providers, clergy, etc.) where providers were subjected to high levels of long term stress. Although these studies have identified important aspects and ramifications of CF, none have specifically addressed BPN satisfaction with direct-care RNs in hospitals in conjunction with CF and TI.

This study has identified several opportunities for change that can benefit direct-care RNs in hospitals, the quality of patient care, and reduction of CF and TI, which translates in to cost savings achieved by not having to replace qualified, experienced RNs. I suggested changes in professional education, practices, and policies. The medical profession, in particular nursing, should make every effort to identify and share

successful practices that can help direct care RNs not only minimize CF, but work to maximize compassion satisfaction through BPN satisfaction. According to Lindsay Creswell, (2014), an increase in compassion satisfaction helps counter the effects of CF in practitioners working in high-stress professions.

Today's direct-care hospital RNs play a vital role in the U.S. health-care system. Extrinsic rewards such as salary and better benefits can certainly help with RN CF and TI but will not address much deeper intrinsic needs such as BPN satisfaction. It is hoped that this study will serve as a catalyst for increased research and more comprehensive, better informed practices in the nursing profession. Improvements in education, training, and organizational policies centered on CF and satisfying the BPN of RNs can ultimately have a positive effect on hospital RN retention and the quality of patient care nurses provide.

## References

- Abendroth, A. K., & Den Dulk, L. (2011). Support for the work-life balance in Europe: The impact of state, workplace and family support on work-life balance satisfaction. *Work, Employment and Society*, 25(2), 234-256. doi: 10.1177/0950017011398892
- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J., & Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout and job dissatisfaction. *Journal of the American Medical Association*, 288(16), 1987-1993. doi:10.1001/jama.288.16.1987
- Almost, J., & Laschinger, H. K. S., (2002). Workplace empowerment, collaborative work relationships, and job strain in nurse practitioners. *Journal of the Academy of Nurse Practitioners*, 14(9), 408-420. doi:10.1111/j.1745-7599.2002.tb00142
- Amabile, T. M., DeJong, W., & Lepper, M. R. (1976). Effects of externally imposed deadlines on subsequent intrinsic motivation. *Journal of Personality and Social Psychology*, 34(1), 92-98. doi:10.1037/0022-3514.34.1.92
- American Association of Colleges of Nursing. (2012). *Nursing faculty shortage*. Retrieved from <http://www.aacn.nche.edu/media-relations/fact-sheets/nursing-faculty-shortage>
- Ariapooran, S. (2014). Compassion fatigue and burnout in Iranian nurses: The role of perceived social support. *Iranian Journal of Nursing and Midwifery Research*, 19(3), 279-284. doi:10.4040/jkan.2012.42.6.870
- Ary, D., Jacobs, L., Sorenson, C., & Razavieh, A. (2009). *Introduction to research in education* (8th ed.). Belmont, CA: Wadsworth.

- Atefi, N., Abdullah, K., Wong, L., & Mazlom, R. (2014). Factors influencing registered nurses' perception of their overall job satisfaction: A qualitative study. *International Nursing Review*, *61*(3), 352-360. doi:10.1111/inr.12112
- Austin, W., Goble, E., Leier, B., & Byrne, P. (2009). Compassion fatigue: The experience of nurses. *Ethics and Social Welfare*, *3*(2), 195-214. doi:10.1080/17496530902951988
- Aycock, N., & Boyle, D. (2009). Interventions to manage compassion fatigue in oncology nursing. *Clinical Journal of Oncology Nursing*, *13*(2), 183-191. doi:10.1188/09.CJON
- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology*, *34*, 2045-2068. doi:10.1111/j.1559-1816.2004.tb02690.x
- Babones, S. (2016). Interpretive quantitative methods for the social sciences. *Sociology*, *50*(3), 453-469. doi:10.1177/0038038515583637
- Bakker, D., Conlon, M., Fitch, M., Green, E., Butler, L., Olsen, K., Cummings, G. (2012). Canadian oncology nurse work environments: Part II. *Nursing Leadership*, *25*(1), 68-89. doi:10.12927/cjnl.2012.22829
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215. doi.org/10.1037/h0034968.
- Bandura, A. (1994). *Self-efficacy*. Hoboken, NJ: Wiley & Sons.
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thogersen-Ntoumani, C. (2011). Self-determination theory and diminished functioning: The role of

- interpersonal control and psychological need thwarting. *Personality and Social Psychology Bulletin*, 37, 1459-1473. doi:10.1177/0146167211413125
- Bernard, D., Martin, J. J., & Kulik, N. (2014). Self-determination theory and well-being in the health care profession. *Journal of Applied Biobehavioral Research*, 19(3), 157-170. doi:10.1111/jabr.1202
- Bowlby, J. (1979). On knowing what you are not supposed to know and feeling what you are not supposed to feel. *Canadian Journal of Psychiatry*, 24(5), 403-408.
- Bothma, C. F., & Roodt, G. (2013). The validation of the turnover intention scale. *SA Journal of Human Resource Management*, 11(1), 1-15.  
doi:10.4102/sajhrm.v11i1.507
- Boyatzis, R. E. (2015). Organizational psychology on the way to 2065: A challenge to scholars. *Frontiers in Psychology*, 6, 948. doi:10.3389/fpsyg.2015.00948
- Boyle, D. (2011) Countering compassion fatigue: A requisite nursing agenda. *The Online Journal of Issues in Nursing* 16(1), Manuscript 2. doi:10.3912/OJIN
- Britt, T., & Jex, S. (2008). *Organizational psychology: A scientist-practitioner approach*. (2nd ed.). Hoboken, NJ: John Wiley & Sons.
- Burton, K. D., Lydon, J. E., D'Alessandro, D. U., & Koestner, R. (2006). The differential effects of intrinsic and identified motivation on well-being and performance: Prospective, experimental, and implicit approaches to self-determination theory. *Journal of Personality and Social Psychology*, 91, 750-762. doi:10.1037/0022-3514.91.4.750

- Caprariello, P. A., & Reis, H. T. (2013). To do, to have, or to share? Valuing experiences over material possessions depends on the involvement of others. *Journal of Personality and Social Psychology, 104*(2), 199. doi:10.1037/a0030953
- Carver, L., & Candela, L. (2008). Attaining organizational commitment across different generations of nurses. *Journal of Nursing Management, 16*(8), 984-991. doi:10.1111/j.1365-2834.2008.00911
- Cautilli, J., Rosenwasser, B., & Hantula, D. (2003). Behavioral science as the art of the 21st-century: Philosophical similarities between B. F. Skinner's radical behaviorism and postmodern science. *The Behavior Analyst Today, 4*(2), 225-264. doi:10.1037/h0100122
- Cherniss, C. (1980). Professional burnout in human service organizations. New York, NY: Praeger.
- Clark, M. L., & Gioro, S. (1998). Nurses, indirect trauma, and prevention. *Image: The Journal of Nursing Scholarship, 30*(1), 85-87. doi:10.1111/j.1547-5069.1998.tb01242.x
- Coetzee, S. K., & Klopper, H. C. (2010). Compassion fatigue within nursing practice: A concept analysis. *Nursing and Health Sciences, 12*(2), 235-243. doi:10.1111/j.1442-2018.2010.00526.x
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159. doi:10.1037/0033-2909.112.1.155
- Compassion Fatigue Awareness Project. (2012). Recognizing compassion fatigue. Retrieved from <http://www.compassionfatigue.org/pages/symptoms.html>

- Cooper, D. R., & Schindler, P. S. (2008). *Business research methods* (10th ed.). New York, NY: McGraw-Hill/Irwin.
- Cowden, T., Cummings, G., & Profetto-McGrath, J. (2011). Leadership practices and staff nurses' intent to stay: A systematic review. *Journal of Nursing Management*, *19*(4), 461-477. doi:10.1111/j.1365-2834.2011.01209
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.
- Currie, E. J., & Carr-Hill, R. A. (2013). What is a nurse? Is there an international consensus? *International Nursing Review*, *60*(1), 67-74. doi:10.1111/j.1466-7657.2012.00997
- Dacoco, M. P. (2015). *Employee engagement: The use of self-determination theory in unionized laboratory workplace for clinical laboratory scientist in a hospital setting* (Doctoral dissertation). Available from ProQuest Dissertations and Theses Global. (Order No. 3687649)
- Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, *18*(1), 105-115. doi:10.1037/h0030644
- Deci, E. L. (1972). The effects of contingent and non-contingent rewards and controls on intrinsic motivation. *Organizational Behavior and Human Performance*, *8*(2), 217-229. doi:10.1016/0030-5073(72)90047-5
- Deci, E. L., & Cascio, W. F. (1972). *Changes in intrinsic motivation as a function of negative feedback and threats*. Paper presented at the Eastern Psychological Association Meeting, Boston, MA, April 19.

- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Springer Science and Business Media.
- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macro theory of human motivation, development, and health. *Canadian Psychology, 49*(3), 182-185.  
doi:10.1037/a0012801
- Deci, E. L., & Ryan, R. M. (2011). Self-determination theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 1, pp. 416-433). Thousand Oaks, CA: Sage Social Psychology Program.
- Deci, E. L., Ryan, R. M., Gagne, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former Eastern bloc country: A cross cultural study of self-determination. *Personality and Social Psychology Bulletin, 27*, 930-942.  
doi:10.1177/0146167201278002
- Deci, E. L., & Vansteenkiste, M. (2004). Self-determination theory and basic need satisfaction: Understanding human development in positive psychology. *Ricerche di Psicologia, 27*(1), 23-40.
- De Leeuw, E. D., & Dillman, D. A. (2008). *International handbook of survey methodology*. New York, NY: Taylor & Francis.
- Deponte, A. (2004). Linking motivation to personality: Causality orientations, motives and self-descriptions. *European Journal of Personality, 18*(1), 31-44.  
doi:10.1002/per.503



- Dillman, D. A. (2008). *Mail and internet surveys: The tailored design method* (2nd ed.). Hoboken, NJ: John Wiley & Sons.
- Dodge, R., Daly, A., Huyton, J., & Sanders, L. (2012). The challenge of defining well-being. *International Journal of Wellbeing*, 2(3), 222-235. doi:10.5502/ijw.v2i3.4
- Duriez, B., Meeus, J., & Vansteenkiste, M. (2012). Why are some people more susceptible to in-group threat than others? The importance of a relative extrinsic to intrinsic value orientation. *Journal of Research in Personality*, 46(2), 164-172.
- Dysvik, A., Kuvaas, B., & Gagné, M. (2013), An investigation of the unique, synergistic and balanced relationships between basic psychological needs and intrinsic motivation. *Journal of Applied Social Psychology*, 43, 1050-1064. doi:10.1111/jasp.12068
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53(1), 109-132. doi:10.1146/annurev.psych.53.100901.135153
- Fernet, C. (2013). The role of work motivation in psychological health. *Canadian Psychology*, 54, 72-74. doi:10.1037/a0031058
- Figley, C. R. (1995). Compassion fatigue: Toward a new understanding of the costs of caring. In B. H. Stamm (Ed.), *Secondary traumatic stress: Self-care issues for clinicians, researchers, and educators* (pp. 3-28). Brooklandville, MD: Sidran Press.
- Figley, C. R. (2002). Compassion fatigue: Psychotherapists' chronic lack of self care. *Journal of Clinical Psychology*, 58(11), 1433-1441. doi:10.1002/jclp.10090
- Fowler, E. J. (2002). *Survey research methods* (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage.

- Francke, A. L., & de Graaff, F. M. (2012). The effects of group supervision of nurses: A systematic literature review. *International Journal of Nursing Studies*, *49*(9), 1165-1179. doi:10.1016/j.ijnurstu.2011.11.012
- Franc, S., Borsboom, D., Dolan, C. V., & Boomsma, D. I. (2014). The Big Five personality traits: Psychological entities or statistical constructs? *Behavior Genetics*, *44*(6), 591-604. doi:10.1007/s10519-013-9625-7
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26*(4), 331-362. doi:10.1002/job.322
- Gagné, M., & Forest, J. (2008). The study of compensation systems through the lens of self-determination theory: Reconciling 35 years of debate. *Canadian Psychology*, *49*(3), 225-232. doi:10.1037/a0012757
- Gaki, E., Kontodimopoulos, N., & Niakas, D. (2013). Investigating demographic, work-related and job satisfaction variables as predictors of motivation in Greek nurses. *Journal of Nursing Management*, *21*(3), 483-490. doi:10.1111/j.1365-2834.2012.01413.x
- Galletta, M., Portoghese, I., Battistelli, A., & Leiter, M. P. (2013). The roles of unit leadership and nurse-physician collaboration on nursing turnover intention. *Journal of Advanced Nursing*, *69*(8), 1771-1784 14p. doi:10.1111/jan.12039
- Garrett, D. K., & McDaniel, A. M. (2001). A new look at nurse burnout: The effects of environmental uncertainty and social climate. *Journal of Nursing Administration*, *31*(2), 91-96. doi:10.1097/00005110-200102000-00009
- Gelinas, L., & Bohlen, C. (2002). The business case for retention. *Journal of Clinical Systems Management*, *4*(78), 14-16, 22.

- Gillet, N., Fouquereau, E., Forest, J., Brunault, P., & Colombat, P. (2012). The impact of organizational factors on psychological needs and their relations with well-being. *Journal of Business and Psychology, 27*(4), 437-450. doi:10.1007/s10869-011-9253-2
- Goddard, M. J. (2012). On certain similarities between mainstream psychology and the writings of B. F. Skinner. *The Psychological Record, 62*(3), 563-576.
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality, 37*(6), 504-528. doi:10.1016/S0092-6566(03)00046-1
- Gravetter, F., & Wallnau, L. (2016). *Statistics for the behavioral sciences*. Boston, MA: Cengage Learning.
- Gregarus, G. J., & Diefendorff, J. M. (2009). Different fits satisfy different needs: Linking person-environment fit to employee commitment and performance using self-determination theory. *Journal of Applied Psychology, 94*(2), 465-477. doi:10.1037/a0014068
- Griffeth, R., Steel, R., Allen, D., & Bryan, N. (2005). The development of a multidimensional measure of job market cognitions: The employment opportunity index (EOI). *Journal of Applied Psychology, 90*, 335-349.
- Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests and research implications for the next millennium. *Journal of Management, 26*, 463-488. doi:10.1177/014920630002600305

- Guillen-Royo, M., & Kasser, T. (2015). Personal goals, socio-economic context and happiness: Studying a diverse sample in Peru. *Journal of Happiness Studies*, *16*(2), 405-425. doi:10.1007/s10902-014-9515-6
- Gustin, L., & Wagner, L. (2013). The butterfly effect of caring: Clinical nursing teachers' understanding of self-compassion as a source to compassionate care. *Scandinavian Journal of Caring Sciences*, *27*(1), 175-183.
- Hairr, D. C., Salisbury, H., Johannsson, M., & Redfern-Vance, N. (2014). Nurse staffing and the relationship to job satisfaction and retention. *Nursing Economics*, *32*(3), 141-147.
- Hagger, M. S., & Chatzisarantis, N. L. (2011). Causality orientations moderate the undermining effect of rewards on intrinsic motivation. *Journal of Experimental Social Psychology*, *47*(2), 485-489. doi:10.1016/j.jesp.2010.10.010
- Halbesleben, J. R. (2010). A meta-analysis of work engagement: Relationships with burnout, demands, resources, and consequences. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 102-117). New York, NY: Psychology Press.
- Han, S. S., Sohn, I. S., & Kim, N. E. (2009). New nurse turnover intention and influencing factors. *Journal of Korean Academy of Nursing*, *39*(6), 878-887. doi:10.4040/jkan.2009.39.6.878
- Hassmiller, S. B., & Cozine, M. (2006). Addressing the nurse shortage to improve the quality of patient care. *Health Affairs*, *25*(1), 268-274. doi:10.1377/hlthaff.25.1.268

- Hayes, B., Bonner, A., & Pryor, J. (2010). Factors contributing to nurse job satisfaction in the acute hospital setting: A review of recent literature. *Journal of Nursing Management, 18*(7), 804-814. doi:10.1111/j.1365-2834.2010.01131.x
- Hofer, J., & Busch, H. (2011). Satisfying one's needs for competence and relatedness: Consequent domain-specific well-being depends on strength of implicit motives. *Personality and Social Psychology Bulletin, 37*(9), 1147-1158. doi:10.1177/0146167211408329
- Hom, P. W., Griffeth, R. W., & Sellaro, C. (1984). The validity of Mobley's (1977) model of employee turnover. *Organizational Behavior and Human Performance, 34*(2), 141-174. doi:10.1016/0030-5073(84)90001-1
- Hooper, C., Craig, J., Janvrin, D. R., Wetsel, M. A., & Reimels, E. (2010). Compassion satisfaction, burnout, and compassion fatigue among emergency nurses compared with nurses in other selected inpatient specialties. *Journal of Emergency Nursing, 36*(5), 420-427. doi:10.1016/j.jen.2009.11.027
- Hull, C. L. (1943) *Social facilitation*. New York, NY: Appleton-Century-Crofts.
- Hunsaker, S., Chen, H., Maughan, D., & Heaston, S., (2015). Factors that influence the development of compassion fatigue, burnout, and compassion satisfaction in emergency department nurses. *Journal of Nursing Scholarship, 47*(2), 186-194. doi:10.1111/jnj.12122
- Johnson, M. (2008). Can compassion be taught? *Nursing Standard, 23*(11), 19-21.
- Kamel, N. F., & Hashish, E. A. A. (2015). The relationship between psychological need satisfaction, job affective wellbeing and work uncertainty among academic

nursing educators. *Journal of Nursing Education and Practice*, 5(8), 99-108.

doi:10.5430/jnep.v5n8p99

Kelly, A. C., Zuroff, D. C., Leybman, M. J., Martin, E. A., & Koestner, R. (2008).

Satisfied groups and satisfied members: Untangling the between- and within-groups effects of need satisfaction. *Journal of Applied Developmental Psychology*, 38, 1805-1826. doi:10.1111/j.1559-1816.2008.00370.x

Koch, S. H., Proynova, R., Paech, B., & Wetter, T. (2014). The perfectly motivated nurse

and the others: Workplace and personal characteristics impact preference of nursing tasks. *Journal of Nursing Management*, 22(8), 1054-1064.

doi:10.1111/jonm.12083

Kovner, C. T., Brewer, C. S., Fatehi, F., & Jun, J. (2014). What does nurse turnover rate

mean and what is the rate? *Policy, Politics, and Nursing Practice*, 15(3-4), 64-71.

doi:10.1177/1527154414547953

Kuo, H., Lin, K., & Li, I. (2014). The mediating effects of job satisfaction on turnover

intention for long-term care nurses in Taiwan. *Journal of Nursing Management*,

22(2), 225-233. doi:10.1111/jonm.12044

Lambrou, P., Kontodimopoulos, N., & Niakas, D. (2010). Motivation and job satisfaction

among medical and nursing staff in a Cyprus public general hospital. *Human*

*Resource Health*, 8(1), 26-34. doi:10.1186/1478-4491-8-26

Laschinger, H. K. S., & Finegan, J. (2005). Using empowerment to build trust and respect

in the workplace: A strategy for addressing the nursing shortage. *Nursing*

*Economics*, 23(1), 6-13.

- Latham, G. P., & Pinder, C. C. (2005). Work motivation theory and research at the dawn of the twenty-first century. *Annual Review of Psychology*, *56*(1), 485-516.  
doi:10.1146/annurev.psych.55.090902.142105
- Leggat, S. G., Bartram, T., Casimir, G., & Stanton, P. (2010). Nurse perceptions of the quality of patient care: Confirming the importance of empowerment and job satisfaction. *Health Care Management Review*, *35*(4), 355-364.  
doi:10.1097/HMR.0b013e3181e4ec55
- Lepper, M. R., & Greene, D. (1975). Turning play into work: Effects of adult surveillance and extrinsic rewards on children's intrinsic motivation. *Journal of Personality and Social Psychology*, *31*(3), 479. doi:10.1037/h0076484
- Leroy, H., Anseel, F., Gardner, W. L., & Sels, L. (2015). Authentic leadership, authentic followership, basic need satisfaction, and work role performance: A cross-level study. *Journal of Management*, *41*(6), 167-169. doi:10.1177/0149206312457822
- Lindsay, E. K., & Creswell, J. D. (2014). Helping the self help others: Self-affirmation increases self-compassion and pro-social behaviors. *Frontiers in Psychology*, *5*, 421-433. doi:10.3389/fpsyg.2014.00421
- Liou, S. (2008). An analysis of the concept of organizational commitment. *Nursing Forum*, *43*(3), 116-126. doi:10.1111/j.1744-6198.2008.00103.x
- Locke, E. A., & Latham, G. P. (2004). What should we do about motivation theory? Six recommendations for the twenty-first century. *Academy of Management Review*, *29*(3), 388-403. doi:10.5465/AMR.2004.136709
- Lopez, F. G., & Brennan, K. A. (2000). Dynamic processes underlying adult attachment organization: Toward an attachment theoretical perspective on the healthy and

effective self. *Journal of Counseling Psychology*, 47(3), 283. doi:10.1037/0022-0167.47.3.283

MacKinnon, D.P., Fairchild, A.J., & Fritz, M.S. (2007). Mediation analysis. *Annual Review of Psychology*, 58, 593-614.  
doi:10.1146/annurev.psych.58.110405.085542

Mandigo, J. L., & Holt, N. L. (2000). Putting theory into practice: How cognitive evaluation theory can help us motivate children in physical activity environments. *Journal of Physical Education, Recreation and Dance*, 71(1), 44-49.  
doi:10.1080/07303084.2000.10605984

Manojlovich, M. (2007). Power and empowerment in nursing: Looking backward to inform the future. *Online Journal of Issues in Nursing*, 12(1).  
doi:10.3912/OJIN.Vol12No01Man01

Matsudaira, J. D. (2014). Monopsony in the Low-Wage Labor Market? Evidence from Minimum Nurse Staffing Regulations." *Review of Economics and Statistics* 96(1), 92-102.

McGlynn, K., Griffin, M. Q., Donahue, M., & Fitzpatrick, J. J. (2012). Registered nurse job satisfaction and satisfaction with the professional practice model. *Journal of Nursing Management*, 20(2), 260-265. doi:10.1111/j.1365-2834.2011.01351.x

McHugh, M. D., Kutney-Lee, A., Cimiotti, J. P., Sloane, D. M., & Aiken, L. H. (2011). Nurses' widespread job dissatisfaction, burnout, and frustration with health benefits signal problems for patient care. *Health Affairs*, 30(2), 202-210.  
<http://doi.org/10.1377/hlthaff.2010.0100>



- McHugh, M. D., & Stimpfel, A. W. (2012). Nurse reported quality of care: A measure of hospital quality. *Research in Nursing and Health*, 35(6), 566-575.  
doi:10.1002/nur.21503
- McMullen, L. (2007). Oncology nursing and compassion fatigue: Caring until it hurts. Who is caring for the caregiver? *Oncology Nursing Forum*, 34(2), 491-492.
- Meadors P., Lamson A., Swanson M., White M., & Sira, N. (2010). Secondary traumatization in pediatric healthcare providers: compassion fatigue, burnout, and secondary traumatic stress. *Omega*, 60(3), 103–128.
- Meyer, J. P., & Maltin, E. R. (2010). Employee commitment and well-being: A critical review, theoretical framework and research agenda. *Journal of Vocational Behavior*, 77(2), 323-337. doi:10.1016/j.jvb.2010.04.007
- Meyer, J. P., & Parfyonova, N. M. (2010). Normative commitment in the workplace: A theoretical analysis and re-conceptualization. *Human Resource Management Review*, 20(4), 283-294. doi:10.1016/j.hrmr.2009.09.001
- Milyavskaya, M., & Koestner, R. (2011). Psychological needs, motivation, and well-being: A test of self-determination theory across multiple domains. *Personality and Individual Differences*, 50(3), 387-391. doi:10.1016/j.paid.2010.10.029
- Milyavskaya, M., Philippe, F. L., & Koestner, R. (2013). Psychological need satisfaction across levels of experience: Their organization and contribution to general well-being. *Journal of Research in Personality*, 47(1), 41-51.  
doi:10.1016/j.jrp.2012.10.013
- Mobley, W. H. (1977). Intermediate linkages in the relationship between job satisfaction and employee turnover. *Journal of Applied Psychology*, 62, 237-240.

doi:10.1037/00219010.62.2.237

- Mobley, W. H., Griffeth, R. W., Hand, H. H., & Meglino, B. M. (1979). Review and conceptual analysis of the employee turnover process. *Psychological Bulletin*, 86(3), 493. doi:10.1037/0033-2909.86.3.493
- Moller, A. C., Deci, E. L., & Ryan, R. M. (2006). Choice and ego-depletion: The moderating role of autonomy. *Personality and Social Psychology Bulletin*, 32(8), 1024-1036. doi:10.1177/0146167206288008
- Moore, L., Leahy, C., Sublett, C., & Lanig, H. (2013). Understanding nurse-to-nurse relationships and their impact on work environments. *MEDSURG Nursing*, 22(3), 172-179.
- Morgan, J., & Lynn, M. R. (2009). Satisfaction in nursing in the context of shortage. *Journal of Nursing Management*, 17(3), 401-410. doi:10.1111/j.1365-2834.2007.00842.x
- Moynihan, D. P., & Landuyt, N. (2008). Explaining turnover intention in state government: Examining the roles of gender, life cycle, and loyalty. *Review of Public Personnel Administration*, 28(2), 120-143. doi:10.1177/0734371X08315771
- Murrells, T., Robinson, S., & Griffiths, P. (2008). Is satisfaction a direct predictor of nursing turnover? Modelling the relationship between satisfaction, expressed intention and behaviour in a longitudinal cohort study. *Human Resources for Health*, 6(22), 1-13. doi:10.1186/1478-4491-6-22
- Neff, D. F., Cimiotti, J., Sloane, D.M., and Aiken, L.H., (2013). Utilization of non-US Educated Nurses in US Hospitals: Implications for Hospital Mortality."

*International Journal for Quality in Health Care* 25(4), 366-372.

- Nei, D., Anderson Snyder, L., & Litwiller, B. J. (2015). Promoting retention of nurses: A meta-analytic examination of causes of nurse turnover. *Health Care Management Review, 40*(3), 237-253 17p. doi:10.1097/HMR.0000000000000025
- Nelson, J. W. (2002). The empirical relationship of primary nursing and organizational commitment. *Creative Nursing, 8*(2), 13-16.
- Nielsen, K., Yarker, J., Brenner, S. O., Randall, R., & Borg, V. (2008). The importance of transformational leadership style for the well-being of employees working with older people. *Journal of Advanced Nursing, 63*(5), 465-475. doi:10.1111/j.1365-2648.2008
- Newton, J. M., Kelly, C. M., Kremser, A. K., Jolly, B., & Billett, S. (2009). The motivations to nurse: An exploration of factors amongst undergraduate students, registered nurses and nurse managers. *Journal of Nursing Management, 17*(3), 392-400. doi:10.1111/j.1365-2834.2008.00945.x
- Oldham, G. R., & Hackman, J. R. (2010). Not what it was and not what it will be: The future of job design research. *Journal of Organizational Behavior, 31*(2-3), 463-479. doi:10.1002/job.678
- Park, S. M., & Rainey, H. G. (2012). Work motivation and social communication among public managers. *The International Journal of Human Resource Management, 23*(13), 2630-2660. doi:10.1080/09585192.2011.637060

- Patrician, P. A., Shang, J., & Lake, E. T. (2010). Organizational determinants of work outcomes and quality care ratings among Army Medical Department registered nurses. *Research in Nursing and Health, 33*(2), 99-110. doi:10.1002/nur.20370
- Pearlman, L. A., & Saakvitne, K. W. (1995). Treating therapists with vicarious traumatization and secondary traumatic stress disorders. In C. R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized* (pp. 150-177). London, England: Brunner-Routledge.
- Poghosyan, L., Clarke, S. P., Finlayson, M., & Aiken, L. H. (2010). Nurse burnout and quality of care: Cross-national investigation in six countries. *Research in Nursing and Health, 33*(4), 288-298. doi:10.1002/nur.20383
- Rainey, H. G., & Bozeman, B. (2000). Comparing public and private organizations: Empirical research and the power of the a priori. *Journal of Public Administration Research and Theory, 10*(2), 447-470.
- Raj, S. J., & Chettiar, C. (2012). Self-determination theory: How basic psychological needs affect well-being. *Biopsychosocial Issues in Positive Health, 3*, 17-21.
- Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin, 26*(4), 419-435. doi:10.1177/0146167200266002
- Rizwan, M., Shahid, M., Shafiq, H., Tabassum, S., Bari, R., & Umer, J. (2013) Impact of psychological factors on employee turnover intentions. *International Journal of Research in Commerce, Economics and Management, 3*(3), 63-69.
- Roche, M., & Haar, J. M. (2013). A metamodel approach towards self-determination theory: A study of New Zealand managers' organisational citizenship behaviours.

*International Journal of Human Resource Management*, 24(18), 339-341.

doi:10.1080/09585192.2013.770779

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80(1), 1-28.

doi:10.1037/h0092976

Rush, K. L., Adamack, M., Gordon, J., Lilly, M., & Janke, R. (2013). Best practices of formal new graduate nurse transition programs: An integrative review.

*International Journal of Nursing Studies*, 50(3), 345-356.

doi:10.1016/j.ijnurstu.2012.06.009

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67.

doi:10.1006/ceps.1999.1020

Ryan, R. M., Kuhl, J., & Deci, E. L. (1997). Nature and autonomy: Organizational view of social and neurobiological aspects of self-regulation in behavior and development. *Development and Psychopathology*, 9(4), 701-728.

doi:10.1017/S0954579497001405

Rzeszutek, M., Partyka, M., & Gołąb, A. (2015). Temperament traits, social support, and secondary traumatic stress disorder symptoms in a sample of trauma therapists.

*Professional Psychology: Research and Practice*, 46(4), 213-220.

doi:10.1037/pro0000024

Sacco, T., Ciurzynski, S., Harvey, M., & Ingersoll, G., (2015). Compassion satisfaction and compassion fatigue among critical care nurses. *Critical Care Nurse*, 35(4),

32-44. doi:10.4037/ccn2015392

- Schreuders, L., Bremner, A. P., Geelhoed, E., & Finn, J. (2012). Nurse perceptions of the impact of nursing care on patient outcomes: An exploratory study. *Contemporary Nurse, 41*(2), 190-197. doi:10.5172/conu.2012.41.2.190
- Seo, M. G., Barrett, L. F., & Bartunek, J. M. (2004). The role of affective experience in work motivation. *Academy of Management Review, 29*(3), 423-439. doi:10.5465/AMR.2004.13670972
- Shamliyan, T., Mueller, C., Duval, S., & Wilt, T. J. (2007). *Nurse staffing and quality of patient care*. Rockville, MD: Agency for Healthcare Research and Quality.
- Sheldon, K. M., & Gunz, A. (2009). Psychological needs as basic motives, not just experiential requirements. *Journal of Personality, 77*(5), 1467-1492. doi:10.1111/j.1467-6494.2009.00589.x
- Sheldon, K. M., Ryan, R. M., Deci, E. L., & Kasser, T. (2004). The independent effects of goal contents and motives on well-being: It's both what you pursue and why you pursue it. *Personality and Social Psychology Bulletin 30*(4), 475-486. doi:10.1177/0146167203261883
- Shields, M., & Wilkins, K. (2009). Factors related to on-the-job abuse of nurses by patients. *Health Reports, 20*(2), 7-19.
- Shiparski, L. A. (2005). Engaging in shared decision-making: Leveraging staff and management expertise. *Nurse Leader, 3*(1), 36-41. doi:10.1016/j.mnl.2004.11.012
- Simons, K. V., & Jankowski, T. B. (2008). Factors influencing nursing home social workers' intentions to quit employment. *Administration in Social Work, 32*(1), 5-21. doi:10.1300/J147v32n01\_02

- Simons, J., Vansteenkiste, M., Lens, W., & Lacante, M. (2004). Placing motivation and future time perspective theory in a temporal perspective. *Educational Psychology Review, 16*(2), 121-139.
- Slatten, L. A., Carson, K. D., & Carson, P. P. (2011). Compassion fatigue and burnout: What managers should know. *The Health Care Manager, 30*(4), 325-333.  
doi:10.1097/HCM.0b013e31823511f7
- Smart, D., English, A., James, J., Wilson, M., Daratha, K. B., Childers, B. and Magera, C. (2014). Compassion fatigue and satisfaction: A cross-sectional survey among US healthcare workers. *Nursing and Health Sciences, 16*, 3-10.  
doi:10.1111/nhs.12068
- Sotos, A. C., Vanhoof, S., van den Noortgate, W., & Onghena, P. (2009). The transitivity misconception of Pearson's correlation coefficient. *Statistics Education Research Journal, 8*(2), 33-55.
- Sovie, M. D., & Jawad, A. F. (2001). Hospital restructuring and its impact on outcomes: Nursing staff regulations are premature. *Journal of Nursing Administration, 34*(12), 588-600. doi:10.1097/00005110-200112000-00010
- Sprang, G., Clark, J. J., & Whitt-Woosley, A. (2007). Compassion fatigue, compassion satisfaction, and burnout: Factors impacting a professional's quality of life. *Journal of Loss & Trauma, 12*(3), 259-280. doi: 10.1080/15325020701238093
- Sproull, N. (2002). *Handbook of research methods* (2nd ed.). Lanham, MD: Scarecrow Press.
- Stamm, B. H. (2010). *The concise ProQOL manual*. Pocatello, ID: ProQOL.org.

- Stone, D. N., Deci, E. L., & Ryan, R. M. (2009). Beyond talk: Creating autonomous motivation through self-determination theory. *Journal of General Management*, 34(3), 75-92.
- Strohacker, K., Galarraga, O., & Williams, D. M. (2014). The impact of incentives on exercise behavior: A systematic review of randomized controlled trials. *Annals of Behavioral Medicine*, 48(1), 92-99. doi:10.1007/s12160-013-9577-4
- Sung, K., Seo, Y., & Kim, J. H. (2012). Relationships between compassion fatigue, burnout, and turnover intention in Korean hospital nurses. *Journal of Korean Academy of Nursing*, 42(7), 1087-1094. doi:10.4040/jkan.2012.42.7.1087
- Tabachnick, B. & Fidell, L. (2012). *Using multivariate statistics* (6th ed.). Needham, MA: Pearson Allyn Bacon.
- Tervo-Heikkinen, T., Partanen, P., Aalto, P., & Vehvilainen-Julkunen, K. (2008). Nurses' work environment and nursing outcomes: A survey study among Finnish university hospital registered nurses. *International Journal of Nursing Practice*, 14(5), 357-365. doi:10.1111/j.1440-172X.2008.00707.x
- Trépanier, S., Fernet, C., & Austin, S. (2016). Longitudinal relationships between workplace bullying, basic psychological needs, and employee functioning: A simultaneous investigation of psychological need satisfaction and frustration. *European Journal Of Work And Organizational Psychology*, 25(5), 690-706. doi:10.1080/1359432X.2015.1132200
- Trivellas, P., Gerogiannis, V., & Svarna, S. (2013). Exploring workplace implications of Emotional Intelligence (WLEIS) in hospitals: Job satisfaction and turnover Intentions. *Procedia-Social and Behavioral Sciences*, 73, 701-709.



- Twigg, D., & McCullough, K. (2014). Nurse retention: A review of strategies to create and enhance positive practice environments in clinical settings. *International Journal of Nursing Studies*, *51*(1), 85-92. doi:10.1016/j.ijnurstu.2013.05.015
- Ulrich, B., Krozek, C., Early, S., Africa, L. M., & Carman, M. L. (2010). Improving retention, confidence, and competence of new graduate nurses: Results from a 10-year longitudinal database. *Nursing Economics*, *28*(6), 363-376.
- U.S. Department of Health and Human Services. (2013). *The U.S. nursing workforce: Trends in supply and education*. Rockville, MD: Author.
- Vallerand, R. J. (2000). Deci and Ryan's self-determination theory: A view from the hierarchical model of intrinsic and extrinsic motivation. *Psychological Inquiry*, *11*(4), 312-318.
- Vallerand, R. J., Pelletier, L. G., & Koestner, R. (2008). Reflections on self-determination theory. *Canadian Psychology*, *49*(3), 257-262.  
doi:10.1037/a0012804
- Vallerand, R. J., & Reid, G. (1984). On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory. *Journal of Sport Psychology*, *6*(1), 94-102.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*(4), 981-1002.  
doi:10.1348/096317909X481382

- Van Dyk, J., & Coetzee, M. (2012). Retention factors in relation to organizational commitment in medical and information technology services. *South African Journal of Human Resource Management, 10*(2), 1-11.  
doi:10.4102/sajhrm.v10i2.433
- Van Hook, M. P. (2009). Quality of life and compassion satisfaction/fatigue and burnout in child welfare workers: A study of the child welfare workers in community based care organizations in central Florida. *Social Work and Christianity, 36*(1), 36-54.
- Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five mini-theories of self-determination theory: An historical overview, emerging trends, and future directions. In T. C. Urdan & S. A. Karabenick (Eds.), *The decade ahead: Theoretical perspectives on motivation and achievement* (Vol. 16A, pp. 105-166). Bingley, England: Emerald.
- Verleynsen, B., Lambrechts, F., & Van Acker, F. (2014). Building psychological capital with appreciative inquiry investigating the mediating role of basic psychological need satisfaction. *Journal of Applied Behavioral Science, 51*(1), 10-35.  
doi:10.1177/0021886314540209
- Wagner, C. M. (2007). Organizational commitment as a predictor variable in nursing turnover research: Literature review. *Journal of Advanced Nursing, 60*(3), 235-247. doi:10.1111/j.1365-2648.2007.04421.x
- White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*(5), 297-333. doi:10.1037/h0040934

- Wilson, S., Bremner, A., Hauck, Y., & Finn, J. (2011). The effect of nurse staffing on clinical outcomes of children in hospital: a systematic review. *International Journal Of Evidence-Based Healthcare*, 9(2), 97-121. doi:10.1111/j.1744-1609.2011.00209.x
- Yoder, E. A. (2010). Compassion fatigue in nurses. *Applied Nursing Research*, 23(4), 191-197. doi:10.1016/j.apnr.2008.09.003
- Yücel, I. (2012). Examining the relationships among job satisfaction, organizational commitment, and turnover intention: An empirical study. *International Journal of Business and Management*, 7, 44-58. doi:10.5539/ijbm.v7n20p44

## Appendix A: Letter of Participation

Hello, my name is David Klein and I am a doctoral candidate in the School of Psychology at Walden University. I am writing to invite you to participate in a research project. Currently, I am preparing to conduct a study to examine the relationships between compassion fatigue, turnover intentions, and the basic psychological needs of RNs working in hospital environments.

If you decide to participate, your candid and honest responses to the questions in this research will be greatly appreciated. All responses will remain strictly confidential and anonymous. Responses will only be available to myself and my university research advisors. Individual responses will not be available to your employer at any time and all responses will be reported only in aggregate

This study involves several short surveys asking about compassion fatigue and compassion satisfaction, turnover intention, basic psychological need satisfaction and demographic information. The demographic information is being requested in order to gain a better understanding of the types of individuals participating in this study. A range of responses to the survey items is expected with no *right* or *wrong* responses. Completion of the surveys will take approximately 10-15 minutes.

While there may be no direct benefit to you from your involvement in this research, your participation will help provide insight into the relationship between compassion fatigue, turnover intention and the basic psychological needs of RNs in hospitals. It is hoped that this information will ultimately translate in to enhanced working environments for RNs as well as improved patient care.

There are no known risks to you as a participant in this study. Participation is completely voluntary and if you choose, you have the right to withdraw from involvement at any time. The website listed below will transfer you to the electronic survey. If you wish, you may copy and paste the link onto a different Internet browser and complete the survey on a secure website.

(URL link)

If you have questions now or later, please contact the researcher, David Klein, at [redacted] or [redacted]. If you have any questions or concerns about your rights as a

research participant, please feel free to contact Dr. Leilani Endicott. Director of the Research Center at Walden University [redacted].

Thank you very much for considering participation in this study. Your efforts are greatly appreciated and will help to strengthen understanding of hospital RNs basic psychological needs and their impact on compassion fatigue and turnover intention.

Sincerely,

David S. Klein

Doctoral Candidate, Walden University

## Appendix B: Basic Psychological Needs at Work Scale

Directions. The following questions concern your feelings during the past 30 days. Please indicate how true each of the following statements is for you given your experiences on this job. Remember that this questionnaire is anonymous. Please use the following scale in responding to the items.

1 = Not at All True, 2, 3, 4 = Somewhat True, 5, 6, 7 = Very True

1. I feel like I can make a lot of inputs to deciding how my job gets done.
2. I really like the people I work with.
3. I do not feel very competent when I am at work.
4. People at work tell me I am good at what I do.
5. I feel pressured at work.
6. I get along with people at work.
7. I pretty much keep to myself when I am at work.
8. I am free to express my ideas and opinions on the job.
9. I consider the people I work with to be my friends.
10. I have been able to learn interesting new skills on my job.
11. When I am work, I have to do what I am told.
12. Most days I feel a sense of accomplishment from working.
13. My feelings are taken into consideration at work.
14. On my job I do not get much of a chance to show how capable I am.
15. People at work care about me.

16. There are not many people at work that I am close to.
17. I feel like I can pretty much be myself at work.
18. The people I work with do not seem to like me much.
19. When I am working I often do not feel very capable.
20. There is not much opportunity for me to decide for myself how to go about my work.
21. People at work are pretty friendly towards me.

**Scoring Information.** Form three subscale scores by averaging item responses for each subscale after reverse scoring the items that were worded in the negative direction. Specifically, any item that has ® after it in the code below should be reverse scored by subtracting the person's response from 8. The subscales are: Autonomy: 1, 5(R), 8, 11(R), 13, 17, 20(R) Competence: 3(R), 4, 10, 12, 14(R), 19(R) Relatedness: 2, 6, 7(R), 9, 15, 16(R), 18(R), 21

## Appendix C: Turnover Intentions Composite Measure

Directions. Please respond to these two questions using the following scale: 1 = No chance, 2 = 25% chance, 3 = 50% chance, 4 = 75% chance, and 5 = 100% chance.

1. What are the chances that you will search for an alternative role to your current job (e.g., another job, full-time student, etc.) during the next 12 months?
2. What are the chances that you will leave your current during the next 12 months?

Directions. Please respond to these five statements using the following scale: 1 = Totally disagree, 2 = Somewhat disagree, 3 = Neutral, 4 = Somewhat agree, 5 = Totally agree.

3. I am thinking about quitting my job.
4. I have searched for an alternative job since I joined this organization.
5. I am actively seeking an alternative job or role (an activity other than my present job).
6. I am constantly searching for a better alternative.
7. I often think about quitting my present job



## Appendix D: Compassion Satisfaction and Compassion Fatigue Scale

When you care for people you have direct contact with their lives. As you may have found, your compassion for those you care for can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as an RN.

(ProQOL) Version 5 (2009)

Directions. Consider each of the following questions about you and your current work situation. Please select the number that honestly reflects how frequently you have experienced these things in the *last 30 days*.

1=Never    2=Rarely    3=Sometimes    4=Often    5=Very Often

1. I am happy.
2. I am preoccupied with more than one patient that I care for.
3. I get satisfaction from being able to care for patients.
4. I feel connected to others.
5. I jump or am startled by unexpected sounds.
6. I feel invigorated after working with the patients I care for.
7. I find it difficult to separate my personal life from my life as an RN.
8. I am not as productive at work because I am losing sleep over traumatic experiences of a patient I care for.
9. I think that I might have been affected by the traumatic stress of those I care for.
10. I feel trapped by my job as an RN.
11. Because of my caring for patients, I have felt "on edge" about various things.
12. I like my work as an RN.

13. I feel depressed because of the traumatic experiences of the patients I care for.
14. I feel as though I am experiencing the trauma of patients I have cared for
15. I have beliefs that sustain me.
16. I am pleased with how I am able to keep up with patient-care techniques and protocols.
17. I am the person I always wanted to be.
18. My work as an RN makes me feel satisfied.
19. I feel worn out because of my work as an RN.
20. I have happy thoughts and feelings about those patients I care for and how I can help them.
21. I feel overwhelmed because my patient load seems endless.
22. I believe I can make a difference through my work as an RN.
23. I avoid certain activities or situations because they remind me of frightening experiences of the patients I care for.
24. I am proud of what I can do to help my patients.
25. As a result of my patient care I have intrusive, frightening thoughts.
26. I feel "bogged down" by the system.
27. I have thoughts that I am a "success" as an RN.
28. I can't recall important parts of my work with patients with traumatic injuries or illnesses.
29. I am a very caring person.
30. I am happy that I chose to do this type of work.

## Appendix E: Demographic Questionnaire

1. What is your gender?
  - a. Male
  - b. Female
  
2. What is your age in years?
  - a. 18-24
  - b. 25-34
  - c. 35-44
  - d. 45-54
  - e. 55-64
  - d. 65 or older
  
3. What is your ethnicity?
  - a. Caucasian
  - b. African American
  - c. Hispanic
  - d. Asian
  - e. Other
  
4. What is your highest completed education level?
  - a. High school or GED degree
  - b. Some college
  - c. 2-year college degree (Associate)
  - d. 4-year college degree (BA, BS)
  - e. Master's degree
  - f. Doctoral degree

Which type of critical care nursing do you provide? (*Please circle only one*)

a.

6. How long have you worked in your *current role* as an RN?  
\_\_\_ Years  
\_\_\_ Months

## Appendix F: Permission to Use BPNEWS

### Basic Psychological Needs Scale (BPNWS)

Self-determination theory posits three universal psychological needs and suggests that these must be ongoingly satisfied for people to maintain optimal performance and well-being. The BPNWS is a set of questionnaires that assess the degree to which people feel satisfaction of these three needs. There is a general form, as well as domain specific forms for work and relationships.

Please note that all questionnaires on this web site, developed for research on self-determination theory, are copyrighted. You are welcome to use the instruments for academic (non-commercial) research projects. However, you may not use any of them for any commercial purposes without written permission to do so from Edward L. Deci and Richard M. Ryan. (To inquire about a commercial request, please email [info@selfdeterminationtheory.org](mailto:info@selfdeterminationtheory.org))

## Appendix G: Permission to Use TICM

**Peter Hom**

Aug 13

to me, rgriffeth

David

Sure, no problem. Good luck on your research.

Best, peter hom

**From:** David Klein [mailto:[david.klein@waldenu.edu](mailto:david.klein@waldenu.edu)]

**Sent:** Saturday, August 13, 2016 10:00 AM

**To:** Peter Hom <[peter.hom@asu.edu](mailto:peter.hom@asu.edu)>; [rgriffeth@ohio.edu](mailto:rgriffeth@ohio.edu)

**Subject:** Permission to use the TICM in research

Drs. Hom & Griffeth,

I am writing to you to request permission to use the measure of turnover intentions (TICM) from: Hom, P. W., Griffeth, R. W., & Sellaro, C. (1984). The validity of Mobley's (1977) model of employee turnover. *Organizational Behavior & Human Performance*, 34(2), 141-174. doi:0.1016/0030-5073(84)90001-1  
I am a doctoral student at Walden University conducting research on the basic psychological needs of RNs and the impact on their intention to turnover. The purpose of my research is academic and there will be no commercial use of the TICM.

Please feel free to contact me if you have any questions or concerns.

Respectfully,

David Klein

Doctoral Student

Walden University

## Appendix H: Permission to Use ProQOL

Copyright Beth Hudnall Stamm. All rights reserved. 12345679890

Published The ProQOL.org, P.O. Box 4362. Pocatello, ID 83205-4362 Cover design by Beth Hudnall Stamm Images copyright 2008 Henry E. Stamm, IV Printed in Trebuchet MS font for the headers and 11 point Calibri font for the body.

ISSN to be applied for

### Reference

Stamm, B.H. (2010). The Concise ProQOL Manual. Pocatello, ID: ProQOL.org.

### Acknowledgements

I here provide acknowledgements for their faithful contributions to the development of the ProQOL go to Joseph M. Rudolph, Edward M. Varra, Kelly Davis, Debra Larsen, Craig Higson-Smith, Amy C. Hudnall, Henry E. Stamm, and to all those from around the world who contributed their raw data to the databank. I am forever indebted to Charles F. Figley who originated the scale, and in 1996, handed the scale off to me saying "I put a semicolon there; you take it and put a period at the end of the sentence." No one could have wished for a better mentor, colleague, and friend.

This material may be freely copied as long as (a) author is credited, (b) no changes are made, & (c) it is not sold except for in agreement specifically with the author.