2020

Personality, Job Satisfaction, and Turnover in Long-Term Care Nursing Assistants

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Walden University
2020

Abstract

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by

Sarah Elizabeth Shanks

MSN, Walden University, 2006

BSN, Northern Illinois University, 2002

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing

Walden University

May 2020

Abstract

There is a clear association between nursing assistant (NA) turnover and resident outcomes which may be caused by poor compensation, organizational culture, and staffing mix. However, very limited literature is available exploring intrinsic variables of NAs, specifically personality, leading to turnover. Guided by the five-factor personality theory and Herzberg's two-factor motivation hygiene theory, the purpose of this quantitative study was to examine the relationship between the five-factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and neuroticism; length of employment; and job satisfaction among NAs working in long-term care. The Nursing Home Certified Nursing Assistant Job Satisfaction Questionnaire was used to determine job satisfaction, and the International Personality Item Pool representation of NEO-FFI-R was used to determine personality factors of 137 NAs working in long-term care in the United States. Multiple linear regression was used to analyze the data. A significant positive correlation was found between five-factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and neuroticism and job satisfaction, but no significant relationship was found between five-factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and neuroticism and length of employment. The study's findings regarding personality and job satisfaction may be useful to human resource personnel in recruiting and retaining NAs as staff in long-term care settings. Reduced turnover may lead to improved patient outcomes as a potential implication for positive social change.

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Dedication

This project is dedicated to my family. You were my inspiration to start this journey, my motivation to continue the journey, and my sanity throughout the journey.

To my beloved husband, Peter, you are my best friend, my soulmate, and my safe place. Thank you for having my back in every crazy idea I get. I will always pick you.

To my children, Riley and Regan, I pray that I have set a positive example for you and that you can see the value of education and hard work. You both have such a bright future, and I am honored to be your mom. To Baby, Avery, and Tyson, Mommy misses you, and I will hold you when I get there.

To my mom, Kathy, you have always been my biggest fan, and this chapter in my life has been no different. You are the most beautiful woman inside and out, and the most influential person in my life.

To all of my family, thank you for your unwavering love throughout my life. I am so blessed to have each one of you in my life.

Acknowledgments

I would like to first acknowledge my methodologist and chairperson, Dr. Leslie Hussey, for her continual support and guidance throughout my dissertation journey. I feel blessed to have you on my team and appreciate that you were an essential component of my success. From the bottom of my heart, thank you.

I would also like to thank my content expert, Dr. Catherine Garner. It was you who initially introduced my topic idea to me and helped me to shape it into my research question. Thank you for your inspiration and support.

I am grateful to have such a cohesive team that provided me with prompt and consistent feedback including Dr. Mary Martin who served as my assigned university research reviewer. I want to thank every faculty member, student advisor, librarian, technical support member, statistics tutor, and Writing Center member who provided me with the answers and support I needed in the moment. All those moments of stress and confusion led me to this point where I can enjoy the euphoria of a successfully completed goal.

Throughout this journey, a few of my peers have been particularly integral in getting me past both mental and emotional barriers. Dr. Amanda Machesky, thank you for being a sounding board. Dr. Kimberly Lindquist, thanks for checking in on me and cheering me on. Thank you to all of my peers, friends, colleagues, administration, and family who have offered encouragement throughout this process.

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Chapter 1: Introduction to the Study

Introduction

Quality of care for aging Americans is an area of great concern. According to the Centers for Medicare and Medicaid Services (CMS), there are approximately 1.4 million Americans living in nursing homes in the United States (CMS, 2015). Sixty-three percent of those residents have moderate to severe cognitive impairment, and 68% need assistance with three or more activities of daily living (ADL; CMS, 2015). Nursing assistants (NAs) perform 80-90% of direct care related to ADLs for nursing home residents (Walton & Rogers, 2017). The high rate of voluntary turnover for NAs in long-term care, estimated to range from 55% to 200% (Chou, 2012), may be a factor in the quality of care nursing home residents receive. Several researchers have linked quality of care for America's most vulnerable population with turnover rates. For instance, Lerner, Johanteg, Trinkoff, Storr, and Han (2014) found that long-term care facilities with higher turnover rates reported a higher number of quality care deficiencies, as well as resident behavior deficiencies. Additionally, Antwi and Bowblis (2018) correlated a higher mortality rate in facilities that suffer from greater turnover. Trinkoff et al. (2013) found that turnover had a greater influence on negative resident outcomes including pressure ulcers, urinary tract infections, and pain than nurse staffing ratios and nurse skill mix. These findings support an association behind high staff turnover and poor resident outcomes in U.S. nursing homes.

In this study, I examined the relationship between personality factors of nursing assistants and turnover by measuring the five-factor personality traits, length of

employment, and job satisfaction of long-term care NAs. In Chapter 1, I provide an overview of the study including the background of the topic, statement of the problem, purpose of the study, research questions and hypothesis, theoretical foundation, nature of the study, and definitions of terms used within the study. I also discuss the assumptions, scope and delimitations, limitations, and significance of the study including potential opportunities for social change. The chapter concludes with a summary of key points and a transition to Chapter 2.

Background

The Baby Boomer generation is a title given to those Americans born post-World War II, between the years 1946 and 1964 (Wagner, 2018). By the year 2029, all of the members of this generation will have reached the age of 65 and therefore be classified as geriatric. This is significant because according to a report from the CMS, 84.5% of long-term care residents are age 65 or older. A fact sheet from the Population Reference Bureau (PRB) states that Americans aged 65 and older will comprise 24% of the total U.S. population by 2060 (Mather, 2016). This same report projected a potential 75% increase in the need for long-term care for these Americans due to higher life expectancy, increases in obesity and comorbidity rates, and a triple increase in Alzheimer's disease diagnoses (Mather, 2016).

Long-term care facilities, which are sometimes called nursing homes, skilled nursing facilities, or residential care facilities, provide shelter, housekeeping, dietary support, rehabilitation, and assistance with ADL such as personal hygiene, dressing, toileting, and mobility support. Registered nurses (RNs), licensed practical nurses

(LPNs), and NAs comprise the nursing staff of long-term care facilities. RNs provide administrative and supervisory roles as well as lead care planning activities for residents. LPNs perform nursing tasks such as medication administration, dressing changes, and tube feedings to residents. NAs provide the majority (an estimated 80-90%) of hands-on ADL care to residents of long-term care facilities (Heliker & Hoang Thanh Nguyen, 2010; Walton & Rogers, 2017). Reflecting the need for NAs given the aging U.S. population, the Bureau of Labor Statistics (BLS) predicts NAs will have 18% occupational growth from 2014 to 2024, which is greater than any other occupation (U.S. Department of Labor, BLS, 2016).

Problem Statement

Turnover of NAs in long-term care is estimated at 65% (Trinkoff et al., 2013), although one study estimates it as high as 200% (Chou, 2012). Numerous researchers have linked turnover rate with negative resident outcomes including pressure ulcers, pain, and urinary tract infections (Kim & Han, 2018; Lerner et al., 2014; Trinkoff et al., 2013). Turnover of nursing staff has been studied in relation to factors including organizational culture, benefits and pay, and communication styles of nursing staff (Black, 2015; Rosen, Stiehl, Mittal, & Leana, 2011; Trinkoff et al., 2013; Trybou, De Pourcq, Paeshuyse, & Gemmel, 2014). However, many of the studies on turnover include other nursing staff (i.e., RNs and LPNs), and some include other care settings such as acute care. The factors that contribute to turnover of NAs working in long-term care are different from those of RNs and LPNs (Black, 2015).

Low job satisfaction is well established in the literature as an antecedent to long-term care NA turnover (Aloisio et al., 2018; Bennett et al., 2015; Brady, 2016; Cherry, Ashcraft, & Owen, 2007; Kalisch & Lee, 2012; Meyer, Raffle, & Ware, 2012; Pfefferle & Weinberg, 2016; Rakovski & Price-Glynn, 2010; Secrest, Iorio, & Martz, 2004). Yet, a research gap exists in understanding the inherent factors that influence job satisfaction and, therein, turnover among NAs. Five-factor personality traits, openness to experience, consciousness, extraversion, agreeableness, and neuroticism have been studied in RNs (Chen, Perng, Chang, & Lai, 2016; Kennedy, Curtis, & Waters, 2014), physicians (Jones, Humphreys & Nicholson, 2012) as well as in non-health care-related occupations (Barrett et al., 2016; Furham, Eracleous, & Chamorro-Premuzic, 2009; Justina, Auks, & Loreta, 2008; Zhai et al., 2013). However, according to my review of the literature, researchers have not yet examined these factors and their potential influence on job satisfaction in NAs.

I conducted this study to address this research gap. Study findings may help human resource personnel, administrators, directors of nursing, and other stakeholders in long-term care facilities gain an understanding of the personality traits of NAs. This knowledge may influence the hiring and recruitment practices of long-term care facilities and lead to reduced turnover and improved outcomes for patients who live in long-term care settings (Trinkoff et al., 2013). As the population of the United States continues to age and the need for qualified NAs in the long-term sector increases, decreasing turnover and improving retention of NAs is vital. Positive social change resulting from decreased turnover of NAs in long-term care can potentially impact fiscal responsibility of facilities,

improve quality of care and quality of life for residents, and improve job satisfaction for NAs.

Purpose of the Study

The purpose of this cross-sectional correlation study was to examine the relationship between the five-factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and negative emotionality with length of employment and job satisfaction of NAs working in long-term care. This study contributes to a better understanding of inherent characteristics of NAs that may lead to turnover.

Research Questions and Hypotheses

The research questions (RQs) and hypotheses for this research study were

RQ1: What is the relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for NAs who work in long-term care settings?

$H_0$1: There is no significant relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for NAs who work in long-term care settings.

H_a1: There is a significant relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for NAs who work in long-term care settings.

RQ2: What is the relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with job satisfaction for NAs who work in long-term care settings?

$H_0$2: There is no significant relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with job satisfaction for NAs who work in long-term care settings.

H_a2: There is a significant relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with job satisfaction for NAs who work in long-term care settings.

I measured the five predictor variables of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism using a 50-item International Personality Item Pool (IPIP) representation of the Revised NEO Five-Factor Inventory (NEO-FFI-R) from Costa and McCrae (1992). The IPIP is an open resource providing copyright-free use of personality inventory scales and items (Goldberg et al., 2006). I measured each of the five-factor personality traits using 50 personality questions that participants answered with Likert-type responses ranging from “very much like me” to “not like me at all.” The outcome variable, length of employment, was measured in years and months by self-report of the participant. The outcome variable of job satisfaction was measured using the Nursing Home CNA Job Satisfaction Questionnaire (NH-CNA-JSQ) developed by Castle (2010). The NH-CNA-JSQ includes 19 questions specifically designed to assess CNA job satisfaction (Castle, 2010). Responses were in scale form ranging from 1 (*very poor*) to 10 (*excellent*) (Castle, 2010). Additional details

regarding the study survey and instrumentation, including validity and reliability and pilot testing, are provided in Chapter 3.

Theoretical Framework

A combination of the five-factor theory and Herzberg's two-factor theory served as the theoretical framework for this study. The five-factor model (FFM) framework consists of a continuum of five basic characteristics: openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism (Pettersson & Turkheimer, 2010). The theory posits that every person possesses these characteristics at some point on the continuum and that each characteristic influences the behaviors of the person (Costa & McCrae, 2017). For example, a person with a high rating in openness to experience may be described as curious, and willing to try new things, whereas a low score may indicate difficulty in understanding abstract concepts (Barrett, Eason, Lazar, & Mazerolle, 2016; Pettersson & Turkheimer, 2010). A high score in conscientiousness indicates a person who excels in time management, planning, and organizing while a low score indicates a person who is messy, unorganized, or lazy (Barrett et al, 2016; Pettersson & Turkheimer, 2010). A person who scores high in agreeableness seeks harmony with others and is likable, whereas a person with a low score does not feel empathy for others (Barrett et al., 2016; Pettersson & Turkheimer, 2010). A person who scores high in extraversion is energetic and positive and enjoys being around others; a person with a low score may be described as quiet around strangers and not wanting to draw attention (Barrett et al., 2016; Pettersson & Turkheimer, 2010). Last, a person with a high score in neuroticism will be easily agitated or stressed, whereas a person with a

low score will be relaxed and happy (Barrett et al., 2016; Pettersson & Turkheimer, 2010). The basic premise of Herzberg's two-factor theory is that internal motivational factors such as achievement, recognition, work itself, responsibility, promotion, and growth can lead an employee to job satisfaction, whereas external hygiene factors such as company policy, supervision, relationship with boss, work conditions, salary, and relationship with peers can lead an employee to job dissatisfaction (Herzberg, 1959).

Combining Herzberg's two-factor theory with FFM was appropriate because job satisfaction is an important component identified in the literature leading to employee turnover (see Aloisio et al., 2018; Bennett et al., 2015; Brady, 2016; Cherry, Ashcraft, & Owen, 2007; Kalisch & Lee, 2012; Meyer, Raffle, & Ware, 2012; Pfefferle & Weinberg, 2016; Rakovski & Price-Glynn, 2010; Secrest, Iorio, & Martz, 2004). Herzberg's (1959) theory addresses job satisfaction and dissatisfaction, and FFM (Pettersson & Turkheimer, 2010) posits that personality factors influence how a person will respond to environmental stimuli such as those intrinsic motivators and extrinsic hygiene factors mentioned in Herzberg's theory. Therefore, a better understanding of personality factors of NAs working in long-term care may lead to a better understanding of turnover in long-term care. I provide more detail on these two theories in Chapter 2.

Nature of the Study

I used a quantitative, cross-sectional correlational design for the study. The predictor variables of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism were correlated with the outcome variables of length of employment and job satisfaction using multiple linear regression. A quantitative design

was appropriate because the focus of the research questions was on determining whether a relationship existed between the study variables. Multiple linear regression was an appropriate analysis strategy because for each research question there were more than two predictor variables being examined on the outcome of one variable. I collected primary data by administering web-based questionnaire surveys to NAs currently working in long-term care. Surveys included a 50-item IPIP representation of the NEO-FFI-R instrument, the NH-CNA-JSQ instrument, and length of employment and demographic information.

Definitions

I use the following operational terms throughout this study. These definitions are consistent across the discipline under examination.

Activities of daily living (ADL): Basic activities that are performed every day for self-care including eating, personal hygiene, dressing, moving about (transferring to or from a bed or chair), and using the toilet (U.S. Department of Health and Human Services, n.d.).

Job satisfaction: Job satisfaction for this study is defined as the pleasurable feelings one associates with his or her employment (Locke, 1976).

Length of employment: Concurrent with the definition used by the BLS (U.S. Department of Labor, 2018), the amount of time the NA has been employed by the current employer in years and months.

Long-term care facility: A place where chronically ill or disabled persons live and can receive general nursing care and assistance with ADL (U.S. Department of Health

and Human Services, n.d.); these facilities provide shelter, assistance with ADLs, housekeeping, dietary support, and rehabilitation.

Nursing assistant (NAs): Employees of long-term care facilities who have been trained to assist with ADLs of residents (Sorrentino & Remmert, 2017).

Personality: Basic behavioral and emotional characteristics or traits that make an individual unique (Merriam-Webster, 2019).

Residents: People who live in a long-term care facility and receive direct care from NAs (Alexander, 2008).

Turnover: Concurrent with the definitions used by the BLS (U.S. Department of Labor, 2012), the percentage of NAs who separate from employment (for any reason) in long-term care settings each year).

Assumptions

Every research study has assumptions that the researcher believes to be true despite an inability to prove them as true (Grove, Burns, & Gray, 2013). Data collected in this study was self-reported so it is assumed that the NAs completing the surveys were honest, accurate, and thorough in their responses. One assumption of my study was that NAs desire job satisfaction and want to stay with their employer for an extended length of time. It is assumed that if an employee possesses the inherent qualities or characteristics that are well suited for a particular job, that employee will be more likely to feel rewarded and satisfied in that position and therefore will not leave.

Scope and Delimitations

I examined the relationship between five-factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment and job satisfaction of long-term care nursing assistants. Many theories exist when studying personality, however, the FFM is the most widely used in studies that explore the influence of personality in vocational settings. Herzberg's two-factor theory is a well-known motivation and job satisfaction theory this is commonly used in research within vocations. Person-environment fit personality (P-E fit) is a common vocational counseling theory that is used to evaluate personality traits and the degree to which a person is compatible with an occupation (Su, Murdock, & Rounds, 2015). P-E fit theory could be an appropriate application for this study, however, combining FFM theory and Herzberg's two-factor theory was preferred for this study for exploring a connection between the intrinsic motivators of FFM and job satisfaction and the extrinsic outcomes of length of employment. FFM theory and Herzberg's two-factor theory more directly addressed my research questions.

The participants for this study were NAs currently employed at a long-term care facility, at least 18 years of age and were able to speak and read English proficiently. Any nursing home employee that did not meet these requirements were not included in the study. NAs employed in specialty areas other than long-term care, skilled nursing facilities, or residential care facilities, were not included. Pre-qualifying questions proceeded the study survey to assure all participants met these parameters. If an NA

chose to discontinue participation in the study once the survey is started, the entire survey was excluded prior to statistical analysis.

The IPIP representation of the NEO-FFI-R was the instrument used in this study because it is a widely accepted tool for assessing the FFM personality items designed by Costa and McCrae (2002) that have strong validity and reliability (Cronbach's alpha 0.67-.081) in previous studies, while preventing survey fatigue by participants (Körner et al., 2015). Job satisfaction data were collected using the NH-CNA-JSQ developed by Castle (2010). The NH-CNA-JSQ is the only NA specific tool for measuring job satisfaction and has been validated for content and reliability in a pilot study.

This study used instruments to collect numerical data with the purpose of examining a relationship between predictor variables and outcome variables, therefore quantitative methodology was most appropriate (Creswell, 2014). A qualitative tradition was not an appropriate choice for this study because this approach involves using open-ended questions to gain understanding of the participants experiences or perceptions (Creswell, 2014). A mixed methods approach was not appropriate research design because this approach blends quantitative and qualitative together (Creswell, 2014), and the proposed study does not have any qualitative properties.

Generalizability of research results included applying new knowledge gained of the sample population to the entire population (Creswell, 2014). The target population for this study was NAs working in long-term care in the United States. The sample population goal was 109 participants according to the G*Power calculation and Green's (1991) *rule of thumb* equation. An increase in the number of participants increased the

generalizability of the results (Polit & Beck, 2010). If the representative sample was achieved and a relationship between personality factors, length of employment, and job satisfaction of NAs working in long-term care was observed; those observations could be generalized across the entire population of NAs working in long-term care.

Limitations

Every research study has inherent limitations, or factors within the study that may weaken or potentially threaten the validity of the results. The limitations of this study included a population sampling focused in the Midwest United States which may have yielded different results than if the sample was nationwide and therefore generalizability to other geographical regions was limited. To minimize this risk, the web-based questionnaire was available via a designated social media page in order to recruit potential participants from other regions of the United States. The data collection was dependent on self-reporting via an online survey, and the honesty of the participants responses could hinder reliability if the participants were influenced by socially desirable responses. To minimize this potential risk, a statement on the introduction page of the survey reiterated anonymity of the survey results. If the respondents were confident that their answers were not directly connected with their identity, social desirability bias can be contained (Babbie, 2017). Participants potentially took the survey after working their shift which could mean they are tired or may hurry through the questionnaire. To minimize this risk a visual progress bar was included at the bottom of page of the survey show respondents the amount of the survey they completed and how much is remaining. The web-based questionnaire consisted of 79 questions which can be completed in

approximately 15-20 minutes. SurveyMonkey, a leading web-based survey company, conducted an experimental study to determine if progress bars improved completion rates of web-based surveys. The results of that study confirmed that including a visual progress bar located at the bottom of the survey page with no percentage or page numbers listed provided the greatest completion rate (Liu, 2019). A confounding variable is a factor that may exist and influence the result of the study but unable to be detected (Creswell, 2014). There are potentially several confounding variables that were not controlled for in this study. For example, gender, socioeconomic status, education level, social support, and previous work experience are all potential confounding factors of the individual, while compensation, leadership styles, nursing patterns, and organizational culture could all be confounding variables at each facility. While these confounding variables could not be minimized by the nature of their definition, I am acknowledging them as potential influences on the results of the study. Some of these confounding variables such as gender, age, race, state of residence, socioeconomic status and years of experience were collected in the demographic section of the survey and could be used for future studies that do account for mediating effects of confounding variables.

The research design presented a limitation as correlational design is examining relationships between variables and does not indicate cause and effect (Babbie, 2017). Determining that a relationship exists between personality factors with length of employment and job satisfaction may lead the reader to more research questions to further understand *why* this relationship exists. Once a relationship has been established

the natural question is why. Although every effort to minimize potential biases in this study was taken, I acknowledge that some limitations still existed.

Significance

There are several stakeholders that are relevant to this study. First and foremost, the residents, and families of those residents, who render the care from the NAs in long-term care. Several studies have found deficiency in quality of care for long-term care facilities that suffer higher turnover rates (Antwi & Bowblis, 2018; Lerner et al., 2014; Trinkoff et al., 2013). Providing quality care is the most important objective of any healthcare facility, especially long-term care facilities who provide care to the most vulnerable population of older adult and chronically ill or disabled residents.

Long-term care administrators, owners and directors of nursing are also stakeholders in this study because they too, will strive for the best quality of care while also decreasing costs associated with turnover. Expenses related to high turnover rate are twofold, the actual cost of replacing the lost employee and the cost related to the consequences (i.e. poor quality of care) of high turnover. The cost of recruiting, hiring, and training a new NA is estimated at $15,000 (Brady, 2016). The costs of treating pressure ulcers vary depending the stage of the sore, ranging from $2,000 for stage one up to $21,410 for stage four pressure ulcer (Trinkoff et al., 2013). Increased expenses for consequences of poor-quality care make the United States government a stakeholder in the long-term care turnover crisis as well, since Medicare paid 62% of the $211 billion that was spent on long-term care in 2011 (BPC, 2014)

The NAs are also stakeholders in this study. Kalisch and Lee (2014) found that understaffed facilities led to less job satisfaction among NAs. NAs find joy and psychological reward in their work in long-term care so potential for improved mental health of this population could be possible outcome of social change due to the study.

Understanding factors that can be related to high turnover of NAs will lead to positive social change because policies and strategies can be developed by long-term care personnel to reduce the NA turnover. Increased quality of care to residents, increased job satisfaction of NAs, and reduced expenses related to poor quality outcomes and replacement of employees are potential benefits of understanding the relationship between long-term care NA personality factors with length of employment and job satisfaction (Bryant, 2017).

Summary

Turnover of NAs in long-term care is a consistent concern and as the population of America continues to age it will be a growing concern. Turnover of NAs have been linked to poor outcomes for America's most vulnerable population. Efforts to understand the relationship between FFM personality factors including openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment and job satisfaction of NAs in long-term care will offer potential insight into strategies for recruiting and retaining NAs that are well-suited for the job and therefore decrease turnover. I explored the relationship between the five factor personality factors of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment and job satisfaction by surveying a sampling of

NAs working in long-term care in the United States. Participating NAs completed a web-based survey of the IPIP version of the NEO-FFI-R from Costa and McCrae (1992) to collect personality data, the NH-CNA-JSQ (Castle, 2010) to collect job satisfaction data, and length of employment will be in years and months. NAs were recruited via social media, and printed flyers in the LTC facilities.

In chapter 2, I provided an in-depth review of the existing literature on each variable and studies that use the associated theoretical frameworks. A deeper understanding of what researchers already know about the phenomenon of personality, job satisfaction, and turnover of long-term care NAs guided this study to help cultivate social change.

Chapter 2: Literature Review

Introduction

NAs comprise 66% of the U.S. health care workforce (Brady, 2016) and provide up to 90% of direct care to long-term care residents (Secrest et al., n.d.); however, research related to this population is limited compared to that of RNs. The turnover rate for NAs is estimated to be 65% or higher (Trinkoff et al, 2013). Long-term care has an even greater turnover rate for these vital caregivers, with estimations in some U.S. regions of up to 400% (Secrest et al., n.d.). Many researchers have explored NA turnover antecedents such as lack of autonomy (Maurits, de Veer, Groenwegen, & Franke, 2017), compensation (Temple, Dodds, & Andel, 2011), recognition (Brady, 2016), job growth opportunity (Parsons et al., 2003), and consequences including poor patient outcomes and increases financial burdens (Antwi & Bowblis, 2018). The purpose of this study was to explore the personality traits of NAs working in long-term care and clarify the relationship between five-factor personality traits, length of employment, and job satisfaction.

In this chapter, I discuss the current research on NA turnover, as well as the theoretical foundation of the five-factor theory (Costa & McCrae, 1992) and Herzberg's (1959) two-factor motivation theory. I describe the literature search strategy I used to identify current studies that share similar theoretical frameworks or key variables. An overview of the theoretical framework precedes the review of the literature. I conclude with a transition into Chapter 3, which contains a discussion of the methodology of this study.

Literature Search Strategy

To search for relevant literature, I used several databases, which I accessed from Walden University. These included ProQuest Central, ProQuest Nursing & Allied Health Source, ProQuest Dissertations and Theses Global, Medline, and CINAHL. I also used Walden's Thoreau Multi-Database Search. The key words or Boolean phrases used in searching these databases included *big five model*, *big five theory*, *big five framework*, *five-factor model*, *five factor model*, *big 5*, *big five*, *Herzberg and turnover and nurs* assistant*, *nurs* assistant and turnover*, *nurs* staff and quality outcomes*, *nurs* assistant and turnover and long term care*, *personality and nurse aide or nursing assistant or CNA and turnover or attrition or retention or burnout*, and *job satisfaction and nurs* assistant.* The search was limited to peer reviewed, full-text documents with publication dates between 2010 and 2019, apart from seminal works of theorists.

Search results specific to NAs were much less prevalent than those specific to RNs or other occupations. I found few studies of NAs, particularly in regard to personality studies based on the FFM (e.g., Kovach et al., 2010). The research on NA turnover and job satisfaction had as its focus extrinsic factors such as compensation and organizational culture (see Squires et al., 2015). Additionally, the available research on NAs concerned the impact of the high turnover rate of these employees on the residents and long-term care industry.

Theoretical Framework

For my theoretical framework, I used the Big Five personality theory (Costa & McCrae, 1992) blended with Herzberg's (1959) two-factor motivation hygiene theory.

Combining these two theories led to the best theoretical foundation and yielded a study that was well aligned and contributed new knowledge of the relationship between NA personality factors, job satisfaction, and NA turnover in long-term care facilities. In this section, I provide a detailed description of each of the theories with constructs and application from the existing literature.

Big Five Personality Framework

Personality is a common variable in psychology research. The Big Five personality framework, or five-factor model (FFM), is a well-known theory of personality that has shown consistency and adaptability over many decades (Costa & McCrae, 2017; Hahn, Gottschling, & Spinath, n.d.; Goldberg et al., 2006). The FFM includes five concepts of personality that encompass a wide range of human characteristics that influence behavior (Dziak, 2017), which are openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism. The theory posits that every person possesses these characteristics at some point on the continuum (Costa & McCrae, 2017). Each characteristic influences the behaviors of the person.

History of the Five-Factor Model

The FFM has a rich history of enthusiasts and indecisive critics (Goldberg, 1993). The FFM began to emerge as early as the 1884 when Sir Francis Galton explored adjectives that describe human personality, namely "Lexical Hypothesis" (Goldberg, 1993). With the development of more advanced and inclusive dictionaries, later scientists Allport and Odbert (1936) and Norman (1963) added to the list of descriptive adjectives (as cited in Goldberg, 1993). From that list of descriptors, psychologists such as

Thurstone (1934), Cattell (1943), Fiske (1949), Tupes and Christal (1958, 1961), Borgatta (1964a, 1964b), and Smith (1967, 1969) began to pioneer personality constructs that are related to the attributes that are known today as the five-factor model (as cited in Goldberg, 1993).

Initially the factors were labeled *Factor I* or *Surgency*, *Factor II* or *Agreeableness*, *Factor III* or *Conscientiousness*, *Factor IV* or *Emotional Stability*, and *Factor V* or *Culture* (Goldberg, 1993). Later, Factor I became known as *Extraversion*, Factor IV as *Emotional Stability* or *Neuroticism*, and Factor V as *Openness to Experience* (Goldberg, 1993). In most recent literature, the factor labels and roman numerals have been omitted, and each factor is only labeled with the construct name (i.e., *agreeableness*, *conscientiousness*, *extraversion*, *emotional stability or neuroticism*, and *openness to experience*). Under each construct are six facets that further describe the personality factor. Figure 1 displays each of the FFM constructs, as well as the 30 facets to which they are associated.

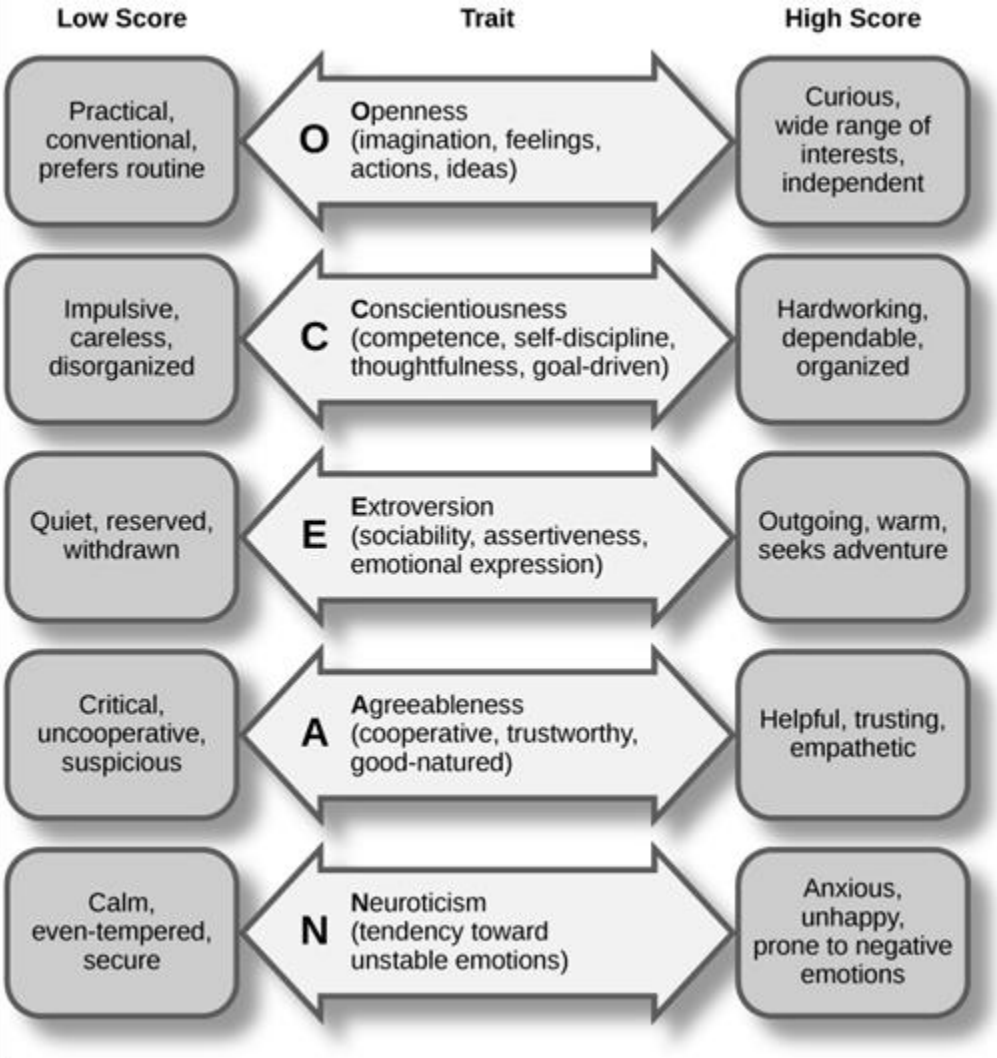

Figure 1. Five-factor model. From "Introduction to Psychology," by Openstax College, n.d. (https://courses.lumenlearning.com/wsu-sandbox/chapter/contemporary-psychology/). CC BY 4.0.

Norman and Digman were both critics of FFM who converted to proponents after their research attempts to replace the FFM with a more comprehensive framework failed (Goldberg, 1993). Dean Peabody was critical of the FFM; however, his work contributed to much of the acceptance and popularity of the FFM, despite his attempt to replace it

with a three-factor model (Goldberg, 1993). Lewis Goldberg embraced Peabody's three-factor model for its simplicity only to later concede to the more robust five-factor model (Goldberg, 1993). Costa and McCrae are psychologists who originally endorsed a three-factor model and named it Neuroticism, Extraversion, and Openness to Experience Personality Inventory (NEO-PI; Goldberg, 1993). However, they came to embrace the FFM and published numerous reports escalating the popularity of the model (Goldberg, 1993).

Five Factor as a Theory

The Five Factor Theory (FFT) is unique from most other personality theories as it posits that personality traits are biological in nature and are not influenced by environment or experiences (Costa & McCrae, 2017). The FFT is a hierarchy of personality traits that are inherently found in persons and remain relatively stable throughout adulthood (McCrae, Martin & Costa, 2005). The traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness are broad domains, or "basic tendencies" of the person with more specific facets or attributes that present in behaviors. The theory posits that these basic tendencies, or personality traits, affect the choices and responses of people (Costa & McCrae, 2017). Figure 2 represents the interaction of biological influences and extrinsic factors in personality development. Costa and McCrae asserted that "personality is a cause rather than an effect of life circumstances and therefore should be an independent variable rather than a dependent variable" (2017, p. 28). This assertion is an important component of my study because the literature base that is available on NA turnover reviews extrinsic factors such as salary,

interpersonal relationships, and policy as cause of job satisfaction, whereas, FFT posits the inherent personality traits determine how people respond to certain stimuli and therefore, how satisfied or dissatisfied they are.

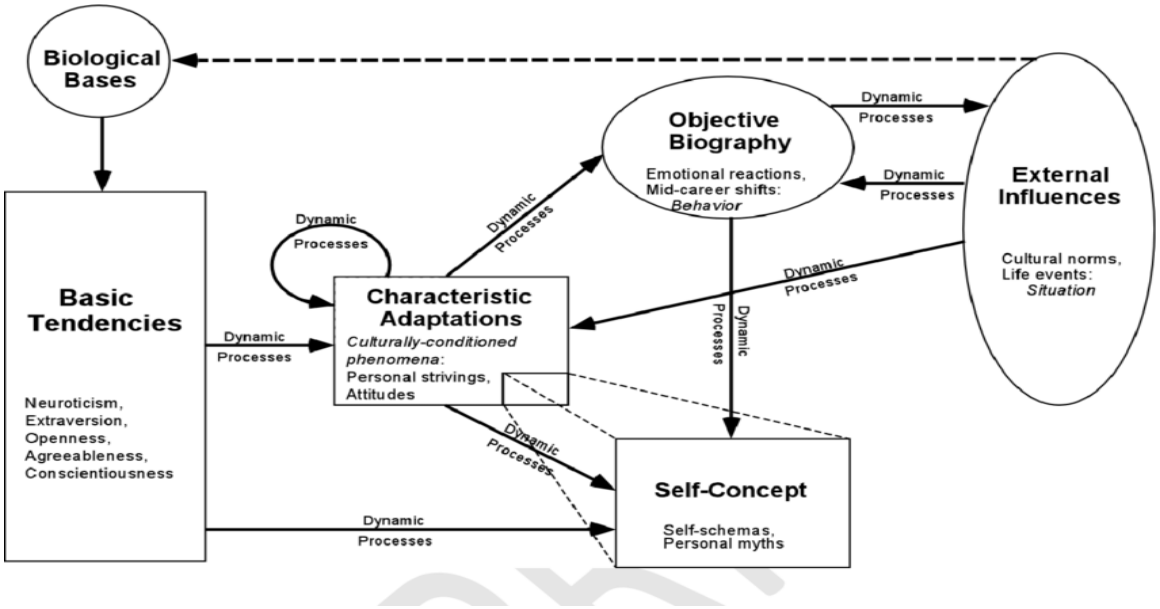

Figure 2. Five Factor Theory Image as adapted by Costa & McCrae (2017).

Agreeableness. Agreeableness (A) is the personality factor that is associated with human relationships and a person's motivation to maintain positive relationships with others. Facets associated with agreeableness are altruism, compliance, modesty, straightforwardness, tender-mindedness, and trust (Graziano & Tobin, 2017). A person with a high score in agreeableness is sympathetic, considerate, warm, compassionate, generous and likable (Graziano & Tobin, 2017).

Consciousness. Consciousness (C) includes a hierarchy of constructs from broad to narrow that describes a person's regulatory skills. A person with high scores on consciousness is responsible, self-disciplined, industrious, traditional, orderly, and punctual (Jackson & Roberts, 2017).

Extraversion. Extraversion (E) or surgency, is a personality trait has facets of talkative, energetic, assertive, adventurous, gregarious, friendliness, poise, leadership, provocativeness, sociability, warmth, activity seeking, and positive emotions (Wilt & Revelle, 2017). Extraversion and constitutes of extraversion are identified by many other personality scientists including Carl Jung (1921/1971), Wundt (1897), Heymans and Wiersma (1909), Van der Werff (1985) and Eysenck (1952).

Neuroticism. Neuroticism (N) is the only trait in the FFT that measures negative attributes. Other personality models reference neuroticism as negative emotionality, and negative affect, and emotional stability. A person with score high in N will exhibit more undesirable facets and a low score in N includes more attractive or acceptable descriptors. Facets included in N measurements are antagonism, aggression, anxiety, angry hostility, depression, self-consciousness, vulnerability, impulsiveness, alienation and stress reactivity (Tackett & Lahey, 2017). N has robust evidence of heritability and therefore associated with many mental and physical diseases, such as psychopathology and personality disorders, cardiac problems and immune dysfunction (Tackett & Lahey, 2017).

Openness. Openness (O) to experience is sometimes labeled open-mindedness, intellect, creativity, culture, and imagination in earlier FFM literature (Sutin, 2017). Although openness to experience was overlooked for many years as an important personality trait, current findings indicate that is extremely important in many aspects of daily functioning, including health, employment, relationships, and perspective (Sutin, 2017). Persons with high scores of openness to experience exhibit a wide variety of

hobbies or interests, they like to try new things or go new places, and they may be described as clever, intelligent or thoughtful (Sutin, 2017).

Herzberg's Two-Factor Theory

Frederick Herzberg describes a theory on work motivation that argues job satisfaction and job dissatisfaction are not opposites, but rather two distinct outcomes of intrinsic motivators and external hygiene factors (Herzberg, 1959). Herzberg posits that intrinsic motivators such as achievement, recognition, work itself, responsibility, promotion, and growth are the components that come from within and can lead to job satisfaction, whereas, hygiene factors such as company policy, supervision, relationship with boss, work conditions, salary, relationship with peers are extrinsic components of a job that in their absence can lead to job dissatisfaction (Herzberg, 1959).

Rationale for Combining the Five-Factor Model and Herzberg's Two-Factor Motivational Theory

The FFM is the most widely used personality model in career assessments and career related research and Herzberg's dual factor motivational theory is commonly used in studies evaluating employee turnover. Herzberg's Dual Factor theory addresses the intrinsic and extrinsic components of the person and work experience, while Costa and McCrae (2017) claim that the FFM personality factors will determine how a person responds to the work conditions. These complimentary psychology-based theoretical foundations provide alignment for this study. Figure 3 displays a pictorial representation of the alliance of these two theories.

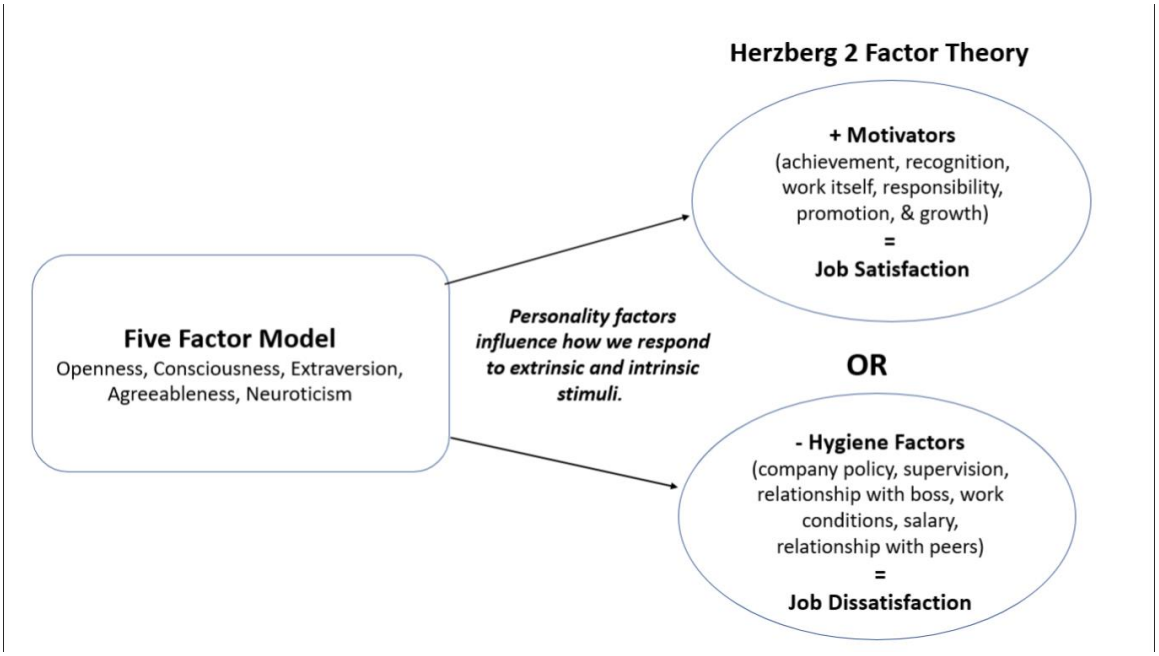

Figure 3. Explanation of how FFM and Herzberg two-factor theory interact with each other.

Previous studies combining the five-factor model and Herzberg's two-factor motivation theory. The marriage of personality and motivation is not a new concept. Furnham, Eracleous and Chamorro-Premuzic (2009) investigated the relationship between the Big Five personality factors and job satisfaction and motivation as defined by Herzberg's two-factor theory when studying 202 adults with varying occupations. The findings of this study indicated that up to 15% variance in motivation is related to demographics and personality factors (Furnham et al., 2009). While this is not a convincingly high variance result, it does provide some evidence that there is a relationship between motivation and personality, thereby justifying the use of the two theories together. Judge et al (2002) conducted a meta-analysis of the FFM with 334 correlations from 100 independent studies and concluded a multiple correlation of 0.41

with job satisfaction. Neuroticism showed strong negative relationship with job satisfaction (-0.29) and extraversion and consciousness showed a strong positive relationship, 0.25 and 0.26 respectively (Judge et al., 2002). Older studies by Furnham (1997), Gray (1975) and Gupta (1976) found personality influenced work motivation with a collective 20-30% variance.

Literature Review Related to Key Concepts

Job Satisfaction

Job satisfaction for this study was defined as the pleasurable feelings one associates with his or her employment (Locke, 1976). Most of the studies found on nursing assistants included job satisfaction as one of the key variables, rationalizing inclusion in this study. Squires et al (2015) conducted a systemic review of 42 studies that addressed individual and organizational contributing factors of job satisfaction of long-term care NAs. Individual factors include: age, ethnicity, gender, education/training, empowerment, years of experience/tenure, employment status, autonomy and stress levels (Squires et al., 2015). Organizational factors include: resources, compensation/benefits, job performance, coworker support, and workload (Squires et al., 2015). The conclusions from this systematic review is that empowerment and autonomy are important individual factors influencing job satisfaction, while age, ethnicity, gender, education, and years of experience were not important individual factors in relation to job satisfaction of NAs (Squires et al., 2015). Facility resources and workload were important organizational factors related to job satisfaction, while salary and benefits and job performance were found to not be important factors related to job satisfaction (Squires et

al., 2015). A nationwide survey of home-care nursing staff in the Netherlands found a positive correlation between autonomy and job satisfaction, concluding that self-directed care teams may help reduce turnover (Maurits et al., 2017). Rakovski and Price-Glynn (2010) conducted a large scale study (n=3,017) using secondary data from the Center of Disease Control and Prevention's National Nursing Assistant Study (NNAS) and found high job satisfaction for long-term care NAs when they are learning challenging new skills, and when they receive organizational support for their emotional labor. The same study found turnover was negatively correlated with job satisfaction (Rakovski & Price-Glynn, 2010). Only Kovach et al (2010) studied the connection between job satisfaction and personality in NAs.

Nursing Assistants in Long-Term-Care

Nursing assistants, sometimes called nurse aides, direct care workers, unlicensed assistive personnel, or Certified Nursing Assistants (CNAs) deliver most of the care to residents in the long-term care setting. CNAs working in long-term care are trained in accordance with the Omnibus Reconciliation Act of 1987, which requires a minimum of 75 hours of training, hands on skills validation and a written examination of competency (Turnham, n.d.). For the remainder of this study I used the term nursing assistant or NA when referencing this associate of the healthcare team. NAs work in different types of healthcare facilities, however, the work performed in long-term-care facilities is the most labor intensive and underappreciated. NAs in long-term care aid older adult or disabled residents with activities of daily living such as eating, dressing, bathing and assisting with elimination. Many challenges and hazards such as exposure to biological, chemical,

enviromechanical, physical, and psychosocial risks are regular part of the NAs job (Walton & Rogers, 2017). NAs are recognized as one of the most dangerous occupations in the United States with one of the highest rates of illness and injury (BLS, 2016).

One qualitative study worked to develop an understanding the meaning of the work from perspective 11 long-term care NAs working in long-term care for 1 year or more, however, the range for this sample was 2-40 years with a median of 15 years (Secrest et al., 2005). Despite describing some unpleasant circumstances of the work milieu, three positive themes emerged including *family, pride, and control*. The theme *family* is when NAs find a deep human connection with the residents they care for, at a similar intimacy level as their own family (Secrest et al., 2005). *Pride* is from the care they provide to the residents and the positive self-concept they associate with their work, which resembles caring labor from Rakovski and Price-Glynn (2009) and patient care from Brady (2016). *Control* is consistent with autonomy and empowerment, which has been found in other studies related to NA job satisfaction (Aloisio et al., 2018; Cherry et al., 2007; Maurits et al., 2017; Pfefferle & Weinberg, 2016; Rakovski & Price-Glynn, 2010; Squires et al., 2015). In general, there is a lacking of research specifically dedicated to NAs and only one study that explores the relationship between NAs, turnover, and job satisfaction (Kovach et al., 2010).

Personality

This section gives a review of the concept of personality in general; a literature review of the specific FFM and Big Five Personality theory were described in detail in the theoretical framework section of this paper. Personality has been a phenomenon in

social research since ancient times (Dumont, 2010). Merriam-Webster defines personality as "the complex of characteristics that distinguish an individual...", and "the totality that distinguishes an individual's behavioral or emotional characteristics" and "a set of distinctive traits and characteristics" (2019, para. 3). Research studies on nurses and personality date back to 1927, when Elwood investigated differences in personalities between pediatric and general nurses and other college educated women. Kennedy et al. (2014) performed a literature review of 13 articles to determine a relationship between personality with choice of nursing specialty and found evidence that personality characteristics are associated with nursing specialty, job satisfaction and work stress. Personality testing is a recruitment strategy in up to 20% of fortune 500 companies (Piotrowski & Armstrong, 2006). Despite the abundant amount of research on the construct of personality and personality of nurses, only one current research study examined personality of nursing assistants. Kovach et al (2010) found relationship between personality of NAs, job satisfaction and job performance. Kovach et al (2010) used the Hogan Personality Inventory (HPI) and the Hogan Developmental Survey (HDS), both of which have FFM as the theoretical framework. Personality traits on the HPI and HDS are comparable to the FFM, but have different labels. The HPI has seven scales, a) adjustment [similar to FFM neuroticism but scored positively], b) ambition [similar to FFM neuroticism but scored positively], c) intelligence [similar to FFM openness to experience], d) likeability [similar to FFM agreeableness], e) prudence [similar to FFM consciousness], f) school success [similar to FFM openness to experience], g) sociability [similar to FFM extraversion]. The HDS also has comparable

scales to the FFM, a) excitable (unpredictable, emotional [similar to FFM neuroticism]), b) skeptical (suspicious, vengeful [similar to FFM neuroticism]), c) cautious (resistant to change, reluctant to take chances [similar to FFM neuroticism]), d) reserved (insensitive, detached [similar to FFM neuroticism]), e) leisurely (passive aggressive [similar to FFM neuroticism]), f) bold (self-promoting, unwilling to learn from others [similar to FFM neuroticism]), g) mischievous (risk taking, nonconforming [similar to FFM neuroticism]), h) colorful (dramatic, attention seeking [similar to FFM extraversion]), i) imaginative (unconventional, creative [similar to FFM openness to experience]), j) diligent (precise, inflexible, critical [similar to FFM consciousness]), and k) dutiful (eager to please but unable to act independently [similar to FFM agreeable]). NAs with high scores in cautious and dutiful had a positive relationship with length of employment, while high scores in bold, colorful, imaginative, ambition, and school success had a negative relationship with length of employment. A statistically significant relationship between NAs with personality traits of adjustment, prudence, likeability, excitable, dutiful, and skeptical with job satisfaction.

Turnover

Merriam-Webster dictionary (2019) defines turnover as “the number of persons hired within a period to replace those leaving or dropped from a workforce.” Most sources define this period of time as one year from the date of hire (Meyer et al., 2014). Turnover creates several financial and social problems related to costs incurred for recruitment and training of replacement staff and lost productivity during the training period. This is especially concerning when the turnover is within the health care sector as

quality of care can suffer. Turnover of NA in long-term care is a global issue with recent studies from the Netherlands (Maurits, de Veer, Groenewegen, & Franke, 2017), Australia (Howe et al., 2012), France (Martin & Ramos-Gorand, 2017), England (Dean, 2017), Korea (Kim & Han, 2018), Canada (Aloisio et al., 2018) and the United States exploring the causation and potential strategies to mitigate this crisis. The literature base shows a wide range of turnover rates in the United States due to a wide variation in local and regional rates. Trinkoff et al. (2013) estimated turnover rates of nursing assistants as high as 65%. Studies have shown a strong correlation exists between high turnover rates and poor outcomes for residents who are consumers of nursing assistant care (Antwi & Bowblis, 2018; Lerner et al., 2014; Trinkoff et al., 2013). Poor outcomes include increased pain, urinary tract infections, decubitus ulcers, dementia related behaviors, and higher mortality rates (Antwi & Bowblis, 2018; Lerner et al., 2014). There is a negative association between high turnover of long-term care NAs and job satisfaction (Rakovski & Price-Glynn, 2010). Only Kovach et al (2010) studied the relationship between turnover and personality factors of NAs.

Summary and Conclusions

The goal of this literature review was to evaluate current studies that share similarities to my study and guided my research. In this section I have provided an overview of the literature available related to the five-factor model, Herzberg two-factor theory, and the variables of personality, job satisfaction, nursing assistants in long-term care, and turnover.

While much is known about personality factors in a variety of occupations, very little is known about personality factors of NAs, and even more specifically, very little information exists about the relationship of personality factors of NAs with length of employment and job satisfaction. NAs have limited research dedicated to their trade and most of the research addresses turnover with an exploration of themes related to job satisfaction. However, only one current study addresses personality factors as independent variables (Kovach et al., 2010). A gap exists in the literature on the intrinsic traits of the NA that may influence job satisfaction and length of employment offering key stakeholders a greater insight into turnover of NAs. In Chapter 3, I provided a detailed description of the research methodology used to address the correlational research questions.

Chapter 3: Research Method

Introduction

The strain of NA turnover rates in the long-term care sector of the United States is adversely affecting the quality of care given to the vulnerable population of elder residents who live in long-term care facilities. The purpose of this cross-sectional correlation study was to examine the relationship between the five-factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and negative emotionality with length of employment and job satisfaction of NAs working in long-term care. In Chapter 3, I discuss the research method I used for my investigation. Topics include (a) research design and rationale (b) target population, (c) sampling procedures, (d) recruitment and data collection strategies, and (f) instrumentation. Additionally, I address potential threats to the validity of the study and ethical concerns to the participants.

Research Design and Rationale

I conducted a descriptive, nonexperimental quantitative study using a self-administered web-based questionnaire. The predictor variables were the five personality factors from FFM theory: (a) openness, (b) consciousness, (c) extraversion, (d) agreeableness, (e) negative emotionality (Costa & McCrae, 2017). The outcome variable in RQ1 was length of employment at the current place of employment measured in years and months. The outcome variable in RQ2 was job satisfaction measured by the mean job satisfaction using the NH-CNA-JSQ (Castle, 2010). The RQs were

RQ1: What is the relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for nursing assistants who work in long-term care settings?

RQ2: What is the relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with job satisfaction for nursing assistants who work in long-term care settings?

I investigated the relationship between the personality factors of the long-term care NA with the length of employment and job satisfaction. Survey research was appropriate for this study because it is used to describe a relationship between two or more variables (Burkholder, Cox, & Crawford, 2016).

Potential time and resource constraints are inherent in any research project. Obtaining a sufficient sample size of NAs could have been a challenge because they have high turnover rates and limited involvement or availability of professional organizations that can be used for recruitment. Specific sampling procedures are outlined in more detail later in this chapter. Allowing sufficient time to recruit an appropriate sample population to yield significant results was a concern. My goal was to achieve an appropriate sample within 4 weeks. The time needed for each participant to complete the web-based questionnaire was approximately 15 to 20 minutes, which is an acceptable amount of time and one that should not have deterred anyone from participating (see Niessen, Meijer, & Tendeiro, 2016). Web-based surveys are useful in research because they offer an inexpensive and expedient strategy to reach potential recruits in a variety of platforms,

including social media, email, and single-use URLs (Babbie, 2017). Web-based surveys are also useful because data can be easily exported to SPSS or other statistical analysis tools without re-entry of data.

The design of this study was consistent with other studies featuring personality assessments and analysis using descriptive correlations with dependent variables (Kim, Di Domenico, & Connelly, 2019). In their meta-analysis comparing self-report personality inventories with informant-reported inventories, Kim et al. (2019) observed no significant difference in means. Exploring whether a relationship between personality factors and length of employment and job satisfaction for long-term care NAs exists will enhance the understanding of turnover in this population.

Methodology

The purpose of this cross-sectional correlation study was to examine the relationship between the five-factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment and job satisfaction of NAs working in long-term care. Clear and specific delineation of the research procedures are vital for transparency and replicability of the study. In definitive terms, I describe the methods by which the study was conducted including the target population, sampling procedures, recruitment strategies, data collection procedures, instrumentation, and operationalization of constructs.

Population

The target population was NAs currently working in long-term-care. The participants were at least 18 years old and fluent in the English language. Even though

training requirements and scope of practice can vary from state to state, there were no exclusions for regionality. The U.S. Department of Labor Statistics (2019) estimates that there are 594,460 NAs working in long-term-care facilities in the United States as of May 2018. I was able to reach approximately 200 NAs via printed flyer and an unknown number via social media. I was able to estimate the target population by reviewing total staffing of NAs in the four facilities that participated.

NAs working in long-term care provide direct care to residents who need assistance with ADLs such as eating, dressing, transferring, and eliminating. Because long-term care facilities are residential living facilities, NAs can work the day shift, afternoon shift, or night shift. The day shift typically starts around 6 am and ends at 2:30 pm, the afternoon shift is typically 2:00 pm until 10:30 pm, and the night shift is 10:00 pm until 6:30 am. According to the U.S. Department of Labor Statistics (2019), hourly wages for this occupation range from $10.24 to $19.02, with a median wage of $13.73. This is $16,557 below the average income according to the United States Census data from 2018. Although compensation was not a construct in this study, wages are a common factor in many other studies about NA job satisfaction (Aloisio et al., 2018; Bennett et al., 2015; Brady, 2016; Cherry, Ashcraft & Owen, 2007; Kalisch & Lee, 2012; Meyer, Raffle, & Ware, 2012; Pfefferle & Weinberg, 2016; Rakovski & Price-Glynn, 2010; Secrest, Iorio, & Martz, 2004), and providing a frame of reference is appropriate when describing the sample population.

Procedures for Recruitment, Participation, and Data Collection

Recruitment. Initially, I planned to recruit NA participants by attending staff meetings of nursing homes in my area to present the study purpose and invite staff to take my survey; however, there was limited availability of meetings during my data collection phase. As a result, I amended my recruitment strategy to advertising the study with printed flyers. With permission from the facility administrator at each site, I posted a flyer in a common area such as in the employee break room or near the staff schedule. I also asked the director of nursing, or other designee, to send an email invitation to all NAs employed by their organization with a link to the web-based survey. Participants were encouraged take the survey on their own device such as a smart phone, tablet, or laptop. To increase generalizability, I also posted the survey link on a designated social media page so that NAs in any region of the country could participate.

The welcome page of the survey contained informed consent information. On this page, the recruit could see the purpose of the study; the risks and benefits of participating in the study; the expected time for completion; how to exit the survey, including the participant's right to not answer one or more questions in the survey; and the techniques used to maintain anonymity, confidentiality, and security of responses provided in the survey.

Sampling and sampling procedures. The sampling technique used in this study was a nonprobability convenience sample. Nonprobability sampling means that not all members of a population have an equal chance at being selected to participate in the study while convenience sampling means that the members who are most accessible to

the researcher are used in the study (Babbie, 2017). Not all NAs are on social media, and only four facilities posted recruiting flyers to advertise the study; therefore, not all NAs had equal probability of participating in the research. I used an online tool to calculate estimate the necessary sample size. G*Power Statistical Power Analysis is a program used to calculate effect size for a variety of statistical tests (Buchner, Faul, & Erdfelder, n.d). A G*Power 3.1.9.4 calculation for linear multiple regression statistical analysis with one continuous dependent variable and five continuous independent variables at a medium effect size (.15), alpha of 0.05, and a power of 0.80 indicated a minimum sample size of 55. Green (1991) provides a guideline for sample size selection using the following equation: $N = 104 + k$, where k = the number of independent variables. For my study, the calculation was $N = 104 + 5$, which equals 109. To obtain the most robust results, I set my sample size goal for 109 using Green's formula. I used the G*Power sample size of 55 as a minimum sample size.

Data collection. I collected data via a web-based questionnaire through SoGoSurvey survey platform. SoGoSurvey offers a paid subscription that provides password protection secure data, user friendly and aesthetically pleasing survey interface regardless of the device the respondent used to complete the survey. Data collection lasted four weeks. Data was exported from SoGoSurvey to SPSS version 25 for analysis. Participants were informed of their right to exit the survey at any time without penalty or consequence. Any incomplete surveys were excluded from data analysis.

Instrumentation and Operationalization of Constructs

Job satisfaction. Job satisfaction is identified as an important factor in turnover for NAs (Brady, 2016; Bryant, 2017; Chou, 2012; Maurits et al., 2017; Squires et al., 2015). Job satisfaction is defined as the "feeling of pleasure and achievement that you experience in your job when you know that your work is worth doing, or the degree to which your work gives you this feeling" (Cambridge Dictionary, 2019, para.1). Squires et al. (2015) performed a meta-analysis of 42 research studies and found that factors that influence job satisfaction in registered nurses and licensed vocational nurses differ from job satisfaction in unlicensed personnel such as NAs. Castle (2010) developed an instrument for measuring job satisfaction in NAs in long-term care called the NH-CNA-JSQ. This instrument consists of 19 questions that are specifically tailored to for NAs working in long-term care. The questions are formatted in a visual analogue style on a 10-point scale ranging from *very poor* [1] to *excellent* [10]. Appendix A includes the questions with visual analogue scale that was used in this study. Castle (2010) used a rigorous process of obtaining NA input through qualitative interviews to increase face validity, reviewing the literature of job satisfaction instruments, and consulting with experts in the field of long-term care to increase content validity. The 19 questions fall into 7 subcategories, coworkers, work demand, work content, workload, training, rewards, and quality of care (Castle, 2010). Each subscale was examined to determine item-scale internal consistency, and criterion validity using Chou, Boldly and Lee (2002) Measure of Job Satisfaction [MJS] instrument. Correlation within each subscale was determined with Cronbach's alpha and the results are as follows, coworkers (.77), work

demand (.72), work content (.74), workload (.73), training (.75), rewards (.83), and quality of care (.81) (Castle, 2010). A mean score for each subscale (coworkers, work demand, work content, workload, training, rewards, and quality of care) was used to determine the level of satisfaction when analyzing the research question for this study. Permission to use the NH-CNA-JSQ was granted by the publishing company and a copy of the release is included in Appendix B.

Length of employment. Length of employment is defined as the amount of time the NA has been employed by the current employer in years and months (Bureau of Labor Statistics, 2018). The value was converted to a decimal with the whole number representing the years and the decimal representing the months rounded to the nearest one hundredth. For example, if a respondent worked for the current employer for 1 year and 2 months the value would be 1.17, and if a respondent had been employed for only 4 months at the current employer the length of employment value would be 0.33. Length of employment was collected in the demographic section of the survey. Appendix C contains a list of the 10 demographic questions that were asked of participants on the web-based questionnaire. Demographic information that was collected includes age, gender, race, region of U.S. residence, household income, total number of jobs as a NA, number of years and months with current employer, number of years and months total as a NA and likelihood of still working current employer 12 months from now.

Personality. The Five Factor Model has been used extensively for researching personality factors. Numerous inventories are available to collect this information including Costa and McCrae's most recent instrument, NEO-FFI-R and the shortened

version NEO-FFI-3 (McCrae, Costa, & Martin, 2005). Internal consistency, test-retest reliability, and validity of NEO-FFI-3 have been demonstrated in numerous reports (Allik, Realo, Mõttus, & Kuppens, 2010; Aluja, Garcia, Rossier, & Garcia, 2005; Costa & McCrae, 2017). Permission to use these instruments has been commercialized and could cost over $200 for only 25 licenses that must be completed with paper and pencil surveys. An alternative solution to this cost and inconvenience is to use the International Personality Item Pool (IPIP). IPIP is an open resource website with a vast variety of personality scales free of any copyright or privacy restrictions and free of charge. Appendix D includes a copy of the copyright permissions for IPIP scales, including the scales used in this study. Alignment of IPIP personality items with NEO-FFI-R is tested and validated by Goldberg and Saucier (2016) using the Eugene-Springfield Community sample and the results are included in Appendix E. Cronbach alpha reliability values for the constructs of the 50-item IPIP representation of the Costa and McCrae (1992) NEO-FFI-R are .82 for neuroticism, .77 for extraversion, .79 for openness, .70 for agreeableness, .79 for consciousness (Goldberg & Saucier, 2016). In addition to personal advantages to the scientist, open domain scales contribute the development and revision of personality assessments through collaboration of multiple contributors of the IPIP (Goldberg et al., 2006). My study utilized items collected from IPIP website to represent the 50-item IPIP representation of the NEO-FFI-R from Costa and McCrae (1992) and scored in a way consistent with recommendations from the collaborators on the IPIP website. Scoring of the IPIP version of the NEO-FFI-R is explained in the next section.

Five factors. Each construct of the FFM is scored individually by adding all the items related to that construct in a positive or negative score. Appendix F includes each statement and the associated score for each construct. The five factors of the FFM are neuroticism, extraversion, openness to experience, agreeableness, and consciousness. The statements were presented in the study as a Likert-type scale with five choices ranging from "very much like me," "a little like me," "neither like me or unlike me," "not really like me," and "not like me at all." Positively scored items had five points added to the score for a response of "very much like me", four points added to the score for a response of "a little like me", three points added to the score for a response of "neither like me or unlike me", two points for a response of "not really like me" and one point for a response of "not like me at all". Negatively scored items used reverse coding so a response of "very much like me" had one point added to the construct score, "a little like me" had two points added to the construct score, "neither like me or unlike me" had three points added to the construct score, "not really like me" had four points added to the construct score, and "not like me at all" had five points added to the construct score.

Agreeableness. A person with a high score in agreeableness might be described as compassionate, easy to like, and compliant, while a low score might indicate aggression, rude, or argumentative. Table 1 shows positive and negative scored items for agreeableness.

Table 1

Agreeable Items and Scoring

Positive scored items	Negative scored items

Have a good word for everyone.	Have a sharp tongue.
Believe that others have good intentions.	Cut others to pieces.
Respect others.	Suspect hidden motives in others.
Accept people as they are.	Get back at others.
Make people feel at ease.	Insult people.

Conscientiousness. A person with a high score in consciousness might be described as punctual, reliable, or motivated, while a low score might be a person who is messy, scatterbrained or is a procrastinator. Table 5 displays the positive and negatively scored items for conscientiousness.

Table 2

Conscientiousness Items and Scoring

Positive scored items	Negative scored items
Am always prepared.	Waste my time.
Pay attention to details.	Find it difficult to get down to work.
Get my chores done right away.	Do just enough work to get by.
Carry out my plans.	Don’t see things through
Make plans and stick to them.	Shirk my duties.

Extraversion. A person with high score in extraversion may be described as outgoing, talkative or the life of the party, while a person with a low score in extraversion

may be described as shy, withdrawn, or quiet. Table 2 displays the positive and negative scored items for extraversion.

Table 3

Extraversion Items and Scoring

Positive scored item	Negative scored item
Feel comfortable around people.	Have little to say.
Makes friends easily.	Keep in the background.
Am skilled in handling social situations.	Would describe my experiences as somewhat dull.
Am the life of the party.	Don't like to draw attention to myself.
Know how to captivate people.	Don't talk a lot.

Neuroticism. Neuroticism is the only construct that measures negative attributes and a person who displays a high score in neuroticism might be described as depressed, anxious, and pessimistic, while a person with a low score may be described as calm, easy going, or optimistic. Table 4 includes the items and scoring method for neuroticism.

Table 4

Neuroticism Items and Scoring

Positive Scored Item	Negative Scored Item
Often feel blue.	Rarely feel irritated.
Dislike myself.	Seldom feel blue.
Am often down in the dumps.	Feel comfortable with myself.
Have frequent mood swings.	Not easily bothered by things.

Panic easily.	Am very pleased with myself.

Openness to experience. A person scoring high in openness to experience might be described as adventurous, creative or intellectual, while a person with low score might be described as having concrete thinking or set in their ways. Table 3 shows positive and negatively scored items for openness to experience.

Table 5

Openness to Experience Items and Scoring

Positive scored items	Negative scored items
Believe in the importance of art.	Am not interested in abstract ideas.
Have a vivid imagination.	Do not like art.
Tend to vote for liberal political candidates.	Avoid philosophical discussions.
Carry the conversation to a higher level.	Do not enjoy going to art museums.
Enjoy hearing new ideas.	Tend to vote for conservative political candidates.

Data Analysis Plan

Data collected from the web-based questionnaire was exported from SoGoSurvey into SPSS version 25 for analysis. Multiple linear regression is the statistical test used to determine a relationship between a two or more continuous independent variables and one continuous dependent variable (Burkholder et al., 2016). Prior to data analysis, I assessed the assumptions of normality, homogeneity, and the absence of multicollinearity as appropriate for multiple regression tests. A separate data analysis was conducted for

each of the research questions. Prior to data analysis, data was cleaned of any outliers or inputs that look like the respondent entered nonsensical answers. For example, each construct of the FFM has both positive and negatively scored phrases, if a participant gave the same answer for opposite phrases it is possible that the participant did not read the survey carefully or misunderstood, and those results may skew my data. I reviewed the data closely and cleaned it to maintain the integrity of my results.

RQ1. What is the relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for nursing assistants who work in long-term care settings? In this research question, length of employment (LE) is the dependent variable and openness to experience (O), conscientiousness (C), agreeableness (A), extraversion (E), and neuroticism (N) are each independent variable. The full model for this question is $LE=\beta_0+\beta_1(O)+\beta_2(C)+\beta_3(A)+\beta_4(E)+ \beta_5(N) +\varepsilon$.

$H_0 1$: $\beta_1(O)$, $\beta_2(C)$, $\beta_3(A)$, $\beta_4(E)$, $\beta_5(N)$,$LE =0$ There is no significant relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for nursing assistants who work in long-term care settings?

$H_a 1$: $\beta_1(O)$, $\beta_2(C)$, $\beta_3(A)$, $\beta_4(E)$, $\beta_5(N)$,$LE \neq 0$ There is a significant relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for care nursing assistants who work in long-term care settings?

RQ2. What is the relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for nursing assistants who work in long-term care settings? In this research question, job satisfaction (JS) is the dependent variable and openness to experience (O), conscientiousness (C), agreeableness (A), extraversion (E), and neuroticism (N) are each independent variable. The full model for this question is $JS=\beta_0+\beta_1(O)+\beta_2(C)+\beta_3(A)+\beta_4(E)+\beta_5(N)+\varepsilon$.

$H_0$2: $\beta_1(O)$, $\beta_2(C)$, $\beta_3(A)$, $\beta_4(E)$, $\beta_5(N)$,$JS = 0$ There is no significant relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with job satisfaction for nursing assistants who work in long-term care settings.

H_a2: $\beta_1(O)$, $\beta_2(C)$, $\beta_3(A)$, $\beta_4(E)$, $\beta_5(N)$,$JS \neq 0$ There is a significant relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism and job satisfaction for nursing assistants who work in long-term care settings.

Threats to Validity

This study is non-experimental and is cross-sectional, meaning it was only one point in time, so many threats such as, selection maturation interaction, testing reactivity, interaction effects of selection and experimental variables, mortality, statistical regression, multiple treatment interference, and selection-maturation interaction are not a concern. The survey process included self-reporting of personal attributes. A threat to validity is that participants may not have answered the survey questions honestly or

answered the questions in a way they believe is most appealing. Testing reactivity is the affect that the researcher, instrument item, or testing environment may have on the participant resulting in potential influence of how the participant answered survey items (Lavrakas, 2008). Testing reactivity was acknowledged in this study as social desirability biases. Social desirability bias is an internal threat that could impact the truthfulness of the respondents for fear of looking bad to the researcher or to their employer (Babbie, 2017). Especially, when measuring neuroticism which has a negative connotation and scored negatively a respondent may have responded how they want to be rather than actually how they are. I attempted to mitigate this risk by providing a statement on the introduction page reminding participants of anonymity, and asking them to respond as they are now, not as they wish to be. Careless responding to survey items just to complete the survey was also a potential threat to the validity of my data, however, this risk was minimized by the survey only having 79 items (Niessen, Meijer, & Tendeiro, 2016).

Ethical Procedures

Ethical standards were upheld throughout the study beginning with careful consideration of design and procedures, ensuring committee approval, and Walden University Institutional Review Board (IRB) approval number 12-05-19-0100559 and expires on December 4, 2020. Potential physical harm to participants was minimal to none. I acknowledged that potential privacy and professional risk were present if the respondent completed the survey at work and left the questionnaire available and unattended a coworker or supervisor could see their answers. I encouraged participants to take the survey at home on a personal device. I notified potential recruits that

participation was voluntary, and they could discontinue the survey at any time. A consent form was included in the opening page of the survey which stated: (a) purpose of my research study, (b) my role as the researcher, (c) the expected time commitment to participate, (d) a description of the procedures for the recruit, (e) a statement that participation is voluntary, (f) a statement that discontinuation of the survey will have no penalty, (g) a description of any potential discomforts, (h) information about offered compensation, (i) how confidentiality and anonymity will be maintained, and (j) whom to contact with questions about the research or research participants rights.

Potential participants were recruited through email invitations, Facebook, and printed flyers at the long-term care facilities they are employed at. Approval from each facility administrator was obtained prior to email invitations, or distribution of flyers. Email invitations were sent by the director of nursing or other designee from the facility therefore email addresses were not accessible to the researcher until the participants chooses to share when claiming the thank you gift. Participation was voluntary and participants could discontinue the web-based survey at any time without penalty by closing the survey browser. No vulnerable populations were targeted in the recruitment of this study. Personal or protected health information were not collected. No potential conflict of interest existed and there were no ethical concerns related the data collection.

All data collected will be anonymous and confidential through a secure online survey system, SoGoSurvey. Survey data and survey administration information was stored under a secure password encrypted account that is only accessible to me. SoGoSurvey is a McAfee SECURE protected website with 256-bit encryption Secure

Socket Protocol data security (SoGoSurvey, 2019). At the conclusion of data collection, the survey was closed and all data was exported in to SPSS version 25 for analysis. The SPSS file is stored on a secure password protected external hard drive. Data is only accessible to me and my dissertation committee members upon request. The data file will be securely stored for five years from the date of completion of my doctoral degree at which time the data will be electronically destroyed from the password protected external drive.

Summary

In this chapter I have reviewed the specific details of the study procedures in a way that offers replication by other scientists. The methodology of this study includes a cross-sectional non-experimental quantitative design. The participants were NAs who are 18 years or older and currently employed by a long-term care facility in the United States. Each variable was defined and the instrumentation was described. Threats to validity and ethical considerations were reviewed. I will present my findings in Chapter 4.

Chapter 4: Results

Introduction

The purpose of this cross-sectional correlation study was to examine the relationship between the five-factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment and job satisfaction in NAs working in long-term care. The RQs and hypotheses for this research study were as follows:

RQ1: What is the relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for NAs who work in long-term care settings?

$H_0$1: There is no significant relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for NAs who work in long-term care settings.

H_a1: There is a significant relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for NAs who work in long-term care settings.

RQ2: What is the relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with job satisfaction for NAs who work in long-term care settings?

$H_0$2: There is no significant relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with job satisfaction for NAs who work in long-term care settings.

H_a2: There is a significant relationship between the five-factor personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism and job satisfaction for NAs who work in long-term care settings.

In this chapter, I will review the data collection procedures. I will also provide specific descriptive statistics of the sample and present the results of data analysis. Tables and figures will be used to illustrate the data results as they relate to the research questions and hypotheses.

Data Collection

Time Frame

I collected data over a 4-week period. The web-based survey link was posted on Facebook, a social media platform, and advertised in local nursing homes via printed flyer. I added a reminder post on Facebook during the second, third and final week of data collection. Participation sharply increased from 1 to 24 hours after each reminder, and then waned. Snowball sampling was used via social media, as well as a message on the thank-you page of the survey asking participants to share the survey link with others who might qualify and be interested in participating.

Response Rates

I used the online tool G*Power to calculate the necessary number of NAs who were needed for this study. G*Power Statistical Power Analysis is a program that is used to calculate effect size in a variety of statistical tests (Buchner et al., n.d). A G*Power 3.1.9.4 calculation for linear multiple regression statistical analysis with one continuous dependent variable and five continuous independent variables at a medium effect size

(.15), alpha of 0.05, and a power of 0.80 indicated a minimum sample size of 55. Using Green's (1991) recommendation equation for calculating sample size selection, $N = 104 + k$, I calculated a necessary sample size of 109 ($N = 104 + 5$, totaling 109). I entered the data collection phase with a minimum sample goal of 55 based on the G*Power calculation and a maximum one of 109 based on Green's recommendations. I was able to collect 137 usable cases, which exceeded the minimum number needed for this statistical test. I recalculated the G*Power Analysis with my sample size and determined the actual power of 0.95 while maintaining a medium effect size (.15) and alpha of 0.05. This means my larger sample size offered more sensitivity of the test and decreased the probability of making a Type II error (Burkholder et al., 2016).

In total, I received 232 web-based surveys which resulted in 137 cases for analysis. Eighty-nine participants answered *no* to the initial screening question of "Are you currently working as a nursing assistant in a long-term care center with residents?" making them ineligible to participate in the study. Six respondents did not consent to participation in the survey, so all data related to those cases were cleared.

Discrepancies and Fidelities

I did make some changes to my original data collection plan in accordance with IRB requests, as well as for my convenience. Initially, I planned to offer a $5.00 gift card as a token of appreciation to each respondent of the survey. However, the ethics committee reviewing my IRB application had concerns regarding coercion of potential recruits so I decided to omit the incentive gift card. I also did not do any face-to-face recruiting at staff meetings within the facilities because there was limited availability of

meetings to attend during my data collection phase. All of the recruiting occurred via Facebook and by email or printed flyers. Four nursing home facilities agreed to post my printed flyer and advertise my web-based study to their NA staff. I relied more heavily on snowball sampling via social media, which resulted in a larger sample size. I had not originally planned to use my personal Facebook page to advertise the study, but, after advice from my chairperson, I decided to use this strategy and had several acquaintances share the information on their page increasing my reach exponentially.

Descriptive and Demographic Characteristics of the Sample

The U.S. Department of Labor Statistics (2019) estimates that there are 594,460 NAs working in long-term care facilities in the United States, as of May 2018. An estimation of total staffing at the four long-term care centers that advertised my study via printed flyer is approximately 200. I am unable to ascertain the number of NAs that were reached via Facebook posts. Despite having a larger than needed sample size based on G*Power calculations, the sample size of 137 is only 0.02% of the total population of NAs in the United States. Table 6 displays the personal characteristics of the sample collected in the demographic section of the survey.

Table 6

Personal Characteristics of Sample

Characteristic		*f*	Percent of Sample (N=137)
Gender			
	Male	1	0.73%
	Female	136	99.72%
Age Range			
	18-25 years	30	21.90%
	26-35 years	44	32.12%

	36-45 years	30	21.90%
	46-60 years	32	23.36%
	60 + years	1	0.73%
Region of U.S.			
	Midwest	94	68.61%
	Northeast	9	6.57%
	Northwest	0	0%
	Southeast	25	18.25%
	Southwest	6	4.38%
	West	3	2.19%
Race			
	American Indian/ Alaskan Native	2	1.46%
	Asian	1	0.73%
	Black/African American	7	5.11%
	Hispanic/Latino	3	2.19%
	Multiracial	4	2.92%
	White	120	87.59%
Annual Household Income			
	< $25,000	52	38.24%
	$25,000-$40,000	52	38.24%
	$40,000-$75,000	22	16.18%
	>$75,000	10	7.35%

Representativeness

Sample characteristics of this study are similar to what is seen in the U.S. population of NAs, with an exception of a large percentage of the sample coming from the Midwest (68.61%), potentially accounting for a higher than expected percentage of white participants (87.59%). Nationally, NAs are comprised of 91% female, with a median age of 36 (PHI National, 2019). Seventeen percent of NA live at or below the federal poverty line, compared to only 9% of the overall U.S. workers (PHI National, 2019). Ethnicity across the U.S. NA population is: White 47%, Black/African American 35%, Hispanic/Latino 10%, Other 8% (PHI National, 2019).

Results

Descriptive Statistics

I measured the relationship between the five factor personality factors and length of employment and job satisfaction using a web-based survey platform called SoGoSurvey. SoGoSurvey is a paid subscription online survey service that offers secure, anonymous data collection that is compatible with desktop personal computers, laptop computers, tablets or smartphones. Demographic and instrument questions were all combined into one web-based survey. Table 7 shows descriptive statistics for the variables and instruments used for this study.

Table 7

Descriptive Statistics for Instruments and Variables

Variable	Scale	N	Items	M	SD	α
Openness to Experience	IPIP representation of NEO-FFI-R	137	10	34.95	5.91	.720
Conscientiousness	IPIP representation of NEO-FFI-R	137	10	42.05	5.47	.847
Extraversion	IPIP representation of NEO-FFI-R	137	10	33.55	7.44	.858
Agreeableness	IPIP representation of NEO-FFI-R	137	10	40.77	4.73	.731
Neuroticism	IPIP representation of NEO-FFI-R	137	10	28.47	7.10	.783
Length of Employment	Decimal representing months/years	137	1	4.67	6.09	NA
Job Satisfaction	NH-CNA-JSQ	137	19	6.66	1.63	.859

Personality. The predictor variables are the five personality factors from FFM theory: (a) openness, (b) consciousness, (c) extraversion, (d) agreeableness, and (e) neuroticism. These predictor variables were measured using scales from the IPIP website to represent the 50-item IPIP representation of the NEO-FFI-R from Costa and McCrae (2002). I used reverse scoring to indicate positive and negative scores for this instrument. IPIP website reports the Cronbach's alpha reliability values for the individual constructs of the 50-item IPIP representation of the Costa and McCrae (1992) NEO-FFI-R are .82 for neuroticism, .77 for extraversion, .79 for openness, .70 for agreeableness, .79 for consciousness (Goldberg & Saucier, 2016). The Cronbach's alpha for each of the personality factors estimated in this study are listed in Table 2. Cronbach alpha results of .70 or greater are considered acceptable (Laerd Statistics, 2015). Reliability scores for each of the instruments used in my study were acceptable.

Length of employment. The outcome variable in research question 1 is length of employment at the current place of employment measured in years and months. In order to collect the data needed to compute length of employment variable, the demographic section of the survey included the question, "How long have you worked for your current employer?" with an open response for "years" and "months". In SPSS a new variable was computed by combining respondent numerical answers of years and months into a decimal number. Reliability scoring was not assessed for this variable as no specific instrument was used.

Job satisfaction. The outcome variable in research question 2 is job satisfaction measured by the mean job satisfaction using the NH-CNA-JSQ (Castle, 2010). NH-CNA-

JSQ is comprised of 7 subscales (coworkers, work demands, work content, work load, training, rewards, quality care). Each subscale was reviewed and maintained a similar Cronbach alpha score as the original authors of the instrument. The overall mean of job satisfaction was calculated by combining all subscales into a total job satisfaction mean to be analyzed for model fit. Table 8 displays the Cronbach's alpha for each subscale and for the instrument as a whole calculated in this model compared to that calculated by the original authors of the instrument.

Table 8

Reliability Estimates for Job Satisfaction Compared to Original Author

Scale	Number of Items	Cronbach α for this study	Cronbach α from original author
Coworkers	3	.891	.77
Work Demands	3	.703	.72
Work Content	3	.843	.74
Workload	3	.792	.73
Training	3	.813	.75
Rewards	2	.632	.83
Quality Care	2	.759	.81
Overall Job Satisfaction	7	.859	Not reported

Note: Cronbach alpha scores for NH-CNA-JSQ instrument as reported by Castle (2010).

Statistical Analyses

Data cleaning and preparation. A total of 232 surveys were taken during the 4-week data collection period. When the survey window closed, I reviewed the raw data to remove any outliers or cases with missing data. Three screening questions were included in the opening of the survey to determine eligibility. Conditions were set in the survey design process that automatically sent ineligible respondents to a thank you page. Eighty-nine cases were cleared due to ineligibility based on screening questions. An additional 3

cases were cleared because the participants answered “No, I do not wish to participate” and 3 cases were cleared because the consent question was left blank and therefore consent could not be confirmed. The question regarding length of employment and length of time the respondent had been a NA had free response for both “years” and “months.” Any words or symbols besides numbers were deleted out of the raw data for these variables. Some respondents only included months or years, leaving the corresponding free response blank. I made the assumption that if years was left blank and months and was filled in with a numerical answer the years equaled zero. Conversely, if the years was filled in and the months were left blank, I made the assumption that the respondent did not know the exact months or was estimating so the missing value was replaced with a zero. I assured that all variable types were converted from “string” to “numeric” and Likert-type questions and 1 through 10 rating scale questions were coded as interval measurement.

In preparation for statistical analysis, I had to combine some of the variables in the raw data to create variables relevant to my 2 research questions. First, I computed length of employment by adding the variables “current years” and “current months” created from the question, “How long have you worked for your current employer?”, then divided that by 12 to obtain one value for length of employment in decimal form. This new variable was a scale measurement. Next, I computed the mean for all subscales (coworkers, work demands, work content, workload, training, rewards, and quality of work) of the NH-CNA-JSQ to create the variable “JobSatisfaction_MEAN”, was also in scale measurement. Thirdly, I computed a sum of the 10 constructs for each of the FFM

personality factors (openness to experience, consciousness, extraversion, agreeableness, neuroticism) creating 5 new scale variables.

Research Question 1: What is the relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment for nursing assistants who work in long-term care settings?

Standard multiple linear regression, $\alpha = .05$ (two-tailed) was used to test for correlation between the predictor variables openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism and the outcome criteria length of employment. All of these variables are measured at the continuous level which satisfies the first two assumptions of multiple linear regression. The third assumption is independence of observations, or sometimes called, independence of intervals, which was tested and satisfied with Durbin-Watson statistic of 2.027. I assessed the data for multicollinearity by consulting the "Tolerance" and "VIF" values in the Coefficients table. A tolerance value of less than 0.1 or a VIF of greater than 10 could indicate a collinearity problem (Hair et al., 2014). Tolerance values in this model ranged from .696-.975 and VIF values ranged from 1.026-1.437, therefore the assumption of multicollinearity was satisfied. The normal probability plot depicts a violation of the normality assumption because there are large spaces between the solid line and the residuals (see Figure 1). Figure 1 is the P-P Plot that illustrates violation of linearity and normality and Figure 2 shows the cone shaped pattern in the scatterplot which violates homoscedasticity. An attempt to correct the violations through the use of bootstrapping procedure was unavailable due to a glitch in SPSS version 25 provided by Walden

University. The overall model was not statistically significant. Therefore, the null hypothesis for research question one was retained.

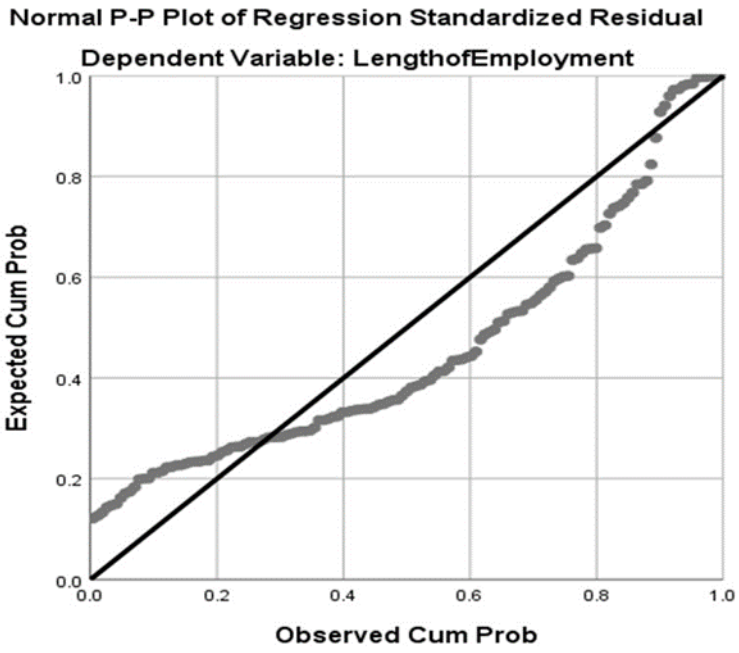

Figure 4. P-P Plot that illustrates violation of linearity and normality.

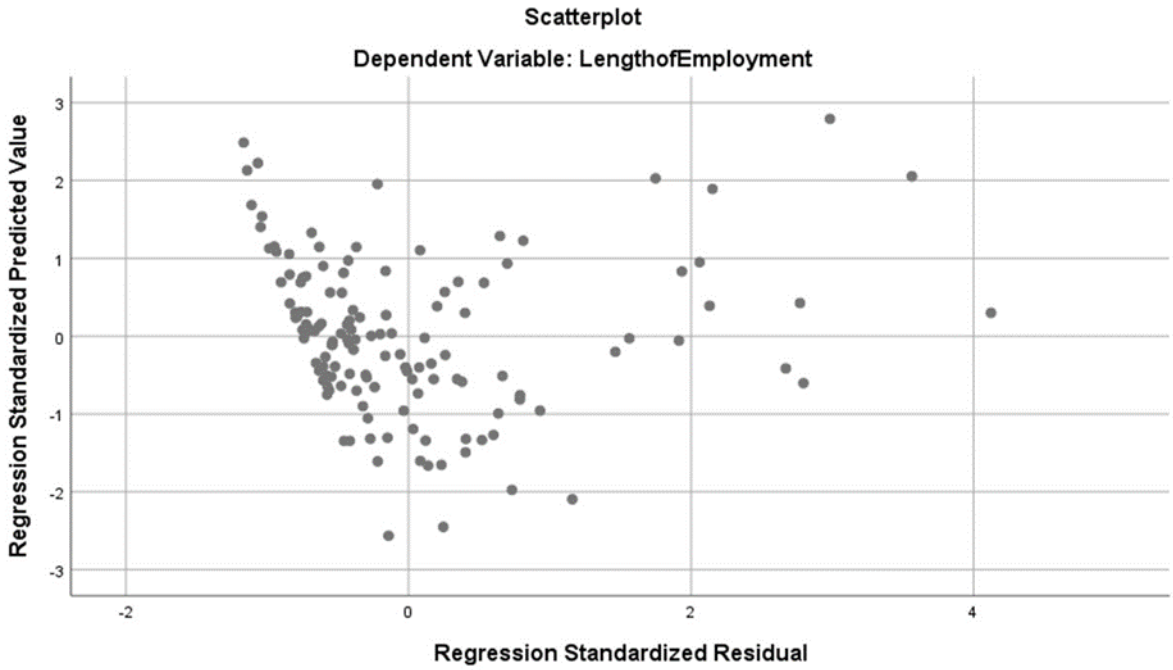

Figure 5. Cone shaped pattern in the scatterplot which violates homoscedasticity.

Research Question 2: What is the relationship between Five Factor Personality traits of openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism with job satisfaction for nursing assistants who work in long-term care settings?

I used a standard multiple linear regression, $\alpha = .05$ (two-tailed), to test for correlation between the predictor variables openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism and the outcome criteria job satisfaction. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.897. There was homoscedasticity, as assessed by visual inspection of a scatterplot predicted values and residual values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no

studentized deleted residuals greater than ±3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. The assumption of normality was met, as assessed by visual inspection of the P-P Plot. Figure 3 illustrates linearity and normality of the predicted slope of personality on job satisfaction. Figure 4 is evidence of homoscedasticity in the scatterplot.

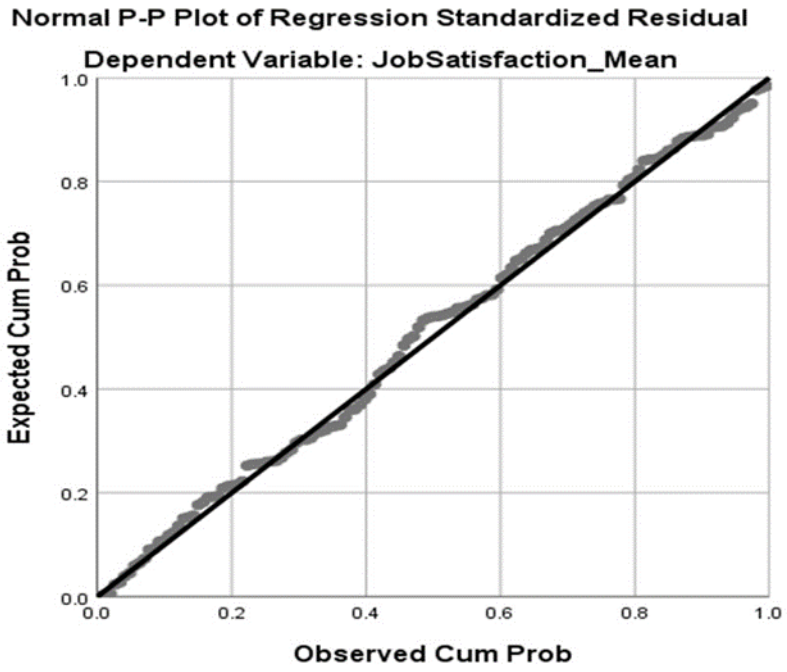

Figure 6. Linearity and normality of job satisfaction. This figure shows the predictive relationship of personality on job satisfaction.

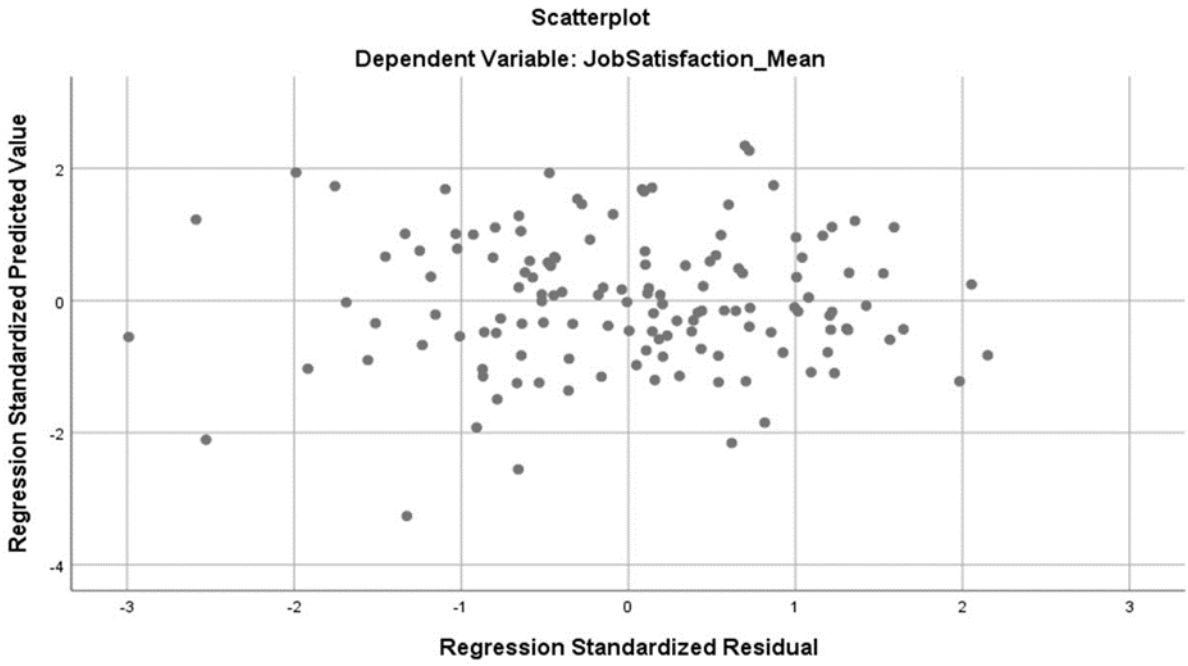

Figure 7. Homoscedasticity of job satisfaction. This figure shows a more even pattern of the scatterplot testing the assumption of homoscedasticity for the regression model.

The model as a whole was able to significantly predict job satisfaction, F(5,131) = 3.164, p = .010, R2 = .108. The R2 (.108) value indicated that approximately 11% of variations in job satisfaction was accounted for by the linear combination of the predictor variables (openness to experience, conscientiousness, extraversion, agreeableness, neuroticism). In the final model, agreeableness was statistically significant with (t=2.305, p = .023) accounting for a positive contribution to the overall model. Openness to experience, conscientiousness, extraversion, and neuroticism did not explain any significant variation in job satisfaction. The final predictive equation was:

Job Satisfaction = 3.408 + .028(Openness to Experience) - .008(Conscientiousness) + .071(Agreeableness) + .018(Extraversion) - .031(Neuroticism).

This equation is the change in y over the change in x, meaning that for every one increase in any construct of the formula will change the job satisfaction in relation to reported value. Regression coefficients and standard errors can be found in Table 9.

Table 9

Regression Analysis Summary of Predictor Variables of Job Satisfaction

Variable	B	SE B	β	t	p	95% CI for B
Openness to Experience	.028	.023	.103	1.234	.219	[-.017, .074]
Conscientiousness	-.008	.025	-.029	-.318	.751	[-.057, .041]
Agreeableness	.071	.031	.206	2.305	.023	[.010, .131]
Extraversion	.018	.021	.082	.867	.388	[-.023, .059]
Neuroticism	-.031	.023	-.137	-1.382	.169	[-.076, .014]

Note. N=137.

Summary

The purpose of this study was to examine the relationship between five factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment and job satisfaction of nursing assistants working in long-term care. Assumptions surrounding multiple regression were assessed for each research question with no serious violations noted in research question 2. However, homoscedasticity and linearity could not be determined for research question 1. The null hypothesis was retained. For research question 2, the model as a whole significantly predicted job satisfaction, $F(5,131) = 3.164$, $p = .010$, $R2 = .108$ and concluding that the null hypothesis was rejected.

In chapter 5, I will provide a discussion of the results as they relate to positive social change implications. I will address recommendations for action and opportunities for future research. A final reflection and conclusion of the information gleaned from this research project will be addressed.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Six hundred thousand NAs provide direct care to 1.4 million older adult or disabled nursing home residents across the United States each year (CMS, 2015). By the year 2050, the population of Americans over the age of 65 is expected to double, and the number of those over the age of 85 is expected to triple (PHI National, 2019). These statistics coupled with the high turnover rates (65%) of NAs are evidence of an urgent need to address staffing and retention of NAs working in long-term care communities in the United States.

The purpose of this cross-sectional correlation study was to examine the relationship between the five-factor personality traits of open-mindedness, conscientiousness, agreeableness, extraversion, and neuroticism with length of employment and job satisfaction of NAs working in long-term care. I used multiple regression to analyze collected data. Results demonstrated a significant relationship between personality and job satisfaction; however, there was not a significant relationship between personality and length of employment. In this final chapter, I will discuss my findings and interpret them in a meaningful way. I will discuss the limitations to the study, make recommendations for future studies, and, most importantly, consider the study's implications for practice and positive social change.

Interpretation of the Findings

The findings of this research study contribute to the body of knowledge regarding NAs' personality as it relates to job satisfaction and length of employment. Job

satisfaction of NAs is well established in the literature as an antecedent to long-term care NA turnover (Aloisio et al., 2018; Bennett et al., 2015; Brady, 2016; Cherry, Ashcraft & Owen, 2007; Kalisch & Lee, 2012; Meyer, Raffle, & Ware, 2012; Pfefferle & Weinberg, 2016; Rakovski & Price-Glynn, 2010; Secrest, Iorio & Martz, 2004;). However, the relationship between job satisfaction and personality of NAs has received very limited attention. In reviewing the literature, I found only one current study of NA personality with turnover (Kovach, 2010). I conducted this study to clarify the relationship between these variables.

Length of Employment

There was no significant relationship between FFM personality factors of openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism and length of employment. Several researchers (e.g., Antwi & Bowblis, 2018; Lerner et al., 2014; Trinkoff et al., 2013) have explored turnover of NAs, but none have specifically explored a relationship between personality and length of employment. Kovach (2010) used personality to predict job performance but did not use length of employment as a variable. Other researchers who have examined the crisis of NA turnover have focused on the consequences such as resident outcomes and costs (see Trinkoff et al., 2013). Because I found no significant relationship found between personality and length of employment, I am unable to further discuss the strength or implications of these variables.

Job Satisfaction

The significant relationship found in this study further confirms the connection between personality and job satisfaction that has been shown in other professions including physicians (Jones et al., 2012), athletic trainers (Barrett et al., 2016), RNs (Chen et al., 2016; Kennedy et al., 2014), and studies that included a variety of occupations (Justina et al., 2008; Zhai et al., 2013). The FFM and Herzberg's two-factor model were a good fit for this study because FFM is a well-established vocational personality theoretical framework (Costa & McCrae, 2017; Hahn, Gottschling, & Spinath, n.d.; Goldberg et al., 2006) and therefore can readily be compared to other studies of personality. Personality is an inherent trait that motivates employees in their work. Costa and McCrae (2002) posit that personality is biological and therefore will determine how a person responds in a certain situation. Judge et al. (2002) performed a meta-analysis of 334 correlations of 163 samples using FFM to explore job satisfaction and found a .41 correlation between the personality factors of openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism and job satisfaction. This is a stronger correlation than what I found in my data (.11); however, my study further validates the relationship. Judge et al. (2002) found the following overall correlation values in a meta-analysis they conducted: neuroticism (-.29), conscientiousness (.26), extraversion (.25), agreeableness (.17), and openness to experience (.02). Whereas, my data only showed significance of agreeableness (.07). Kennedy et al. (2014) performed a literature review of 13 articles to determine a relationship between personality with choice of nursing specialty and found evidence that personality characteristics are

associated with nursing specialty, job satisfaction, and work stress. My research confirms that personality of NAs is significantly related to job satisfaction.

Limitations of the Study

Every research study has limitations. Responsible researchers identify and openly report these limitations so that future researchers can reduce issues that could impact the study results. The research design of this study presented a limitation in that correlational design involves the examination of relationships between variables and does not indicate cause and effect (Babbie, 2017). The data did have a greater percentage of respondents who were White (88%) female (99%), and living in the Midwest region of the United States (71%) than what is representative of U.S. NA population overall (47% White, 91% female, ~30% in the Midwest; PHI, 2019), and therefore decreases generalizability. Another limitation of this study was the cross-sectional design, meaning that it only captured data at one point in time. A person may change their response of "very much like me" to "a little like me" depending on their mood or current situation.

In addition, this study involved self-reported data, which relies on the honesty of the respondent (Babbie, 2017). Some of the personality questions are worded in a way that could have produced social desirability bias, especially in a profession that is noted for care and compassion. Participants might not have answered "I insult others" honestly, for instance, even if that is true of their personality. There is no way to confirm that participants felt this way or that a social desirability bias existed, but it is possible. The greatest limitation in this study was the violation of assumptions of linearity and homoscedasticity when testing standard multiple regression in RQ1. SPSS version 25 has

a glitch that prohibits performance of the bootstrapping procedure (R. Taylor, personal communication, January 13, 2020), therefore limiting any corrective action of the data.

Recommendations

The findings of this study indicate that more research needs to be conducted on NA personality as it relates to turnover. The literature shows that length of employment is correlated with job satisfaction (see Rakovski & Price-Glynn, 2010), and my findings identified a significant relationship with personality and job satisfaction. Potential areas of study could be the relationship between personality and length of employment with job satisfaction as a moderator and the relationship between length of employment and job satisfaction with personality as a moderator. Using a mixed-methods study design, researchers could analyze FFM personality and the experiences of NAs working in long-term care. Also, using an earlier version of SPSS to perform the bootstrapping procedure on the data collected in my study could yield different results if regression assumptions were satisfied. Gaining additional understanding of why NAs continue to work in long-term care may lead to a better understanding of turnover in this growing sector of health care. As more knowledge is developed through vigorous research studies, researchers can approach an understanding of the cause of NA turnover.

Implications

This research study can implicate positive social change at multiple levels. Human resource personnel, administrators, directors of nursing, and other stakeholders in long-term care facilities may gain an understanding of the personality traits of staff who continue working as NAs, which, in turn, can lead to positive social change by

influencing the hiring and recruitment practices of long-term care facilities, thereby reducing turnover and improving outcomes of patients who live in long-term care. Decreased turnover of NAs in long-term care may potentially impact fiscal responsibility of facilities, improve quality of care and quality of life for residents, and improve job satisfaction for NAs. Twenty percent of Fortune 500 companies use personality assessment as a recruitment strategy (Piotrowski & Armstrong, 2006). It would be unethical to deny a potential NA employment based on personality assessment results. However, recommendations for practice could include personality assessments that lead to career counseling based on assessment results or an increased awareness of employee profiles to guide training and support of interpersonal skills. Fiscal accountability is another opportunity for positive social change. The cost of hiring and training a new NA is estimated at $15,000 (Brady, 2016). Increased expenses arising from poor-quality care affect the facility, the insurance company or government program reimbursing costs, the family, and the person. Having a better understanding of the turnover in the long-term domain can help to decrease health spending.

Conclusion

The scope of this study was to gain a better understanding of how personality is related to job satisfaction and length of employment in long-term care. A significant relationship was identified in the overall model between personality factors and job satisfaction. Agreeableness is one personality factor of the FFM that showed a significant relationship with job satisfaction. Stakeholders in long-term care can use this new

knowledge of personality and job satisfaction to address the NA shortage in long-term care to support proper care of the most vulnerable population of health care consumers.

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Appendix A: NH-CNA-JSQ Instrument

Coworkers

Rate the people you work with

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate whether you feel part of a team effort

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate cooperation among staff

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Work demands

Rate the support you get when doing your job

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate the chances you have to talk about your concerns

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate the demands residents and family place on you

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Work content

Rate how much you enjoy working with residents

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate how your role influences the lives of residents

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate your closeness to residents and families

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Workload

Rate your workload

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate your work schedule

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate the amount of time you have to do your job

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Training

Rate whether your skills are adequate for the job

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate the training you have had to perform your job

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate chances you have for more training

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rewards

Rate how fairly you are paid

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate your chances for further advancement

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Quality of care

Rate the care given to residents

Very Poor Excellent

1 2 3 4 5 6 7 8 9 10

Rate the impact you have on residents' lives

Very Poor									Excellent
1	2	3	4	5	6	7	8	9	10

Appendix B: Permission to Use NH-CNA-JSQ

License Details

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Appendix C: Demographic Questionnaire

1.Are you currently employed as a CNA working with residents in a long-term care facility?

- Yes
- No

2. How long have you worked for your current employer?

Years _____
Months _____

3. How long have you been a nursing assistant?

Years _____
Months _____

4. Please select your age range

- 18-25 years
- 26-35 years
- 36-45 years
- 46-60 years
- 61+ years

5. Please select your gender

- Male
- Female

6. Which region of the US do you currently reside?

- Midwest (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI)
- Northeast (CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VI)
- Southeast (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV)
- Southwest (AZ, NM, OK, TX)
- West (AK, CA, CO, HI, ID, MT, NV, OR, UT, WA, WY)

7.Please select the race you most closely identify with.

- American Indian or Alaska Native
- Asian or Pacific Islander
- Black or African American
- Hispanic or Latino
- Multiracial
- White or Caucasian

8. Please select your HOUSEHOLD income

- Less than $25,000
- $25,000-$40,000
- $41,000-$75,000
- More than $75,000

9. Including your current employer, how many jobs have you had a nursing assistant?
    - 1-2
    - 3-5
    - 6-8
    - More than 8
10. How likely is it that you will be working for your current employer 12 months from now?
    - Very likely
    - Somewhat likely
    - Not likely

Appendix D: Permission to Use IPIP Representation of NEO-FFI-R

Obtaining Permission

Because the IPIP has been placed in the public domain, permission has already been automatically granted for any person to use IPIP items, scales, and inventories for any purpose, commercial or non-commercial..

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Appendix E: Reliability and Validation Scores for IPIP Representation of NEO-FFI-R

10-Item IPIP Scales	Number of Items	Mean Item Intercorrelation	Coefficient Alpha	Correlation with NEO-PI-R
	+ -			
I. Neuroticism	5+5=10	.37	.86	.82 [.92]
II. Extraversion	5+5=10	.38	.86	.77 [.88]
III. Openness	5+5=10	.33	.82	.79 [.91]
IV. Agreeableness	5+5=10	.27	.77	.70 [.85]
V. Conscientiousness	5+5=10	.31	.81	.79 [.92]

Appendix F: IPIP Representation of NEO-FFI-R with Associated Scores

1. I am the life of the party (Extraversion)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
2. I get back at others. (Agreeableness)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
3. I am always prepared. (Conscientiousness)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)

4. I dislike myself. (Neuroticism)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
5. I believe in the importance of art. (Openness to Experience)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
6. I don't talk a lot. (Extraversion)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
7. I have a good word for everyone. (Agreeableness)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)

- not really like me (+2)
- not like me at all (+1)

8. I don't see things through. (Conscientiousness)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
9. I am not easily bothered by things. (Neuroticism)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all ()
10. I do not like art. (Openness to Experience)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)

11. I feel comfortable around people. (Extraversion)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
12. I insult people. (Agreeableness)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
13. I pay attention to details. (Conscientiousness)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
14. I am often down in the dumps. (Neuroticism)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)

- not really like me (+2)
- not like me at all (+1)

15. I have a vivid imagination. (Openness to Experience)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
16. I keep in the background. (Extraversion)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
17. I respect others. (Agreeableness)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)

18. I waste my time. (Conscientiousness)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
19. I seldom feel blue. (Neuroticism)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
20. I am not interested in abstract ideas. (Openness to Experience)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
21. I know how to captivate people. (Extraversion)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)

- not really like me (+2)
- not like me at all (+1)

22. I have a sharp tongue. (Agreeableness)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
23. I get chores done right away. (Conscientiousness)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
24. I am very pleased with myself. (Neuroticism)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)

25. I tend to vote for liberal political candidates. (Openness to Experience)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
26. I have little to say. (Extraversion)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
27. I accept people as they are. (Agreeableness)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
28. I find it difficult to get down to work. (Conscientiousness)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)

- not really like me (+4)
- not like me at all (+5)

29. I panic easily. (Neuroticism)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
30. I avoid philosophical discussions. (Openness to Experience)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
31. I am skilled at handling social situations. (Extraversion)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)

32. I cut others to pieces. (Agreeableness)

- very much like me (+1)
- a little like me (+2)
- neither like me or unlike me (+3)
- not really like me (+4)
- not like me at all (+5)

33.I do just enough work to get by. (Conscientiousness)

- very much like me (+1)
- a little like me (+2)
- neither like me or unlike me (+3)
- not really like me (+4)
- not like me at all (+5)

34. I have frequent mood swings. (Neuroticism)

- very much like me (+5)
- a little like me (+4)
- neither like me or unlike me (+3)
- not really like me (+2)
- not like me at all (+1)

35.I carry the conversation to a higher level. (Openness to Experience)

- very much like me (+5)
- a little like me (+4)
- neither like me or unlike me (+3)

- not really like me (+2)
- not like me at all (+1)

36. I don't like to draw attention to myself. (Extraversion)

- very much like me (+1)
- a little like me (+2)
- neither like me or unlike me (+3)
- not really like me (+4)
- not like me at all (+5)

37.I believe others have good intentions. (Agreeableness)

- very much like me (+5)
- a little like me (+4)
- neither like me or unlike me (+3)
- not really like me (+2)
- not like me at all (+1)

38. I shirk my duties. (Conscientiousness)

- very much like me (+1)
- a little like me (+2)
- neither like me or unlike me (+3)
- not really like me (+4)
- not like me at all (+5)

39. I am often down in the dumps. (Neuroticism)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
40. I do not enjoy art museums. (Openness to Experience)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
41. I make friends easily. (Extraversion)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
42. I tend to vote for conservative political candidates. (Openness to Experience)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)

- not really like me (+4)
- not like me at all (+5)

43. I carry out my plans. (Conscientiousness)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
44. I rarely feel irritated. (Neuroticism)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
45. I suspect hidden motives in others (Agreeableness)
    - very much like me (+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)

46. I don't talk a lot. (Extraversion)
    - very much like me (-+1)
    - a little like me (+2)
    - neither like me or unlike me (+3)
    - not really like me (+4)
    - not like me at all (+5)
47. I make people feel at ease. (Agreeableness)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
48. I am exacting at my work. (Conscientiousness)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)
49. I often feel blue. (Neuroticism)
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)

- not really like me (+2)
- not like me at all (+1)

50. I enjoy hearing new ideas. (Openness to Experience).
    - very much like me (+5)
    - a little like me (+4)
    - neither like me or unlike me (+3)
    - not really like me (+2)
    - not like me at all (+1)