The Relationship Between Job Embeddedness and Five-Factor Model Personality Traits Among American Healthcare Employees

Submitted by

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Abstract

The purpose of this quantitative correlational study was to examine if, or to what extent, the broad personality traits of the five-factor model relate to job embeddedness among a population of health services workers in America. Job embeddedness theory suggests that concepts of links, fit, and sacrifice explain why people stay or leave organizations while trait theory proposed that behavior could be ascribed to specific individual traits. The researcher tested six hypotheses to determine if a correlation existed using the 7-item Global Measure of [Job] Embeddedness and the NEO-FFI-3. Data collection occurred online in May 2017 using a convenience sample (N=91) of American healthcare workers. Based on analyses that included a multiple regression analysis ($F(5, 85) = 1.176$, $p = .328$, adj. $R^2 = .010$), analysis of Pearson's correlation coefficients for the three traits of neuroticism ($r(89) = .146$, $p = .167$), and openness ($r(89) = -.078$, $p = .465$); as well as analysis of Spearman's and Pearson's correlation coefficients for the traits of conscientiousness ($r_s(89) = -.067$, $p = .528$; $r(89) = -.086$, $p = .417$), agreeableness ($r_s(89) = -.063$, $p = .555$; $r(89) = -.018$, $p = .867$), and extraversion ($r_s(89) = .060$, $p = .573$; ($r(89) = .086$, $p = .416$); the researcher accepted all six null hypotheses and concluded there was no statistically significant correlation between job embeddedness and the five broad personality traits of the five-factor model in this sample. While personality did not correlate with job embeddedness in this sample, other individual factors besides personality may still correlate with job embeddedness and remain to be explored.

Keywords: job embeddedness, five-factor model, NEO-FFI-3, Global Measure of Embeddedness

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Chapter 1: Introduction to the Study

Introduction

This quantitative correlational study examined the possible correlation between the broad personality traits of the five-factor model and the organizational measure of job embeddedness (JE) among American healthcare employees. The researcher based this study on a foundation of Person-Environment (PE) fit theory and the relatively new concept of embeddedness, or job embeddedness (Ghosh & Gurunathan, 2015a). This study attempted to further both organizational psychology and personality psychology by demonstrating that the broad personality traits of the five-factor model, openness, conscientiousness, extraversion, neuroticism, and openness correlated with job embeddedness. The implications of this research may be that organizations conducting only organizational surveys, particularly those in the healthcare field, may have been ignoring relevant personality variables when assessing organizational health.

The foundation of this research was Person-Environment (PE) fit theory. In organizations, PE fit has routinely been used by practitioners to predict whether individuals within an organization will stay or leave (Su, Murdock, & Rounds, 2015). PE fit theory has also attempted to explain and account for the variables that lead to conditions that correlate with desired organizational outcomes. To date, PE fit has been measured most often by job satisfaction (JS) and organizational commitment surveys (OC; Su et al., 2015). The underlying assumption of these organizational measures has been that JS and OC reflect PE fit which can then serve as a predictor of individual behavior. Regardless of the intent, measures of JS and OC, Mitchell, Holtom, Lee,

Sablynski, and Erez (2001) showed that neither JS nor OC have been reliable predictors of all individual behaviors.

In 2001, Mitchell et al. proposed job embeddedness as an alternative to JS and OC. The key feature of job embeddedness that distinguished it from decades of JS and OC work was the addition of the concept of sacrifice. Sacrifice was the measure of the costs associated with leaving an organization, something not previously found in JS and OC surveys. Since 2001, job embeddedness research has continued and, while job embeddedness may be an improvement over JS and OC, the fact remains that there remain phenomena wherein those with relatively high embeddedness still leave organizations. Indeed, Sellers et al. (2015) found that while public health workers were generally satisfied, 42% of those surveyed reported that they intended to leave their current job. This research explored that paradox by proposing that job embeddedness, like JS and OC, has not accounted for the role of individual five-factor personality traits.

Supporting this argument, Ghosh and Gurunathan (2015a) examined 37 studies published between 2001 and 2011 and called for further study on factors related to an individual's disposition, values, behaviors, mood, attitude and other factors in relation to job embeddedness. Prior to that, Lee, Burch and Mitchell (2014) found that after approximately 13 years of embeddedness research, theoretical aspects of cognition, attitudes, and behaviors of individuals still need to be explored. This research may also provide more support to using job embeddedness as an alternative to traditional JS and OC instruments, on top of the call to consider individual five-factor personality traits in a more holistic model of PE fit. This research attempted to further both the fields of personality psychology and organizational psychology and explored the validity of

addressing individual personality traits alongside organizational assessments to both further PE fit theory and to offer a better means of predicting individual behaviors in organizations. This research also added to earlier studies specific to job embeddedness conducted among American healthcare employees (Crossley, Bennett, Jex, & Burnfield, 2007; Mitchell et al., 2001).

Chapter 1 presented an introduction to this quantitative correlational study. The researcher provided the background of the study's foundations in industrial-organizational and personality psychology and presented the problem statement for this research. The researcher explained the purpose of the study, as well as the study's six research questions and its significance in advancing scientific knowledge. The methodology and the nature of the research design have been briefly justified by the researcher as a preview to Chapter 3, and study specific terms were defined. Finally, the researcher articulated the assumptions, limitations, and delimitations of the proposed study.

Background of the Study

Organizations have used JS, OC, and job embeddedness surveys to gauge the overall health of their workforce. Regardless of the results of these organizational measures, relatively committed, satisfied, and embedded people have still left organizations (Mitchell et al., 2001). This paradox has been more pronounced in organizations and industries with higher mobility, like the healthcare industry. The U.S. Bureau of Labor Statistics (BLS, 2016a) expected healthcare occupations to grow 19% between 2014 and 2024, adding more jobs than any other career field. In the first national survey of state health agencies in the United States, Sellers et al. (2015) found that while

public health workers are generally satisfied, 42% of those surveyed reported that they intended to leave their current job. Hilliard and Boulton (2012) noted that current and future shortages in the public health workforce prompt a call for recruitment and retention practices to be improved and found that in the period between 1985 and 2010, very little data regarding pay, promotion, performance, and job satisfaction of public healthcare workers existed. As such, this research intended to advance understanding of the general population of healthcare workers and explore a correlation between job embeddedness and personality traits that may enable American healthcare organizations to address high turnover intention while expanding Person-Environment (PE) fit theory.

Although a great deal of research has been dedicated to understanding the various relationships among concepts like JS, OC, job embeddedness, culture, and turnover intention; none have explicitly compared personality traits with job embeddedness in the American healthcare industry (Belias & Koustelios, 2014; Hilliard & Boulton, 2012; Mitchell et al., 2001; García Rivera et al., 2013; Suderman, 2012; Wong, & Lim, 2012). One study showed the relationship between personality and culture during selection, indicating that personality was assessed to be related to an organizational concept similar to fit and links, but the direct measure of a correlation between job embeddedness and personality traits has not been consistently explored, much less among the American healthcare industry (Gardner et al., 2012). Further, studies to date have been limited to convenience samples, and American healthcare employees have only appeared in three job embeddedness studies (Chen, Chou, & Wang, 2010; Clinton, Knight, & Guest, 2012; Collins, Burrus, & Meyer, 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi, Allen, & Froese, 2015; Reitz & Anderson, 2011).

Personality psychology, the study of distinct traits that combine to form an overall individual personality profile, has attributed behavior to personality traits (Ryckman, 2013). The most widely used model to assess personality traits to date has been the five-factor model, or the "Big Five" model, which presents five independent traits of openness, conscientiousness, extraversion, agreeableness, and neuroticism. There has been a gap in research between personality psychology and the organizational psychology of organizational assessments like JS, OC, and job embeddedness; as well as repeated research conducted among a specific population. As a result, this research added to the body of knowledge correlating personality traits with an organizational psychology construct.

Problem Statement

It is not known if, or to what extent, the personality traits of the five-factor model relate to job embeddedness among American healthcare employees. Organizational psychology may have overlooked personality trait variables when conducting organizational surveys like job embeddedness surveys. This study assessed whether a correlation existed between a Person-Environment fit survey that measured job embeddedness and individual personality traits among American healthcare employees. In addition to growing faster than any other labor sector in America, healthcare employees had unemployment rates 1.6% lower than the U.S. national average in March 2016, posing a greater retention challenge for organizations than other labor categories (BLS, 2016b). For this study, the general population was therefore the population of approximately 15.5 million adult Americans who were literate in English and legally employed in the health services industry (BLS, 2016a). Additionally, the researcher chose

to examine American healthcare employees because two of the foundational studies on embeddedness researched populations in hospital and community clinic settings (Crossley et al., 2007; Mitchell et al., 2001).

In 2015, Ghosh and Gurunathan examined 37 papers on job embeddedness (JE) published between 2001 and 2011 and called for further study on factors affecting on-the-job and off-the-job embeddedness. An individual's disposition, values, behaviors, mood, attitude and other factors impact job satisfaction, organizational commitment, and job embeddedness survey results. Prior to the review by Ghosh and Gurunathan (2015a), Lee et al. (2014), found that after approximately 13 years of job embeddedness research, there remain aspects of cognition, attitudes, and behaviors of individuals that appear to correlate with embeddedness. Indeed, Lee et al. (2014) claim the most pressing academic issues of embeddedness involve theoretical issues that explore issues like socialization and psychological capital as possible causal factors for embeddedness. In this manner, there has been a call for research to help put the organizational measure of job embeddedness in the right context of individual behavior. This research explored the validity of providing justification for organizations to pay more attention to individual factors, like personality, during the conduct of organizational measures of health.

Purpose of the Study

The purpose of this quantitative correlational study was to examine if, or to what extent, the broad personality traits of the five-factor model relate to job embeddedness among a population of health services workers in America. This study measured embeddedness using the Global Survey of Embeddedness as developed by Crossley et al. (2007); based on the original work of Mitchell et al. (2001). Because job embeddedness

items have not included personality related questions, this research measured personality traits using a "Big Five" personality inventory, specifically the 60-item NEO-FFI-3 survey (McCrae & Costa, 2010). In this study, the criterion variable was a job embeddedness score and the predictor variables were each of five broad personality trait measures, as well as a multiple regression of the five-factor model in its entirety. The general population was the population of approximately 15.5 million adult Americans who were literate in English and legally employed in the health services industry (BLS, 2016a). The target population was a subset of people in the general population who were able and willing to participate in online research. The sample population was a convenience sample of 91 volunteers self-selected from among the general population of approximately 15.5 million American healthcare workers (BLS, 2016a).

If the five-factor model of personality or its five individual traits were related to embeddedness, then this study was expected to have shown a correlation between the model or its traits and the organizational measure of job embeddedness. Demonstrating a correlation would have given greater support to using both organizational and personality instruments together in a practical setting, like a healthcare organization, to ensure a more holistic view of an individual's relationship with the organizational environment. This research also addressed gaps identified in reviews by Ghosh and Gurunathan (2015a) and Lee et al. (2014) regarding factors that contributed to embeddedness, as well as the need for more research on job embeddedness itself.

Research Questions and Hypotheses

The purpose of this quantitative, correlational study was to examine if, or to what extent, the broad personality traits of the five-factor model related to job embeddedness

among a population of health services workers in America. The following research questions studied the possible correlation between the criterion variable of embeddedness and the predictor variables of the five broad personality traits of the five-factor model. To answer the research questions, data was collected online using a survey containing the 7-item Global Measure of Embeddedness (Crossley et al., 2007) and the NEO-FFI-3 (McCrae & Costa, 2010) for an analysis that determined whether correlations existed. The researcher conducted a multiple regression analysis to answer RQ1, which examined the possible relationship between job embeddedness and the overarching five-factor model, while RQ2-RQ6 were intended to determine if any of the five individual factors correlated uniquely with job embeddedness.

Criterion Variable 1: A job embeddedness score.

Predictor Variables: Five factor personality traits (neuroticism, openness, conscientiousness, agreeableness, and extraversion).

RQ1: To what extent, if any, do the five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees?

H10: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion do not predict job embeddedness among American healthcare employees.

H1a: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees.

Criterion Variable 3: A job embeddedness score.

Predictor Variable 4: Personality trait of neuroticism.

RQ2: To what extent, if any, does the personality trait of neuroticism relate to job embeddedness among American healthcare employees?

H20: The personality trait of neuroticism does not correlate with job embeddedness among American healthcare employees.

H2a: The personality trait of neuroticism correlates with job embeddedness among American healthcare employees.

Criterion Variable 5: A job embeddedness score.

Predictor Variable 6: Personality trait of openness.

RQ3: To what extent, if any, does the personality trait of openness relate to job embeddedness among American healthcare employees?

H30: The personality trait of openness does not correlate with job embeddedness among American healthcare employees.

H3a: The personality trait of openness correlates with job embeddedness among American healthcare employees.

Criterion Variable 7: A job embeddedness score.

Predictor Variable 8: Personality trait of conscientiousness.

RQ4: To what extent, if any, does the personality trait of conscientiousness relate to job embeddedness among American healthcare employees?

H40: The personality trait of conscientiousness does not correlate with job embeddedness among American healthcare employees.

H4a: The personality trait of conscientiousness correlates with job embeddedness among American healthcare employees.

Criterion Variable 9: A job embeddedness score.

Predictor Variable 10: Personality trait score of agreeableness.

RQ5: To what extent, if any, does the personality trait of agreeableness relate to job embeddedness among American healthcare employees?

H50: The personality trait of agreeableness does not correlate with job embeddedness among American healthcare employees.

H5a: The personality trait of agreeableness correlates with job embeddedness among American healthcare employees.

Criterion Variable 11: A job embeddedness score.

Predictor Variable 12: Personality trait score of extraversion.

RQ6: To what extent, if any, does the personality trait of extraversion relate to job embeddedness among American healthcare employees?

H60: The personality trait of extraversion does not correlate with job embeddedness among American healthcare employees.

H6a: The personality trait of extraversion correlates with job embeddedness among American healthcare employees.

Advancing Scientific Knowledge

This study advanced scientific knowledge by increasing the research related to the organizational psychological theory of job embeddedness, as well as personality psychology's trait theory. In particular, this study attempted to narrow the gap between organizational and personality psychology by studying a possible correlation between the

organizational measure of job embeddedness and the personality traits of the five-factor model (Ghosh & Gurunathan, 2015a). This research also furthered personality psychology by putting the five-factor model in the context of a newer organizational construct. Further, the lack of correlation between job embeddedness and personality traits found in this study refutes criticism that organizational and personality theories need to be more unified (Crossley et al., 2007; Mitchell et al., 2001).

This research expanded understanding of the theory of job embeddedness and its constituent factors of links, fit, and sacrifice (Mitchell et al., 2001). In general, job embeddedness may offer a new means for looking at individual behavior in an organization because the idea of sacrifice has not been expressly considered as a component of job satisfaction or organizational commitment. The intent of this research was to build on the decades of personality research to date by examining if trait theory adds a needed facet of individualism to the organizational measure of job embeddedness (Ghosh & Gurunathan, 2015a). With respect to personality psychology, this research expanded understanding of each of the broad personality traits of the five-factor model. This research also expanded the body of knowledge related to studies related to openness, a sometimes controversial trait that may not be unique or broad enough to be considered a broad trait of the five-factor model (Hough, Oswald, & Ock, 2015).

Significance of the Study

The significance of this study has been that this research increased the understanding of how the broad personality traits of the five-factor model do not correlate with job embeddedness among a sample of employees in the American healthcare industry. Aspects of fit theory dominated organizational and management research, with

organizations looking to more accurately predict behaviors in the workplace (Su et al., 2015). This research was intended to explore whether or not individual personality traits correlate with embeddedness, as there would have been implications for at least recruiting, selection, hiring, retention, turnover, and organizational change among the population of American healthcare employees.

The U.S. Bureau of Labor Statistics (BLS, 2016a) reported that healthcare occupations in America was expected to grow 19% between 2014 and 2024, adding more jobs than any other career field. With unemployment rates 1.6% lower than the U.S. national average, employers of healthcare employees have had a greater challenge to retain their personnel than sectors with more available workers (BLS, 2016b). In the first national survey of state health agencies in the United States, Sellers et al. (2015) found that public health workers reported general satisfaction, 42% of the sample reported that they intended to leave their current job. Hilliard and Boulton (2012) noted that current and future shortages in the public health workforce prompt a call for recruitment and retention practices to be improved and found that in the period between 1985 and 2010, very little data regarding public healthcare workers existed. As such, this research advanced understanding of the general population of healthcare workers and explored a correlation between job embeddedness and personality traits in a convenience sample that may have expand organizations' understanding of why 42% of their workforce intends to quit (Hilliard & Boulton, 2012).

This research was significant because job embeddedness is a relatively new concept of PE fit theory that incorporated a concept of sacrifice not found in the traditional organizational measures of JS and OC (Lee et al., 2014). Reitz and Anderson

(2011) even specifically proposed the use of job embeddedness as an alternative to job satisfaction and organizational commitment in combating retention and turnover challenges in the face of a looming nursing shortage in America. The results of this research have expanded what is already known about the correlations between traits and both JS and OC to show that job embeddedness did not demonstrate these correlations in this convenience sample. For this reason, this study may have provided greater impetus for practitioners to prefer job embeddedness over JS and OC as a means of measuring PE fit. This study also built on the last 15 years of research in the field of job embeddedness, adding to findings from previous samples of health services workers (Lee et al., 2014) and addressing gaps that remained after 37 studies (Ghosh & Gurunathan, 2015a).

With respect to personality psychology, this research added to the body of knowledge related to the five-factor model. In particular, this research added to the research surrounding openness, which has struggled to distinguish itself as a unique broad trait since the 1990's (Judge & Ilies, 2002). Because openness has correlated highly with aspects of extraversion, this study increased the amount of information available to those researching openness as a unique trait (Arora & Rangnekar, 2015). In this manner, this research provided more data to refute or support the criticism of openness and the five-factor model. In terms of the other traits of the five-factor model, this study showed no significant correlation between job embeddedness scores and neuroticism than with neuroticism and JS or OC, possibly due to the uniqueness of job embeddedness and its concept of sacrifice (Paulus, Vanwoerden, Norton, & Sharp, 2016).

Rationale for Methodology

This research used a quantitative methodology based on previous embeddedness studies that have used quantitative methods. A quantitative methodology featuring nomothetic instruments also provided the framework for a replicable process that can be more easily adapted to future practitioners (Jex & Britt, 2014). This research methodology used an online survey process that is more readily repeatable than that of a qualitative methodology. The researcher considered an alternative qualitative design that would have used interviews, case studies, focus groups, or participant observations; but current research on embeddedness favors quantitative studies (Lee et al., 2014). Additionally, because the goal of this research was to expand the academic body of knowledge related to job embeddedness and personality psychology in the American healthcare sector, the researcher chose a repeatable process that could more quickly address growing knowledge gaps in the healthcare sector (Hilliard & Boulton, 2012).

Related to job embeddedness, the current seminal reviews of job embeddedness (Ghosh & Gurunathan, 2015a; Lee et al., 2014) both called for more research on a myriad of variables that span multiple aspects of industrial-organizational psychology. Similar quantitative research on correlations between organizational commitment (Choi, Oh, & Colbert, 2015) and job satisfaction (Belias & Koustelios, 2014; Mitchell et al., 2001; García Rivera et al., 2013; Suderman, 2012; Wong, & Lim, 2012) and personality traits have been conducted to date. As a result, this research also used a quantitative approach to add to these bodies of knowledge in both personality and industrial-organizational psychology. Reitz and Anderson (2011) also proposed the use of job embeddedness as an alternative to Job Satisfaction and Organizational Commitment in combating retention

and turnover challenges among American nurses. As such, a methodology and research design that could be easily repeated to address these remaining gaps was conducted (Johnson & Christensen, 2014).

Nature of the Research Design for the Study

The research design was a correlational design based on previous research on job embeddedness. Mitchell et al. (2001) developed quantitative measures of embeddedness, later creating a valid seven-item survey of job embeddedness (Crossley et al., 2007). The NEO Five Factor Inventory-3 (NEO-FFI-3; McCrae & Costa, 2010) was a 60-item measure of the personality traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness that has been shown to be valid and reliable over decades (McCrae & Costa, 2010). Job embeddedness research to date has used correlational designs with descriptive statistics to describe data and relationships between variables. To answer the overall question of whether the five-factor model correlates with job embeddedness, a multiple regression analysis was conducted (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015). A correlational design was proposed as ideal for this research, as this study depended on environmental factors that could not be easily controlled under experimental conditions (Riggio, 2015). The correlational design examined the relationship between job embeddedness, the criterion variable, and each trait of the five-factor model, the predictor variables. An alternative qualitative design was considered that would have used interviews, case studies, focus groups, or participant observations; but current research on embeddedness has favored quantitative surveys (Lee et al., 2014). Indeed, future research with multiple research methods and designs were suggested by the researcher to explore

gaps and qualify differences between JS, OC, and job embeddedness, but this research was intended to grow the quantitative body of knowledge.

The researcher identified a general population from which the sample population was selected to be the population of adult Americans who are literate in English and employed in the health services industry. The sample population was a convenience sample of 91 volunteers self-selected from among the general population of American healthcare employees with legal employment in the United States who: speak English, are literate, and are willing to volunteer for research. Using an online survey process to identify adult Americans employed in the health services professions, the researcher conducted the study using online instruments with standardized instructions asking each participant to complete both the 7-item Global Embeddedness Survey (Crossley et al., 2007) and the 60-item NEO-FFI-3 survey (McCrae & Costa, 2010). Participants were not affiliated with each other or a specific organization, and participant variables were solicited prior to completion of the survey (Johnson & Christensen, 2014).

Definition of Terms

The following terms were used in this study:

***Agreeableness*:** A broad personality trait of the five-factor model, agreeableness is the measurement of how likely someone is to cooperate with others, depending on both communication and individual attitude (Bradley, Baur, Banford, & Postlethwaite, 2013). The sub-facets of agreeableness include trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness or sympathy (Matsumoto & Juang, 2012). Agreeableness was a predictor variable in this research.

***"Big Five" personality traits*:** The "Big Five," or five-factor model (FFM) of personality is a concept of trait theory that measures overarching traits related to concepts of openness, conscientiousness, extraversion, agreeableness, and neuroticism (Judge, Simon, Hurst, & Kelley, 2014). Similarly, McCrae and Costa validated the five-factor model of personality across instruments as a measure of psychological traits (2010).

***Conscientiousness*:** A broad personality trait of the five-factor model, conscientiousness is a relative measure of how involved an individual becomes in tasks, providing a measure for a sense of duty and follow-through (Judge & Ilies, 2002). Conscientiousness was a predictor variable in this research.

***Extraversion*:** A broad personality trait of the five-factor model, extraversion reflects individual sociability, or the desire to be around others (Costa & McCrae, 1992). Watson, Stasik, Ellickson-Larew, and Stanton (2015) found that underlying facets of extraversion, including positive emotionality, sociability, assertiveness, and experience seeking. Extraversion was a predictor variable in this research.

***Fit*:** The individual's relationship with the job, the work tasks being performed, and the conditions under which they are performed (Lee et al., 2014).

***Job embeddedness (JE, or simply embeddedness)*:** A measure of how the concepts of links, fit, and sacrifice interact to attempt to explain why a person remains with an organization or leaves (Mitchell et al., 2001). Job embeddedness was the criterion variable in this research.

***Job satisfaction (JS)*:** A measure of how much an individual enjoys his or her work. JS is considered in the context of PE fit and sometimes correlates with Organizational Commitment (Chen, Sparrow, & Cooper, 2016).

***Links*:** The social and personal ties an individual has to others in and around the organization (Lee et al., 2014).

***Neuroticism*:** A broad personality trait of the five-factor model, neuroticism has included caution, shyness, and self-consciousness that, in extreme cases, is correlated with pathological anxiety, depression, and other negative manifestations (Paulus et al., 2016). Neuroticism was a predictor variable in this research.

***Openness*:** A broad personality trait of the five-factor model, openness, or openness to experience, is related to fantasy, feelings, ideas, and values (Kaufman, 2013), those who score higher on a measure of openness are seen as adaptable, flexible, curious and liberal. Those who score relatively lower in openness are more predictable and less prone to impulsive behavior (Kaufman, 2013). Openness was a predictor variable in this research.

***Organizational Commitment (OC)*:** A measure of how attached an individual is to an organization (Meyer & Allen, 1991). Organizational commitment is considered in the context of PE fit and sometimes correlates with job satisfaction.

***Person-Environment (PE) fit*:** The measure of which individual and characteristics found in the organization, or environment, correlate. PE fit can also include other aspects of fit, including Person-Organization (PO) fit, Person-Group (PG) fit, Person-Person (PP) fit, and Person-Job (PJ) fit (Su et al., 2015).

***Sacrifice*:** The choice the individual is making to be at the organization instead of somewhere else (Lee et al., 2014).

Assumptions, Limitations, Delimitations

The following assumptions were present in this study:

1. It was assumed that survey participants in this study were not deceptive and that participants answered questions honestly and to the best of their ability. This assumption was reasonable based on the fact that no remuneration was offered in exchange for participation and participants had no access to results, preventing attempts to manipulate the surveys for specific results. In addition to removing incentives, the general population of American healthcare workers have been governed by multiple professional and organizational oversight bodies that imply the potential for higher ethical conduct than those outside of the healthcare professions (BLS, 2016a).

2. It was assumed that this study is an accurate representation of the American healthcare industry. This assumption was based on the Department of Labor's assessment that American healthcare workers represent approximately 15.5 million professionals and paraprofessionals who have daily access to online forums and access to computers (BLS, 2016a). The target population for this research was a subset of people in the general population who were able and willing to participate in online research.

3. Survey participation was restricted to those who self-identified as healthcare employees and were actively employed full time in the field.

   The following limitations and delimitations were present in this study:

4. A lack of remuneration and access to study results limited the amount of research participants. To make the above assumptions valid, limitations on compensation and access to results were imposed on this study.

5. The recruitment approach to solicit volunteers for the convenience sample was limited to online campaigning via social media websites and the researcher's online social media networks using a solicitation message approved by the GCU Institutional Review Board social media sites of Facebook and LinkedIn. The delimitation was done to increase the repeatability of the research and to maintain the same general population characteristics.

6. The survey of American healthcare employees was delimited to those who had active full-time employment and characterized themselves as being healthcare employees, limiting the demographic sample. The delimitation was done to build on previous research on embeddedness tied to healthcare employees (Crossley et al., 2007; Mitchell et al., 2001).

Summary and Organization of the Remainder of the Study

The researcher conducted a quantitative correlational study intended to assess the correlation between the broad personality traits of the five-factor model and the organizational measure of job embeddedness among a convenience sample of American

healthcare employees. The implication of a lack of correlation between job embeddedness and personality traits may confirm that organizations conducting only organizational surveys have not been ignoring relevant personality variables when assessing organizational health. Further, these research results may have informed organizational issues related to recruiting, selection, hiring, retention, and turnover among employees. In particular, the practical implication of this research was an attempt to advance understanding of the population of healthcare workers and to explore a correlation between job embeddedness and personality traits so that the industry can understand why 42% of health care workers in America intend to quit (Hilliard & Boulton, 2012).

Chapter 2 presents a review of current research on the theory of job embeddedness and personality psychology. A literature review examines theoretical foundations and framework of both organizational psychology and personality psychology that are pertinent to this research. The researcher conducted a literature review across multiple libraries by searching "embeddedness" and the additional key word of "psychology" since the introduction of the concept into psychology by Mitchell et al. (2001). The emphasis for the initial organizational psychology review began with the theoretical foundations related to job embeddedness theory and personality trait theory (Su et al., 2015). The theories of job satisfaction, organizational commitment, and turnover intention are also briefly explained in the context of job embeddedness. The literature review also briefly discusses related concepts like actual turnover, burnout, organizational culture, climate, organizational citizenship behavior, and counterproductive work behavior in the context of job embeddedness. Following the

literature review of organizational psychology concepts, the researcher presents a review of personality psychology, with a specific emphasis on trait theory. In particular, the review explains the five-factor model of personality. The review also examines the broad measures of openness, conscientiousness, extraversion, agreeableness, and neuroticism; as well as criticism of the five-factor model.

The literature review includes a review of the state of the American healthcare industry, showing that the U.S. Bureau of Labor Statistics (BLS, 2016a) reported that healthcare occupations in America expected to expand 19% between 2014 and 2024, adding more jobs than other career fields. With unemployment rates 1.6% lower than the U.S. national average, employers of healthcare employees have had a greater challenge in retaining their personnel than sectors with more available labor (BLS, 2016b). Additionally, the literature review presents arguments by both Holtom and O'Neill (2004) and Reitz and Anderson (2011) for the practical application of job embeddedness in the healthcare field. Both studies proposed the use of embeddedness as an alternative to JS and OC in combating retention and turnover challenges in the face of a looming nursing shortage in America.

The literature review presents an overlap of personality and organizational psychology to demonstrate that research gaps have left room in both fields of organizational and personality psychology for this research, particularly in the American healthcare industry. While this research was a quantitative correlational design, the literature review presents a persistent theme found in both organizational and personality research: that most research relies on quantitative tools that are subject to misinterpretation and the limitations of language. These lexical faults are recognized and

acknowledged as a drawback of contemporary quantitative research in both organizational and personality psychology. The literature review also demonstrates that organizational and personality studies have primarily relied on quantitative methods, providing the basis for further quantitative designs, despite the drawbacks. Finally, the literature review briefly explains the specific quantitative tools for this research before moving into Chapter 3, discussion of methodology and instrumentation.

Chapter 3 describes the researcher's quantitative correlational methodology, research design, and procedures used in this study. Overall, this study was a quantitative correlational study of the broad personality traits of the five-factor model with job embeddedness. The research design used an online survey to deliver both the 60 item NEO-Five Factor Inventory – Revised (NEO-FFI-3) survey (McCrae & Costa, 2010) and the 7-item Global Embeddedness Survey (Crossley et al., 2007) in sequence to a convenience sample of 91 participants (Appendix H; Faul, Erdfelder, Lang, & Buchner, 2007). The researcher tested six hypotheses to determine if, or to what extent, the personality traits of the five-factor model related to job embeddedness.

Chapter 4 details the researcher's data and analysis with summaries of the results. After data collection, the researcher analyzed results using SPSS Statistics software, version 24, to look for significant correlations between the Global Embeddedness Survey score and the scores for each of the five subscales of the five-factor model traits of the NEO-FFI-3. To answer the research questions, the researcher conducted analyses that included Pearson's correlation coefficients (r), two Spearman's correlation coefficients (r_s), and a multiple regression analysis of the five-factor model itself (Appendix D). Chapter 5 is a discussion of the results as it related to the existing body of organizational

and personality research. Chapter 5's conclusions relate to the foundation of scholarly research to date presented in the next chapter. The following literature review highlights both personality psychology and the relatively recent advent of job embeddedness (JE) as an organizational measure.

Chapter 2: Literature Review

Introduction to the Chapter and Background to the Problem

The foundation of this research has been an exploration of the possible role of personality traits as they related to the organizational measure of job embeddedness (JE). The following chapter is a literature review that first defined the theoretical foundations and framework of both organizational psychology and personality psychology that were pertinent to this research, followed by a review of relevant literature. The researcher conducted the literature review by searching GCU library records for research on the unique term of "embeddedness" and the additional key word of "psychology", with particular emphasis on the term's appearance since 2001; the first year it was defined in psychology by Mitchell et al (2001). The term "embeddedness" appeared in economic research as well as other social science topics related to anthropology, sociology, cultural studies, and immigration. As a result, embeddedness has sometimes been identified more specifically as "job embeddedness" (Ghosh & Gurunathan, 2015a). In addition to the main concept of job embeddedness, the researcher conducted searches for all concepts that appear in the literature review, to include all permutations of fit theory, JS, OC, turnover, retention, employee engagement, organizational climate, and organizational culture.

For the personality psychology aspects of this research, the researcher conducted searches on personality psychology, trait theory, and each major trait of the five-factor, or "Big Five", model. The researcher also used combinations of terms related to organizational psychology and personality psychology. Additionally, the researcher used GCU library searches of online electronic book collections included searches of

PsycBOOKS and EBSCOhost ebooks. Further GCU library searches included searches of journal databases specific to sciences, social sciences, leadership, nursing and health sciences, business, communications, education, general research, and counseling and psychology. This literature review also included reviews of sources found on the internet using both Google and Google Scholar searches using similar search terms to those used at the GCU library.

Chapter 2 presents a review of current research on the theory of job embeddedness and personality psychology, with emphasis on trait theory. A literature review examines theoretical foundations and framework of both organizational psychology and personality psychology that were pertinent to this research. The literature review was conducted across multiple libraries by searching "embeddedness" and the additional key word of "psychology", since the first year it was defined by Mitchell et al. (2001). The emphasis for the initial organizational psychology review began with job embeddedness theory in the context of fit theory (Su et al., 2015). The two most common measures of fit, job satisfaction (JS) and organizational commitment (OC), as well as turnover intention, were also examined in the context of job embeddedness. The researcher also briefly discusses related concepts like burnout, organizational culture, climate, organizational citizenship behavior, and counterproductive work behavior.

The researcher presents an examination of the underlying concepts that comprise job embeddedness – links, fit, and sacrifice. Following the literature review of job embeddedness and its related organizational concepts, the researcher presented a review of personality psychology, with a specific emphasis on trait theory. In particular, the five-factor model of personality is explained. The broad measures of openness,

conscientiousness, extraversion, agreeableness, and neuroticism have also been explained by the researcher, as well as criticism of the five-factor model. The researcher concludes at the end of this section that measures of personality traits are useful in understanding individual behavior, but still have not been shown to be singularly explain how an individual may have behaved in an organizational context.

A review of the state of the American healthcare industry was examined using U.S. Bureau of Labor Statistics (BLS, 2016a) reports on the expected 19% growth of healthcare jobs in America, with greater job growth than any other sector in the U.S. Similarly, with an unemployment rate 1.6% lower than the U.S. national average, healthcare employees have greater job mobility (BLS, 2016b). Related specifically to job embeddedness, Holtom and O'Neill (2004) and Reitz and Anderson (2011) both encouraged the use of job embeddedness as a better measure of organizational fit among healthcare organizations as alternatives to traditional organizational measures.

The researcher examined the overlap of personality and organizational psychology to show that research gaps have left room in both fields of organizational and personality psychology for this study. A persistent theme in the literature review was also explained: that most research has been hampered by reliance on quantitative tools that may have been subject to misinterpretation and the limitations of language. These lexical faults were recognized as a drawback of contemporary quantitative research in both organizational and personality psychology. The literature review also demonstrated that organizational and personality studies have relied on quantitative work, providing the basis for further quantitative designs. Finally, the specific quantitative tools used in this quantitative experiment were reviewed before moving into Chapter 3, discussion of

methodology and instrumentation. Specifically, this research used a quantitative correlational design with a survey that used the 7-item Global Embeddedness Survey (Crossley et al., 2007) and the NEO-Five Factor Inventory -3 (Costa, & McCrae, 1992).

Theoretical Foundations

This research was based upon two theories of psychology, job embeddedness (JE) theory and trait theory. Job embeddedness theory built on Kurt Lewin's earlier field theory which proposed that individuals behaved based on his or her interaction with the environment (1951). Through the 1960's, field theory evolved to become fit theory and came to include organizational commitment (OC; Shuck & Wollard, 2009) and job satisfaction (JS; Chen et al., 2016). Job satisfaction theory proposed that those who were satisfied were more productive and less likely to leave an organization; correlating positively with productivity, retention, commitment, and other measures of fit; while negatively correlating with turnover intention and indicators of poor fit (Munyeka, 2014). Organizational commitment theory has been the measure of the individual's psychological attachment to an organization (Meyer, Kam, Goldenberg, & Bremner, 2013). While Job Satisfaction and Organizational Commitment have remained the two main measures of fit in an organization (Su et al., 2015), neither JS nor OC fully accounted for fit.

As a result, job embeddedness theory was introduced in 2001 (Mitchell et al., 2001) and suggested that JS and OC were deficient measures of fit because only a limited number of turnovers could be explained by poor JS or low OC (Mallol, Holtom & Lee, 2007). The components of job embeddedness theory have been the concepts of links, fit, and sacrifice. Fit contained all the traditional components of fit theory and is related to

both JS and OC theories, but also added measures of individual perceptions of on-the-job and off-the-job dimensions (Yao, Lee, Mitchell, Burton & Sablynski, 2004). These theories of environmental fit were embodied by links, which represented interpersonal connections, and sacrifice, which introduced the cost of leaving an organization (Mitchell et al., 2001). In particular, job embeddedness theory introduced a new factor of sacrifice that inserted more environmental variables, like community and job mobility, into fit theory.

Ghosh and Gurunathan (2015a) examined 37 studies published between 2001 and 2011 and found that job embeddedness theory demonstrated discriminant validity (Holtom & O'Neill, 2004) and the growth of job embeddedness theory since 2001 has added to the organizational psychology literature in the United States, India, Europe (Ghosh & Gurunathan, 2015a), and Asia; with a comparatively large number of job embeddedness studies published in the Journal of [the] Korean Academy of Nursing (Jeon & Yom, 2014; Kim, Kim, Kim, Yu, & Lee, 2014; Kim & Ryu, 2016; Mun & Hwang, 2016). Prior to Ghosh and Gurunathan (2015a), Lee et al. (2014) supported the discriminant validity of job embeddedness and found that after approximately 13 years of research, gaps related to cognition, attitudes, and individual behavior still needed to be explored in the context of job embeddedness theory.

Trait theory and the five-factor model. The second theoretical basis for this research was trait theory. Trait theory proposed that behavior could be ascribed to specific traits or combinations of an individual's traits (Eysenck, 1967). After its contemporary development by Gordon Allport, Raymond Cattell and Charles Spearman evolved trait theory in the mid-1940's by grouping generalizable traits that culminated in

the development of a sixteen personality factor survey (Verma & Singh, 2014). In 1967, Hans Eysenck proposed that only two main traits of extraversion and neuroticism varied to form four major personality types, prompting further simplification of Cattel and Spearman's original 35 traits. Other factors continued to be considered as part of a generalized model of personality based on trait theory and traits theory vacillated between expanding and simplifying trait models for decades until Lewis Goldberg proposed the "Big Five" in 1981 (McCrae & Costa, 2013). The "Big Five", or the five-factor model, considered five broad personality traits to be the most utilitarian model of trait theory (Fazeli, 2012). In the 1980's and 1990's, McCrae and Costa validated the five-factor model (2010), which remained the most widespread trait measurement model in personality psychology (Nilsson, 2014). The five personality traits of the five-factor model were defined as:

- ***Openness:*** Related to fantasy, feelings, ideas, and values (Kaufman, 2013); those with higher openness are seen as adaptable, flexible, curious and liberal. Those with lower openness are more predictable and less prone to impulsive behavior (Kaufman, 2013).
- ***Conscientiousness:*** A relative measure of how involved an individual becomes in tasks, providing a measure for a sense of duty and follow-through (Judge & Ilies, 2002).
- ***Extraversion:*** Reflects individual sociability, or the desire to be around others (Costa & McCrae, 1992).
- ***Agreeableness:*** How likely someone is to cooperate with others (Bradley et al., 2013).
- ***Neuroticism:*** Includes caution, shyness, and self-consciousness that, in extreme cases, is correlated with pathological anxiety, depression, and other negative manifestations (Paulus et al., 2016).

The gap between job embeddedness theory and trait theory. Trait theory has been applicable to job embeddedness theory and Lewin's original field theory (1951), as

the five-factor model could be used to show how the individual fit into an environment (Barrick & Mount, 1991). Since its proposal in 2001, job embeddedness theory has improved on previous theories of job satisfaction and organizational commitment, but job embeddedness still could not fully account for individual behaviors (Mitchell et al., 2001). Similarly, trait theory alone could not explicitly account for Lewin's environment and theories of fit. This research intended to help address the theoretical gaps between job embeddedness and trait theories (Hilliard & Boulton, 2012) with a practical research study of American healthcare workers. This research hypothesized that there was a significant correlation between job embeddedness and the personality traits of the five-factor model among American healthcare employees. This research was intended to further the discussion regarding the continued separation of organizational and personality psychology in at least the American healthcare industry (Lee et al., 2014).

Review of the Literature

The following review of the literature begins with a review of job embeddedness theory in the context of fit theory (Su et al., 2015), with an emphasis on how job embeddedness compared to the two most common measures of fit, job satisfaction (JS) and organizational commitment (OC) before briefly addressing turnover intention. An examination of the underlying concepts that comprise job embeddedness – links, fit, and sacrifice – have also been explained. The researcher also examined related concepts of fit like burnout, culture, climate, organizational citizenship behaviors, and counterproductive work behaviors. The literature review presented current research on job embeddedness, as well as gaps in the research. This section concludes by noting that research gaps point to a greater need to understand individual variables that may affect job embeddedness.

Job embeddedness. Mitchell et al. proposed a multidimensional, composite model of attachment commitment in 2001 that they termed "embeddedness", now "job embeddedness". Job embeddedness was defined as a measure of how concepts of links, fit, and sacrifice interact to explain why a person remains with an organization or leaves (Mitchell et al., 2001). Lee et al. (2014) defined links to be the social and personal ties an individual has to others in and around the organization. Fit contained the individual's relationship with the job, the work tasks being performed, and the conditions under which they are performed (Mitchell et al., 2001). Sacrifice represented the choice the individual is making to be at the organization instead of somewhere else (Lee et al., 2014). The need for a better measure of organizational fit came from the continued observation that traditional measures of organizational fit provided by job satisfaction and organizational commitment theory could not accurately predict turnover intention (Jiang, Liu, McKay, Lee, & Mitchell, 2012). Job embeddedness attempted to address these deficiencies by incorporating the new concept of sacrifice, or the opportunity costs associated with leaving. Similar to continuance and normative commitment of organizational commitment theory, sacrifice added a variable that accounts for what keeps the individual tethered to the organization. The original research by Mitchell et al. (2001) examined two convenience samples, a group of grocery store employees that yielded 177 useable responses, and 208 responses from a community hospital. The original study found that job embeddedness was positively correlated with JS in both sample groups (r= .43 for the grocery store employees and .57 for the hospital employees, both $p < .01$) as well as with OC (r = .44 and .54, respectively, $p < .01$). Job embeddedness was also found to be negatively related to job search activity.

The distinction from job satisfaction was a key concept of job embeddedness as a concept. Mitchell et al. **(**2001**)** posited that shocks, or life changes external to the workplace, like the birth of a child or a spouse hired out-of-state, were major proponents of turnover that had little to do with job satisfaction or even organizational commitment. The factor of sacrifice went beyond traditional turnover intentions and addressed the realities of actually leaving a job. If an individual could not sacrifice the paycheck from the workplace, turnover intention may have been high even while the employee remained in the job. Conversely, an employee with high satisfaction, high commitment, and low turnover intention might have still left after contemplating the emotional cost of not being at home with a newborn. In the case of shocks, job satisfaction and organizational commitment could have indeed been high, and yet the employee still quit (Lee et al., 2014). The concept of "shocks" contributed to an understanding that job satisfaction and organizational commitment might not be enough to make a person stay with the organization. Lee et al. (2014) found that the correlations between job satisfaction and other positive outcomes disappeared when shocks came into the dynamic, implying that while organizational measures of fit had been useful at a macro-level, they could not predict whether or not an employee would stay or go (Mitchell et al., 2001).

Job embeddedness – links. The concept of "links" was that a workplace larger than a sole proprietorship contained interpersonal dynamics between at least two people (Mitchell et al., 2001). Be it a leader-to-subordinate relationship, an office friendship, or an ad hoc project team, these interpersonal dynamics were the individual links that affected job embeddedness (Mitchell et al., 2001). Those who interacted with others related to the organization more frequently had greater links in the organization. Nei,

Snyder, and Litwiller (2015) found in a meta-analysis of 106 primary studies of nurses that network centrality was among the strongest predictors of turnover. Lin and Kwantes (2015) showed the importance of private interactions in the workplace after finding that in a quantitative analysis of 134 participants under quasi-experimental conditions, employees who engaged in high levels of private interaction with co-workers were expected to be better liked, to receive better evaluations, were more likely to receive help from peers, and were perceived to be more likely to be chosen for future projects; even after controlling for personality and social axioms. Ferreira, Coetzee, and Masenge (2013) showed that among black women in a South African firm, having access to psychological career resources, similar to the concept of links, mediated how attached individuals felt within the organization and feelings of belonging.

Mun and Hwang (2016) found that South Korean nurses who valued a relation hierarchy were more embedded than those who favored a hierarchy-oriented culture or an innovation-oriented culture, supporting the argument of the relative importance of job embeddedness' links among clinical nurses. Extrapolating the role of the leader-to-subordinate link, Baogang and Ye (2013) showed that perceptions of organizational and procedural justice correlated positively with embeddedness and negatively with turnover intention. Zhang, Fried, and Griffeth (2012) critiqued current measures of embeddedness items by deferring to the quantity of links, not necessarily the quality of the links; arguing that greater incorporation of social network theory be included in the concept of links. Over a period of two years, Porter, Woo, and Campion (2016) found that a sample of 266 Americans nationwide demonstrated a correlation between job embeddedness, internal networking activities, and a negative correlation with turnover intention, demonstrating

support for the concept of links. Tews, Michel, and Allen (2014) found that among 296 employees from 20 units of an American restaurant chain, coworker socializing correlated with lower turnover intention. Lee and Woo (2015) showed among 283 South Korean nurses, social support correlated positively with job embeddedness and negatively with turnover intention. Lee and Yom (2015) found that among 244 South Korean nurses, job embeddedness correlated positively with organizational, supervisor, and colleagues' support. In a dissertation, Betts (2016) found that among two samples of full time employees (N=318, N=235), friends who left organizations and advisors asking employees to stay both had greater impact on turnover intention than traditional measures.

Job embeddedness – fit. The second factor of job embeddedness, "fit", has been concerned with the two-way relationship between an individual and a condition and could be considered a continuation of classic field and fit theories (Lewin, 1951). The hallmarks of traditional fit measures, Person-Job (PJ) fit, Person-Group (PG) fit, Person-Person (PP) fit, Person-Organization (PO) fit, and overall Person-Environment (PE) were reflected in Mitchell et al.'s original embeddedness items (2001). The assumptions behind these organizational PE measures were that an environment had variables that met needs of the individual, like salaries, that may have affected PE fit. The reciprocal assumption not explicitly expressed in any organizational measure was that individuals have unique variables that respond to the organizational environment. Fit theory included Person-Job (PJ) fit as the compatibility between the individual and the tasks he or she performed at work (Kristof-Brown, Seong, Degeest, Park, & Hong, 2014). PJ fit included the two way relationship of the individual's abilities to meet the job needs, the Demand-

Ability, as well as the job's ability to meet individual needs, the Needs-Supplies (Rauthmann, 2013).

With respect to PJ fit, Tims, Derks, and Bakker (2016) found that job crafting leads to better fit, but increased job crafting may be detrimental to the environment itself and performance (Lu, Wang, Lu, Du, & Bakker, 2014). Poor PJ fit may also be reflected in Counterproductive Work Behaviors (Zhou, Meier, & Spector, 2014), burnout (Brandstätter, Job, & Schulze, 2016) and low engagement (Leon, Halbesleben, & Paustian-Underdahl, 2015). Another aspect of fit, Person-Person (PP) fit, assumed that individuals who were similar to others in the environment would have had better fit (Patterson et al., 2015). The PP fit also included Leader-Member Exchange (LMX) theory and the concept that the leader-led relationship was a key mediator of overall PE fit (Wang, Fang, Qureshi, & Janssen, 2015). Boon and Biron (2016) found that higher quality leader-member relationships mediated turnover over a two-year period. Person-Group (PG) fit was the next progression of fit theory and represented the role of the individual in the immediate work unit, or an individual's identification within a subgroup of the organization (Velez & Moradi, 2012). Person-Organization (PO) fit was the overall compatibility between the individual and the organization and implied a high congruence of values among coworkers to form an organizational identity (Alniaçik, Alniaçik, Erat, & Akçin, 2013).

Overall, PO fit has been the typical "fit" embodied by job satisfaction and organizational commitment research (Chen et al., 2016). Memon, Salleh, Baharom, and Harun (2014) showed a pattern of congruence between employees and their jobs when considering the role of the organizational environment. The researcher distinguished PO

fit from PE fit (Chuang, Shen, & Judge, 2016), though the two concepts have often been conflated in the literature. Indeed, Cameron and Quinn's (2011) Competing Values Framework nested as comfortably under PO fit as it did PE fit, fitting values-based perceptions in both an organization and a larger environment.

Job embeddedness also appeared alongside PP fit and, in particular, leader-member exchange (LMX) theory. Sekiguchi, Burton, and Sablynski (2008) examined job embeddedness as a moderator of relationships among LMX, organization-based self-esteem (OBSE), and organizational citizenship behaviors (OCBs). Two studies involving 367 employees and 41 supervisors, one in a telecommunications company and a second in a manufacturing setting, showed job embeddedness to be a moderator of LMX and OCBs in the telecommunications sample and LMX and OCBs and OBSE and OCBs among a sample of manufacturing employees. Bowman (2009) surveyed U.S. police officers and received 128 useable surveys that showed that positive LMX correlated with positive job embeddedness as well as negative correlations with job search activities. Among a cross sectional sample of U.S. corrections officers, Bergiel, Nguyen, Clenney, and Taylor (2009) found that job embeddedness fully mediated compensation and growth opportunities and partially mediated supervisor support regarding turnover intention. Swider, Boswell, and Zimmerman (2011) received 895 surveys from university employees to find that job search activities were higher among those with low job embeddedness and JS. Harris, Wheeler, and Kacmar (2011) examined job embeddedness in the context of LMX and conservation of resource theory among a sample of 205 automobile employees to show that job embeddedness correlated with JS and turnover intention when accounting for LMX perceptions.

Other symptoms of improper fit included both negative and pro-social behaviors, as outlined above in PJ fit. Holistically, poor job performance is the ultimate organizational measure of the individual's fit. As such, the presence of contributing factors to poor performance were considered indicators of poor fit. The absenteeism, burnout, counterproductive work behaviors, and decreased productivity of job satisfaction may have more directly indicated poor fit, while even the pro-social behaviors of organizational citizenship behaviors (OCB) and seemingly beneficial job crafting may have been de facto organizational measures of poor fit. Liu, Luksyte, Zhou, Shi, and Wang (2015) found that in a cross sectional sample of 224 workers, overqualified workers had increased counterproductive work behaviors, effectively diminishing organizational performance as a result of improper PJ fit. Maynard and Parfyonova (2013) found similar results among overqualified workers who reported higher withdrawal behaviors. Afsar and Badir (2016) explored PO fit to examine the moderating effects of job embeddedness on organizational citizenship behaviors among 673 employees and 131 managers of a hotel in China, finding a relationship between PO and OCB. Seok (2013) examined 393 sample surveys collected from nurses in four South Korean hospitals to find that PO fit, PJ fit, and personality traits all correlated negatively with turnover intention.

Job embeddedness – sacrifice. Mitchell et al. (2001) considered the third factor of embeddedness to be sacrifice. "Sacrifice" was the measure of material and psychological costs associated with leaving a job; alluded to when defining continuance and normative commitment. Sacrifice also implied that the opportunity cost of leaving was an active part of the individual's response to an organizational survey. Sacrifice

depended on a logical argument that if an individual left the organization, then it was to seek something better than the current conditions. If one left for a better paying job, the sacrifice calculation was not specifically material in nature, but a choice that asked the individual questions about the psychological cost of leaving. Conversely, the individual who was being bullied at work was less likely to be concerned with giving up the material benefits of the paycheck than he or she would be to gain the psychological improvement in conditions with the removal of the bully. As such, sacrifice has been a measure of what is being given up, but also included a question of what would be gained.

Mitchell et al.'s (2001) original measure of sacrifice included specifically what would be given up by leaving. It was fair to also ask what would be gained by leaving, a measure of opportunity cost (Borah & Malakar, 2015). Similarly, Mitchell et al. (2001) asked pragmatically what would be sacrificed by the individual by having to physically change jobs – possibly moving to a new city – and how his or her standing in the community might be impacted. If an individual had low links and low fit but could not find another job with the same material or psychological benefits, then the sacrifice equation would be a zero-sum game and the individual would be highly embedded – regardless of his or her job satisfaction or organizational commitment. This would have represented a measure of sacrifice in terms of psychological sacrifice, but also implies – like Person-Environment fit – that individual externalities affect organizational measures.

Like the original shocks that caused the majority of turnover, sacrifice included these external factors in a way not expressly articulated in organizational commitment or job satisfaction surveys. Robinson, Kralj, Solnet, Goh, and Callan (2014) surveyed 327 Australian hotel employees to validate the job embeddedness model and found a negative

correlation between sacrifice and turnover intention and a positive correlation between links and turnover intention. Among migrant workers in Australia, Halvorsen, Treuren, and Kulik (2015) found that among a sample of 40 migrant workers, they recorded low sacrifice as part of their job embeddedness, assigning little value to the on-the-job aspect of sacrifice, indicating that sacrifice may be less important to migrants in Australia and is not correlated with links and fit.

Job embeddedness research to date. Since its introduction in 2001, embeddedness has shown discriminant validity in both its original formats as well as a shortened 7-item survey. While Ghosh and Gurunathan found in 2015(a) that research needed to be done to support job embeddedness' discriminant validity as compared to job satisfaction and organizational commitment, job embeddedness was statistically significant among heterogeneous groups that differed among at least culture, industry, peers, groups, and genders; and embeddedness correlated with variables that were also associated with personality. The original research on embeddedness came in the Mitchell et al. study in 2001. The study used data from two organizations characterized by environments with high turnover. The first organization was a regional grocery store chain and the second organization was a community-based hospital that completed a 42 item and a 48-item survey of Likert items, respectively. Their findings were that the original embeddedness items were valid and that additional work was needed to see how embeddedness interacts with other variables (Mitchell et al., 2001). Later, Crossley et al. (2007) surveyed participants from a mid-sized organization in the Midwestern United States that provides assisted living for older adults and disabled youths. Their findings indicated that the seven embeddedness items were valid and that further research needed

to be conducted. In 2012, Clinton et al. (2012) used a survey based on the 7-items derived from Crossley et al. (2007) that were developed from the original 48 to develop an embeddedness survey specific to the United Kingdom's Armed Forces. The 7-item global embeddedness survey was analyzed and the factor structure and loadings of embeddedness were found to be sound and discriminant. Later, Chen et al. (2010) studied a population of knowledge workers from Taiwanese software firms to validate that open-mindedness and organizational commitment were correlated with embeddedness.

When looking at heterogeneous groups, Collins et al. (2014) found that affect, loyalty, professional respect, and contribution correlated with embeddedness in different ways when gender was introduced. Holtom, Smith, Lindsay, and Burton (2014) found that job satisfaction, affective commitment, job embeddedness, and person–organization fit all correlate negatively with turnover. Peltokorpi et al. (2015) found that age, gender, and value orientations like risk aversion among Japanese employees mediated embeddedness scores, validating the 7-item global survey of embeddedness across firms and industries in Japan. Critics of embeddedness argue that the concepts of links, fit, and sacrifice are too broad (Zhang et al., 2012). Lee et al. (2014) noted that confusion over the term "community" and its broad definition led to questions about the validity of items tied to sacrifice and fit. Naturally, the limitation of any lexically based instrument is the potential for the language to be misinterpreted by the reader. Further, a limitation of studies to date is that a single population has not been studied repeatedly (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015). As a newer concept in psychology, more job embeddedness research is required to further support that it is a unique concept. Ghosh and Gurunathan

(2015a) also called for more research on job embeddedness and up to 32 variables potentially related to job embeddedness.

Job embeddedness as a unique construct. Ghosh and Gurunathan (2015a) examined 37 studies published between 2001 and 2011 and called for further study on factors related to an individual's disposition, values, behaviors, mood, attitude and other factors in relation to embeddedness. The appeal of job embeddedness has been that it adds variables to the empirical research of turnover that typically defaults to JS and OC (Holtom & O'Neill, 2004). The growth of job embeddedness has helped add to the turnover literature in the United States, India, and Europe (Ghosh & Gurunathan, 2015a), as well as Asia, with a relatively large number of job embeddedness studies published in the Journal of [the] Korean Academy of Nursing (Jeon & Yom, 2014; Kim & Ryu, 2016; Kim et al., 2014; Mun & Hwang, 2016).

Prior to Ghosh and Gurunathan (2015a), Lee et al. (2014) supported the discriminant validity of job embeddedness and found that after approximately 13 years of job embeddedness studies, aspects of cognition, attitudes, and individual behavior still needed to be explored alongside job embeddedness. Cunningham, Fink, and Sagas (2005) validated the job embeddedness model from two independent samples intercollegiate softball coaches (N = 214) and athletic department employees (N = 189). The convergent, discriminant, and predictive validity of job embeddedness was established and demonstrate the efficacy of job embeddedness in explaining why employees stay.

Mallol et al. (2007) surveyed employees at south Florida banks, yielding 180 useable responses and turnover data from the bank itself. Analysis showed higher off-the-job embeddedness (t = 1.7, p < .05) among Hispanics than Caucasians, showing validity

for job embeddedness in the context of PE fit theory. Clinton et al. (2012) studied two cross sectional samples, one of 9,708 responses from the UK's armed forces and a second sample of 108 IT professionals to conclude that a job embeddedness survey was valid and reliable, and had discriminant validity compared to both JS and OC.

Alternatives to job embeddedness. The primary organizational measure of Person-Environment fit has been job satisfaction (JS), which remained the most prolific alternative to job embeddedness (Yücel, 2012). Dalal and Credé (2013) found over 29,000 studies related to job satisfaction in the American Psychological Association's PsycINFO database in 2011, more than twice the number of job attitude and similar constructs. As one of the most researched aspects of organizational psychology (Alniaçik et al., 2013), job satisfaction has evolved since the 1930's to be defined as a measure of how people feel about their jobs and its components (Zhu, 2013). JS is traditionally measured in terms of general job satisfaction or in terms of various components such as intrinsic or extrinsic satisfaction (Landy & Conte, 2013).

Comparing job satisfaction to the second most prolific organizational measure of fit, organizational commitment, the concept of affective commitment (Imran, Arif, Cheema, & Azeem, 2014) also correlated with attitude-based measures of job satisfaction. Regardless of the instrument, job satisfaction is limited by depending on individual opinions, perceptions, and self-reports. Another complicating factor of job satisfaction has been that it has also been used as an economic indicator, stretching the concept beyond the organization to provide a broad measure of even broad economic health (Gambacorta & Iannario, 2013).

While one of the two oldest contemporary measures or organizational health, job satisfaction has still been difficult to measure. Van Saane, Sluiter, Verbeek, and Frings-Dresen (2003), found 35 unique job satisfaction instruments in 2003, applying reliability and validity criteria that shrank the list to just seven instruments and excluded the most popular survey, the Job Descriptive Index, originally developed in 1969. Thompson and Phua (2012) developed a 4-item inventory of affective job satisfaction that countered the critique of Van Saane et al. (2003) and new inventories continued to be developed. Brown, Charlwood, and Spencer (2012) called for a continuing need to measure job satisfaction and the underlying reasons for reported satisfaction, noting, much like Mitchell et al. (2001), that job satisfaction by itself does not answer the organization's questions of why respondents responded the way they did. In most cases, job satisfaction inventories, surveys, and questionnaires are quantitative in nature and rely on self-reporting.

In addition to the most common measures of job satisfaction and organizational commitment, William Kahn proposed a theory of personal engagement in 1990 (Shuck & Wollard, 2009) and explained that individuals engaged by expressing and employing themselves in the workplace, or disengaged by withdrawing and defending against personal engagement. Kahn defined conditions related to meaningfulness, safety, and availability as the first factors of engagement (Shuck & Wollard, 2009). Nimon, Shuck, and Zigarmi (2016) found that employee engagement and job satisfaction correlated closely; so much so that questions remained regarding the difference between the two constructs. Engagement has been measured qualitatively via interviews and quantitatively using engagement, burnout, and job demands inventories (Leon et al., 2015), making

engagement another organizational measure in support of fit theory (Meyer & Allen, 1991), along the same lives of organizational climate and organizational culture (Ehrhart, Schneider, & Macey, 2013).

Job embeddedness and turnover intention. Bond (2013) found that an "intent to leave" instrument did not show increased intent to leave when job satisfaction was high, participants were committed to the organization, and had low intent to leave; but found that specific items of low satisfaction with respect to pay and promotion potential were present. Yücel (2012) found in a cross-sectional study that yielded 188 completed surveys from Turkish manufacturing sector employees indicated that JS is one of the most antecedents of OC and turnover intention and suggested higher JS results in higher OC and lower turnover intention. Forsyth (2016) also found in a cross sectional study of 362 U.S. Army Captains that trust and commitment negatively correlated with intent to leave, showing that individual traits affect perception of the entire organization. Turnover, to include turnover intention and related activities like job searches, have been studied alongside job embeddedness since the original research by Mitchell et al. (2001) and has demonstrated significant correlation with job embeddedness. Besich (2005) found in a cross sectional sample of 3,078 federal employees, that job embeddedness was a unique construct that better predicted turnover than traditional models of turnover intention. Fletcher (2005) surveyed U.S. Air Force members who provided 224 useable surveys and found that job embeddedness was correlated with JS and OC (r = .64 and .61, $p < .01$, respectively) as well as negatively correlated with job search activities.

Similarly, Allen (2006) found that among a cross sectional sample of financial services employees who provided 232 responses to surveys that specific socialization

tactics correlated with job embeddedness and turnover. Holtom and Inderrieden (2006) found among a cross sectional sample of 1,898 graduate management students that job embeddedness negatively correlated with turnover ($r = .16$, $p < .001$). Halbesleben and Wheeler (2008) surveyed American professionals from across at least six different occupational categories and recorded 573 useable responses from two different times over the course of approximately two months. The results showed workplace engagement to be different from job embeddedness and that job embeddedness was a predictor of turnover intention while engagement was not.

In 2008, Tanova and Holtom recoded questions and responses from the European Community Household Panel's (ECHP) 2000-2001 survey, using 8,952 responses to assert that job embeddedness was negatively correlated with turnover ($r = -.10$, $p < .01$), but higher in Spain than Italy. Job embeddedness was also positively correlated with job satisfaction ($r = 0.31$, $p < .01$) and negatively correlated with job search activities ($r = -.09$, $p < 0.01$). Felps et al. (2009) tested a model of turnover contagion using job embeddedness and job search activities of coworkers. Using two cross sectional samples of bank employees and hospitality employees, Felps et al. (2009) found a correlation between job embeddedness correlated negatively with job search activities and turnover. Ghosh and Gurunathan in 2014 researched corporate social responsibility (CSR) to show that CSR correlated with higher job embeddedness and lowered turnover intention. A cross sectional survey of 501 financial services managers in 19 Indian firms indicated that on-the-job embeddedness negatively correlated with turnover intentions.

Holtom et al. (2014) performed a longitudinal study explored job satisfaction, parts of organizational commitment, job embeddedness, and PO fit as predictors of

turnover at the U.S. Air Force Academy, 643 students provided results that significantly negatively correlated with turnover for all aspects. Tziner, Ben-David, Oren, and Sharoni (2014) found that among a cross sectional sample of 125 surveyed employees in an active workplace, how attached a person felt was directly related to turnover intentions and was not mediated by the traditional measure of job satisfaction, demonstrating that job satisfaction was not related to commitment or retention. Ghosh and Gurunathan (2015b), using a cross sectional survey of 501 financial services managers in 19 Indian firms indicated that job embeddedness correlated with the concept of commitment based human resource practices (CBHRP) and negatively correlated with turnover intentions. Harman, Blum, Stefani, and Taho (2009) studied a cross sectional sample from banks in the Albanian capital of Tirana that yielded 164 useable surveys. Job embeddedness and job satisfaction both correlated negatively with turnover intention while OC did not significantly correlate with turnover. Lang, Kern, and Zapf (2016) showed that in a study of 192 employed participants, only proactive employees and not satisfied or embedded employees were at risk to leave a job. Akgunduz and Sanli (2017) used Social Exchange Theory and reciprocity theory to show that among 400 Turkish workers, advocacy and perceived organizational support correlated positively with job embeddedness and negatively with turnover intention. Among healthcare workers, Zhao et al. (2013) found that among 1,000 nurses in state hospitals in China, work life correlated with job embeddedness and commitment, while low quality of work life correlated with turnover intention.

Job embeddedness and individual variables. Chen et al. (2010) sampled Taiwanese software firms and analyzed 144 useable responses to show that he results

show that open-mindedness and OC were correlated positively to job embeddedness. Job embeddedness also correlated with team effectiveness but not with job autonomy. Ng and Feldman (2010) sent two surveys at two times six months apart via an online survey service to yield 329 useable surveys and found that job embeddedness was positively related to innovation-related behaviors (β =.22, p < .05, R^2 = .03). Ramesh and Gelfand (2010) investigated the cultural generalizability of the job embeddedness theory by examining turnover in the United States and India. With a sample of 797 responses, job embeddedness predicted turnover in both countries, with different dimensions of individualistic and collectivist worldviews impacting item response.

Wheeler, Harris, and Sablynski (2012) studied job embeddedness in the context of conservation of resource theory, claiming that employees invest proportional amounts of effort into work and, in a cross sectional sample of 1,989 hospital employees, job embeddedness correlated positively with work effort and performance. Sun, Zhao, Yang, and Fan (2012) found among a cross sectional sample of 733 Chinese nurses, that job embeddedness correlated with self-reported psychological capital and job performance, supporting a positive psychology approach among the population of Chinese nurses. Tews, Michel, Xu, and Drost (2015) examined the four dimensions of fun on job embeddedness, including fun activities, manager support, coworker socializing, and fun job responsibilities to show in a cross-sectional study of 234 full-time working millennials that "fun job responsibilities" were the strongest predictor of job embeddedness.

Darrat, Amyx, and Bennett (2016) found that salespeople with low job satisfaction were more prone to deviant behavior while being embedded. Conversely,

those with high job satisfaction and are embedded are less likely to behave inappropriately. In this manner, Darrat et al. (2016) demonstrate that job satisfaction and job embeddedness can be exclusive concepts. In the most recent summary of job embeddedness, Ghosh and Gurunathan (2015a) examined 37 papers on job embeddedness published between 2001 and 2011 and concluded that further study on factors affecting both on-the-job and off-the-job embeddedness needed to be done. Consequently, one of the 32 factors identified for further research is personality (Ghosh & Gurunathan, 2015a). A person's disposition, values, behaviors, mood, and other factors that combine in the individual respondent may have an effect on how job satisfaction, organizational commitment, and job embeddedness are recorded.

Similarly, Holtom, Burton, and Crossley (2012) surveyed employees of a U.S. correctional facility and used 279 responses to show that negative shocks among those who were embedded correlated with OCBs and CWBs as well as job search behaviors differently based on their level of job embeddedness. Holtom et al. (2012) posited that this finding warranted more research regarding job embeddedness' antecedents and specifically identified personality. Marasi, Cox, and Bennett (2016) found among 353 nurses who responded to online surveys that highly embedded employees were more likely to engage in workplace deviance, implying that embeddedness might also negatively impact the organization. Allen, Peltokorpi, and Rubenstein (2016) used individual conservation of resources theory to show that highly embedded employees were less likely to quit, even under adverse conditions in two independent samples in Japan and the United States (N=597, N=283). These two studies highlighted a so-called "dark side" of job embeddedness that added a question of what type of person stays with

an organization under adverse and negative conditions; a question that points directly to personality psychology.

Along these same lines, Boswell, Gardner, and Wang (2016) found lowered job satisfaction and organizational commitment after conducting job search activities, an aspect of "reluctant staying" that demonstrates a greater need to understand the individual's role in the job embeddedness measure. Vandenberghe and Basak Ok (2013) showed that among a sample of 312 and 186 Canadian employees surveyed 6 months apart, those who exercised proactive behaviors had higher job embeddedness at both time periods. Qazi, Khalid, and Shafique (2015) considered individual personality aspects among 108 hospitality employees in Pakistan to show that perceptions of politics and insecurity correlated with lower levels of job embeddedness and higher turnover intention.

Trait theory. The following section is a review of personality psychology, with a specific emphasis on trait theory. In particular, the researcher explains the five-factor model of personality. The broad measures of openness, conscientiousness, extraversion, agreeableness, and neuroticism have been explained, as well as criticism of the five-factor model. The researcher concluded at the end of this section that measures of personality traits have been useful in understanding individual behavior, but still cannot be used alone to explain how an individual may have behaved in an organizational context.

The five-factor model of personality. The five-factor model of personality has been a nomothetic model of personality that posited that an individual can be compared against a standard of norms rather than an inherent uniqueness. In this case, the five-

factors have been defined as openness, conscientiousness, extraversion, agreeableness, and neuroticism (McCrae & Costa, 2010). As job embeddedness had been shown to correlate with individual variables, individual traits may have also correlated with job embeddedness. Critics argued that nomothetic measures of personality may be susceptible to mood and individual volatility during a survey or questionnaire, but Cobb-Clark and Schurer (2012) demonstrated that "Big Five" personality traits remained stable among working age adults over a four-year period. Similarly, critics argued that the big five were simply too broad. A skewing of trust and modesty, which are facets of agreeableness, for example, may have also presented as neuroticism. Indeed, Eysenck (1991) criticized the five-factor model and called for limiting traits to three large traits of psychoticism, extraversion, and neuroticism. The following sections show that while the "Big Five" traits are sometimes correlated and sometimes share lexical definitions, neuroticism, extraversion, openness, agreeableness, and conscientiousness have been shown to be demonstrably unique concepts (Pickering, Cooper, Smillie, & Corr, 2013).

Neuroticism. While the trait of neuroticism included healthy caution, a relatively high neuroticism score on a survey could correlate with shyness and self-consciousness that could lead to negative behaviors or attitudes, and eventually pathological anxiety, depression, and other negative manifestations (Paulus et al., 2016). These negative behaviors could be reflected in organizational measures that depend on attitude like job satisfaction (Judge & Ilies, 2002). Neuroticism was also recognized as a possible factor in emotional and personality disorders, supporting Eysenck's position that psychoticism, extraversion, and neuroticism dominated the personality traits (Barlow, Sauer-Zavala, Carl, Bullis, & Ellard, 2014). Personality psychology showed correlations with

neuroticism and disorders specific to neuroticism, differentiating it from other factors (Ormel et al., 2013).

When examining the roots of neuroticism, Barlow, Ellard, Sauer-Zavala, Bullis, and Carl (2014) argued that while neuroticism has typically been thought of as a stable and genetically based trait, epigenetic factors – the interaction of genes and the environment – may change the expression of neuroticism. When looking for a generalizable model of senior leadership personality, Palaiou and Furnham (2014) found that among 138 chief executive officers, CEOs were significantly less neurotic and more conscientious than lower-level managers. In the healthcare field, Somoray, Shakespeare-Finch, and Armstrong (2015) showed that among a sample of 156 mental health staff in Australia that high neuroticism correlated with secondary traumatic stress and that low neuroticism contributed to higher quality of work life ahead of other traits.

Extraversion. Measures of extraversion reflected individual sociability, or the desire to be around others (Costa & McCrae, 1992). As most aspects of Person-Environment fit depended on other individuals being present in the environment, those with higher extraversion were assumed to have higher job satisfaction and more positive attitudes in social settings. Indeed, Watson et al. (2015) found that underlying facets of extraversion, including positive emotionality, sociability, assertiveness, and experience seeking, correlated with lower depressive symptoms, psychopathology, social dysfunction, social anxiety, social aloofness, and restricted affectivity. In this manner, extraverts would expect to have more positive links within a work environment (Mitchell et al., 2001). Watson et al. (2015) also found that the concept of experience seeking correlated positively with externalizing behavior, or social interactions, while being

negatively correlated with openness, suggesting that extraverts prefer sociability to new experiences.

In an attempt to show a common personality among nurses, Kennedy, Curtis, and Waters (2014) found that among 72 emergency nurses, extraversion, openness, and agreeableness were the strongest traits when compared to the general population. In examining insurance salespeople, Wihler, Meurs, Momm, John, and Blickle (2017) found that a balanced measure of extraversion and conscientiousness, when compared to the general population, correlated with higher workplace performance. Eckhardt, Laumer, Maier, and Weitzel (2016) found that among a sample of 813 information technology employees, IT consultants had higher extraversion than did programmers and systems engineers. In similar research, Leutner, Ahmetoglu, Akhtar, and Chamorro-Premuzic (2014) found that among 670 online participants, extraversion and agreeableness were the only two five factor traits that correlated significantly and positively with entrepreneurial characteristics.

Openness. Openness to experience was related to fantasy, feelings, ideas, and values (Kaufman, 2013), making it positively correlated with similar behaviors found associated with extraversion (Arora & Rangnekar, 2015). Those who scored relatively higher on a measure of openness are seen as adaptable, flexible, curious and liberal. In this way, both openness and extraversion embodied the sensation seeking or excitement seeking behaviors of both traits – calling back to Eysenck's original claim that a three-factor model of psychoticism-extraversion-neuroticism was more precise than the five-factor model (Pickering et al., 2013). Those who score relatively lower in openness were more predictable, less prone to impulsive behavior, and would be considered

traditionalists (Kaufman, 2013). While the measures of this trait and its presence in the five-factor model remain, there was less of a clear connection to job satisfaction, organizational commitment (Judge & Ilies, 2002), or job embeddedness; particularly when compared alongside extraversion.

That said, Nieß and Zacher (2015) showed that higher openness correlated with upward job changes into management positions. Similarly, Lounsbury, Sundstrom, Gibson, Loveland, and Drost (2016) examined archival data comparing managers (*N*=9,138) with non-managers (*N*=76,577) to find that managers scored higher than non-managers among all personality traits, particularly openness. Sarwar, Hameed, and Aftab (2013) studied 301 Middle Eastern public and private sector employees to find that while conscientiousness and agreeableness were positively correlation with a decision to stay, openness correlated positively with turnover intention. Among a sample of 1,050 working adults, Akhtar, Boustani, Tsivrikos, and Chamorro-Premuzic (2015) found that openness correlated with employee engagement more than extraversion and conscientiousness.

Agreeableness. Agreeableness was the measurement of how likely someone would be to cooperate with others, depending on both communication and individual attitude (Bradley et al., 2013). The sub-facets of agreeableness included trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness or sympathy (Matsumoto & Juang, 2012). If this same spectrum existed in the workplace environment, then agreeableness may be reflected in job satisfaction (Judge & Ilies, 2002), organizational commitment, or job embeddedness. Schippers (2014) found agreeableness and conscientiousness mediated the effects of social loafing – or free riding – in team

performance. Farhadi, Fatimah, Nasir, and Shahrazad (2012) also found that agreeableness and conscientiousness correlated negatively with workplace deviant behavior – or counterproductive workplace behavior.

Indeed, Shih and Chuang (2013) found that organizational citizenship behaviors correlated positively with the big five traits of agreeableness and conscientiousness. Guay et al. (2013) found in a study of 113 South Korean bank employees that agreeableness and conscientiousness were both strongly and positively correlated with each other and job performance. Similar to other attempts to show a common personality typology, Lounsbury, Sundstrom, Levy, and Gibson (2014) found that among 12,695 information technology workers in Holland, IT workers had higher agreeableness than the general population. Eschleman, Bowling, and LaHuis (2015) showed that, in a sample of 215 full time employees, agreeableness and conscientiousness moderated reactions to work stressors. Similarly, Bexelius et al. (2016) found in a sample of 289 Swedish doctors that aspiring primary care physicians had higher agreeableness than surgeons or psychiatrists.

Conscientiousness. Conscientiousness was a relative measure of how involved an individual became in tasks, providing a measure for a sense of duty and follow-through (Judge & Ilies, 2002). Conscientiousness presented in sub-facets of orderliness, industriousness, neatness, cleanliness, and planfullness (Roberts, Lejuez, Krueger, Richards, & Hill, 2014). Roberts et al. assessed that conscientiousness and beneficial health effects like positive aging are positively correlated. In a work context, Bakker, Demerouti, and Lieke (2012) found that high conscientiousness correlated positively with work engagement, task performance, and active learning. Lin, Ma, Wang, and Wang (2015) even found that conscientiousness translates to performance both when stress is

viewed as a challenge and as a negative stressor. Conscientiousness also correlates with the concepts of normative and affective commitment (Allen & Meyer, 1990), offering a trait-based reason for organizational commitment. Along these same lines, job satisfaction could reflect conscientiousness as an individual enjoyed greater Person-Job fit than someone of less conscientiousness.

In the healthcare sector, Chen, Perng, Chang, and Lai (2014) found that among 1,246 nurses in northeastern Taiwan, multiregression analysis of the five-factor model showed that conscientiousness correlated with intent to stay. Monzani, Ripoll, and Peiró (2015) showed in a sample of 228 students with work experience that those with lower conscientiousness reported higher satisfaction after receiving leader feedback. Eskreis-Winkler, Shulman, Beal, and Duckworth (2014) examined an earlier concept of grit, or perseverance, to show that conscientiousness correlated higher than other traits among military special forces (*N*=677), sales representatives (*N*=442) students (*N*=4,813), and adult online survey participants (*N*=6,362) when testing for grit. Colbert, Barrick, and Bradley (2014) found among 424 top management teams of American credit unions that conscientiousness showed the largest deviation from the general population.

Personality studies with organizational correlates. From past research, differences in personality traits correlated with differences in traditional job satisfaction and organizational commitment survey results, providing support for a similar correlation between job embeddedness scores and personality traits. Christiansen, Sliter, and Frost (2014) found that individuals high in neuroticism reported all new job tasks as distressing, lowering job satisfaction and demonstrating that personality affects individual perceptions of job satisfaction. Similarly, Choi et al. (2015) found that all of the big five

personality traits correlated with aspects of organizational commitment and Singh, Singh, and Singh (2014) found that executives with high neuroticism were more likely to measure higher turnover intention than their peers. Openness to new experiences also correlates with a willingness to seek work elsewhere, suggesting a negative relationship between openness and organizational commitment (Minbashian, Earl, & Bright, 2013). Karatepe (2013) found that among 174 Iranian hotel employees, job embeddedness correlated with high performance, higher social support, and lower turnover intention. Singh (2016) found that among 401 employees in Trinidad, conscientiousness and extraversion correlated with job embeddedness.

Guinot, Chiva, and Roca-Puig (2014) identified organizational factors of interpersonal trust and stress as impacting individual job satisfaction among nurses. When personality is considered as a mediator in a Person-Organization, Person-Environment, or another context of fit, specific traits and outcomes correlate in a manner that has implications for both the organization and the individual. Choi et al. (2015) found that the trait of agreeableness correlated with organizational commitment across cultures. Barnett, Pearson, Pearson, and Kellermanns (2015) found that conscientiousness correlated positively with technology adoption while neuroticism correlated negatively. Sarubin et al. (2015) found that those high in extraversion had no perceived effect following a traumatic event, implying a link between extraversion and resiliency. Christiansen et al. (2014) found that agreeableness and conscientiousness scores correlated predictably with perceived poor Person-Job fit and neuroticism correlated with perceived distress regarding poor Person-Job fit.

One study has shown the relationship between personality and culture during selection, indicating that personality is indeed related to an organizational concept similar to fit and links, but the direct measure of a correlation between embeddedness and personality traits was not explicitly addressed (Gardner et al., 2012). In another study, personality as measured in a big five survey was specifically compared to situations where traits were linked directly to job performance, a traditional organizational measure (Judge & Zapata, 2015). Other research has shown that sub facets of a big five trait, specifically extraversion's social potency and enterprising job performance, directly impacted job performance (Blickle et al., 2015).

Kim and Lee (2016) showed that among 323 first year graduate nurses in South Korea, predictors of turnover included job status, income, Job Satisfaction, the number of hospitals in the region and the number of nurses per bed count. From Kim and Lee's research, aspects of job embeddedness' sacrifice can be seen in the last 2 turnover predictors. Eason (2015) found that among 202 athletic trainers, extroversion and conscientiousness were weakly correlated with Job Satisfaction while a moderate correlation was found with agreeableness and a moderate negative relationship between neuroticism and JS existed. Among 393 Australian nurses, the traits of conscientiousness, openness, and extraversion all correlated with work performance (Ellershaw, Fullarton, Rodwell, & Mcwilliams, 2015). Sadr and Jenaabadi (2015) found among Iranian nurses (*N*=225) that extraversion, agreeableness, and conscientiousness all correlated with organizational health of a hospital.

Kim and Lim (2015) concluded that among 222 university hospital nurses, extraversion, agreeableness, and openness correlated with higher organizational

commitment and job satisfaction. Kim and Lim also suggested an integrated organizational personality model to increase job satisfaction as well as personality fit. Ping, Ahmad, and Hee (2016) found that among Malaysian nurses, personality traits correlated with customer-oriented behavior and that affective commitment was a significant moderator between customer-oriented behavior and agreeableness. Laima (2015) found that among Lithuanian fire fighters, those with higher neuroticism are less committed to the organization, while agreeableness, conscientiousness and extraversion correlated with higher organizational commitment. Syed, Saeed, and Farrukh (2015) found that among 150 university employees in Pakistan, conscientiousness and openness correlated with affective commitment while openness was negatively correlated with continuance commitment, neuroticism and extraversion were negatively correlated with normative commitment. Prayitno, Suwandi, and Hamidah (2016) examined organizational commitment and big five personality traits in the Indonesian construction industry to determine adherence to safety procedures (N = 140) and found that personality traits correlated more significantly than did measures of commitment.

Gaps in research between organizational measures and personality.

Organizations have used JS, OC, and job embeddedness surveys to gauge the overall health of their workforce. Regardless of the results of these organizational measures, relatively committed, satisfied, and embedded people have still left organizations (Mitchell et al., 2001). This research intended to advance understanding of the general population of healthcare workers in America, a critical workforce, and explore a possible relationship between job embeddedness and personality traits that may enable American healthcare organizations to address high turnover intention while expanding Person-

Environment (PE) fit theory. Although a great deal of research has been dedicated to understanding the various relationships among concepts like JS, OC, job embeddedness, culture, and turnover intention; none have explicitly compared personality traits with job embeddedness in the American healthcare industry (Belias & Koustelios, 2014; Hilliard & Boulton, 2012; Mitchell et al., 2001; García Rivera et al., 2013; Suderman, 2012; Wong, & Lim, 2012). One study showed the relationship between personality and culture during selection, indicating that personality was assessed to be related to an organizational concept similar to fit and links, but the direct measure of a correlation between job embeddedness and personality traits has not been consistently explored, much less among the American healthcare industry (Gardner, Reithel, Cogliser, Walumbwa, & Foley, 2012). Further, studies to date have been limited to convenience samples, and American healthcare employees have only appeared in three job embeddedness studies (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015; Reitz & Anderson, 2011).

Ghosh and Gurunathan (2015a) found at least 32 variables could have potentially influenced job embeddedness. An individual's disposition, values, behaviors, mood, attitude and other factors impact job satisfaction, organizational commitment, and job embeddedness survey results. Prior to the review by Ghosh and Gurunathan (2015a), Lee et al. (2014), found that after approximately 13 years of job embeddedness research, there remain aspects of cognition, attitudes, and behaviors of individuals that appear to correlate with embeddedness. Indeed, Lee et al. (2014) claim the most pressing academic issues of embeddedness involve theoretical issues that explore issues like socialization

and psychological capital as possible causal factors for embeddedness. At the highest level, job embeddedness allowed for individual responses that could be focused on just the organization itself, the larger environment which includes off-the-job considerations, or both. In fact, the Global Measure of Embeddedness (Crossley et al., 2007) was revised specifically to include additional instructions that specifically asked respondents to consider "non-work" factors when responding.

There has been a need to study both "on the job" and "off the job" variables that correlated with job embeddedness to better understand it in its Person-Environment context. Research gaps also remained regarding the validity of job embeddedness itself and Ghosh and Gurunathan (2015a) identified three significant gaps in job embeddedness research to date. Building on the concern of potential variables that could affect job embeddedness, variability across samples suggested the differences between "on the job" embeddedness and "off the job" embeddedness may affect job embeddedness measurements (Ghosh & Gurunathan, 2015a). There also remained discussion that job satisfaction or organizational commitment may be stronger measures than job embeddedness, as job embeddedness has significant overlap with both constructs (Holtom & O' Neil, 2004). Two studies found that organizational commitment (Van Dijk & Kirk-Brown, 2003) and one study (Harman et al., 2009) found job satisfaction to be a stronger predictor of intent to leave than job embeddedness.

In terms of personality psychology, incorporating personality into organizational psychology allowed for individual variables that may correlate in a manner than could better predict organizational outcomes. Choi et al. (2015) found that personality and job attitudes impacted measures of organizational commitment. Casciaro et al. noted in 2015

that organizational psychology as a discipline lacked a comprehensive integration with both social network and psychological phenomena. Mäkikangas, Feldt, Kinnunen, and Mauno (2013) argued that research to date has been limited in part due to the complicated measures and constructs of personality psychology. Kell and Motowidlo (2012) researched affective commitment and found that conscientiousness, agreeableness, and extraversion all affected organizational commitment. Dries (2013) called for a holistic model of talent management among human resource organizations that can balance organizational needs with individual variables by considering four aspects of each employee: human capital, including personality attributes; social capital; political capital; and cultural capital.

Gaps in knowledge regarding the American healthcare industry. An understudied population, Hilliard and Boulton (2012) noted that current and future shortages in the public health workforce prompt a call for recruitment and retention practices to be improved and found that in the period between 1985 and 2010, very little data regarding pay, promotion, performance, and job satisfaction of public healthcare workers existed. There has been a very practical need to understand why 42% of America's 15.5 million healthcare workers reported they intended to leave their current organizations (BLS, 2016a; Hilliard & Boulton, 2012; Sellers et al., 2015). Adding to the high turnover intention, the U.S. Bureau of Labor Statistics (BLS, 2016a) reported that healthcare occupations would add more jobs than any other career field, growing by 19% by 2024. With unemployment rates lower than the U.S. national average by 1.6%, healthcare organizations have had a greater challenge to understand their employees' behaviors than sectors with more available workers (BLS, 2016b).

Nei et al., (2015) conducted a meta-analysis of 106 primary studies of employed nurses to find that leadership, network centrality, and Organizational Commitment were the strongest predictors of turnover among the studies, but that gaps related to correlating variables like job strain and work-family remain. Holtom and O'Neill (2004) proposed job embeddedness as a comprehensive foundation for retaining nurses and Reitz and Anderson (2011) proposed the use of embeddedness as an alternative to job satisfaction and organizational commitment in combating retention and turnover challenges in the face of a nursing shortage in America. Adams (2016) noted that a predominance of convenience samples, a lack of discussion regarding the validity and reliability of instruments and the lack of theoretical frameworks around nursing turnover, retention and job embeddedness highlights continuing gaps in research.

In Asia, Sun et al. (2012) found among a cross sectional sample of 733 Chinese nurses that job embeddedness correlated with self-reported psychological capital and job performance, supporting a positive psychology approach among the population of Chinese nurses. Kim et al. (2014) found that among 563 clinical nurses throughout South Korea, work environments were positively correlated with job embeddedness (I = .70, $p < .001$), and negatively correlated with burnout ($r = -.49$, $p < .001$). Jeon and Yom (2014) found a correlation between job embeddedness, emotional intelligence, and turnover intention in a sample of 224 nurses in medium sized hospitals in South Korea. Kim & Ryu (2016) found among a cross sectional survey of 333 nurses from small and medium sized general hospitals in South Korea that there was a significant difference in turnover intention based on the participant variables of age, marital status, salary, and position and

overall there was a significant negative correlation between job embeddedness and turnover intention.

Methodology. The researcher chose a quantitative design for this study based on previous research on job embeddedness that has favored quantitative methods (Ghosh & Gurunathan, 2015a; Lee et al., 2014). Additionally, a quantitative design featuring nomothetic instruments has already provided the framework for a replicable process that can be more easily adapted for this research (Jex & Britt, 2014). The design of this research used an online survey process to identify adult Americans employed in the health services professions that could be repeated in the general population as well as other populations more readily than a qualitative design. The researcher considered an alternative qualitative design that would have used interviews, case studies, focus groups, or participant observations; but current research on embeddedness has favored quantitative studies (Lee et al., 2014), even in cases of mixed methods. Additionally, because a goal of this research was to expand the academic body of knowledge related to job embeddedness and personality psychology in the American healthcare sector, the researcher chose a repeatable process that could more quickly address growing research gaps in the healthcare sector (Hilliard & Boulton, 2012). Further, given the professional nature of the American healthcare workforce (BLS, 2016a), the researcher assumed that a quantitative methodology with a repeatable process that could be achieved in an online and nonintrusive voluntary format was preferable to an experimental, quasi-experimental, or even a qualitative methodology.

Related to job embeddedness, the current seminal reviews of job embeddedness (Ghosh & Gurunathan, 2015a; Lee et al., 2014) both called for more research on a myriad

of variables that span multiple aspects of industrial-Further, Reitz and Anderson (2011) also proposed the use of job embeddedness as an alternative to job satisfaction and organizational commitment in combating retention and turnover challenges among American nurses; both of which favored nomothetic instruments and quantitative research designs (Johnson & Christensen, 2014).

Instrumentation. Two instruments have emerged as useful in measuring empirically both personality traits and job embeddedness. The NEO-FFI-3 has been shown to be a valid and reliable quantitative measure of "Big Five" personality traits that has been used for over 30 years (McCrae & Costa, 2010). A current instrument used to measure job embeddedness, the 7-item Global Embeddedness Survey, has used a self-report survey of seven Likert items that has been found to be valid and reliable (Crossley et al., 2007). The 7-item survey was designed as a shorter version of the original inventories to discourage careless responding, deriving the 7-items from the original 42 and 48-item survey of 5-point Likert items (Mitchell et al., 2001). In the case of the 7-item Global Embeddedness Survey, Reitz and Kim (2013) found measurement equivalency between rural and urban populations of nurses when an original 40-item survey was narrowed to 32 items, showing reliability between populations. Similarly, the NEO-Five Factor Inventory-3 personality inventory was a self-report 60-item version of the earlier 240 Likert item NEO-PI-3 that provided a reliable and valid measure of the "Big Five" personality traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness (McCrae & Costa).

The NEO-FFI-3 was the 2010 version of the original NEO-PI-R first published in 1990 (McCrae & Costa, 2010). Judge et al. (2013) also examined 410 samples and a

resultant 1,176 correlations among two personality hierarchies to validate NEO traits and facets in terms of the organizational measure of job performance. The majority of research regarding a mediating effect of personality on another concept or vice versa has used a quantitative methodology and typically employed a survey or self-report questionnaire. Further, Bjornsdottir et al. (2014) demonstrated that the NEO-Five Factor Inventory maintained its validity when administered via computer instead of via paper survey. The reliability and validity of these two instruments will be discussed in more detail in Chapter 3.

In both cases, a critique of the self-report questionnaire or survey has been that it may be prone to inflated self-reporting and deliberate faking (Vecchione, Dentale, Alessandri, & Barbaranelli, 2014). Roberts et al., (2014) assert that while self-reporting was imperfect, self-reports have been as valid as other quantitative tools and that the average validities in psychology of single variables predicting single outcomes typically correlate between .1 and .4 (Meyer et al., 2001). While an ideographic approach to studying personality is possible, the simple economy of scale of the self-report and its validity and reliability made it a justifiable approach to experimentation. Indeed, Meyer et al. (2001) demonstrated that reliance on interviews, similar to the case study method of an ideographic qualitative approach, is prone to incomplete understandings of clinical cases.

Summary

In Chapter 2, the researcher presented a review of current research on the theory of job embeddedness and trait theory. The literature review examined theoretical foundations and framework of both organizational psychology and personality

psychology that are pertinent to this research. The researcher conducted the literature review across multiple libraries by searching "embeddedness" and the additional key word of "psychology", since job embeddedness was defined by Mitchell et al. in 2001. The researcher's emphasis for the initial organizational psychology review began with the foundational theory of fit and job embeddedness theory (Su et al., 2015), as well as the related theories of job satisfaction and organizational commitment. The researcher presented a comprehensive view of fit theory in the organizational context, with explanations of fit, to include the two most common measures of fit: job satisfaction (JS) and organizational commitment (OC). Related concepts like turnover, burnout, organizational culture, climate, organizational citizenship behavior, and counterproductive work behavior were also briefly discussed.

The researcher then provided an explanation of the underlying concepts that comprise job embeddedness – links, fit, and sacrifice. The researcher concluded the end of this section by asserting that organizational measures have been useful in measuring the overall state of the organization, but still could not be used to predict individual behavior. Following the literature review of job embeddedness, a review of personality psychology was presented with specific emphasis on trait theory. In particular, the researcher explained the five-factor model of personality. The broad measures of openness, conscientiousness, extraversion, agreeableness, and neuroticism were explained and criticism of the five-factor model was included. The researcher concluded at the end of this section that measures of personality traits have been useful in understanding individual behavior, but still could not be used alone to explain how an individual behaved in an organizational context.

The researcher also provided a review of the state of the American healthcare industry, showing that the U.S. Bureau of Labor Statistics (BLS, 2016a) reported that healthcare occupations in America is expected to grow 19% between 2014 and 2024, adding more jobs than any other career field. With unemployment rates 1.6% lower than the U.S. national average, employers of healthcare employees have had a greater challenge to retain their personnel than sectors with more available workers (BLS, 2016b). Additionally, an argument for the practical application of job embeddedness in the healthcare field was proposed by Holtom and O'Neill (2004) as well as by Reitz and Anderson (2011). Both studies proposed the use of embeddedness as an alternative to JS and OC in combating retention and turnover challenges in the face of a looming nursing shortage in America.

The researcher examined the overlap of personality and organizational psychology to show that research gaps have left room in both fields of organizational and personality psychology for this research. A persistent theme in the literature review was also explained – that most research has been hampered by reliance on quantitative tools that are subject to misinterpretation and the limitations of language. These lexical faults were acknowledged as a drawback of contemporary quantitative research in both organizational and personality psychology. The literature review also demonstrated that organizational and personality studies have relied on quantitative work, providing the basis for further quantitative designs. Finally, the specific quantitative tools proposed in this research were briefly reviewed.

Chapter 3 describes the quantitative correlational methodology, research design, and procedures conducted for this study. This study was a quantitative correlational study

examining the relationship between and impact of broad personality traits of the five-factor model on job embeddedness. The research design used an online survey to deliver both the 60 item NEO-Five Factor Inventory (NEO-FFI-3) survey (McCrae & Costa, 2010) and the 7-item Global Embeddedness Survey (Crossley et al., 2007) in sequence to a convenience sample of 91 participants (Appendix H; Faul et al., 2007). The researcher also articulated the six research questions and the six hypotheses that were tested to answer the problem statement: if, or to what extent, the personality traits of the five-factor model related to job embeddedness.

Chapter 4 details the data and its analysis with summaries of the results. After data collection, the results were analyzed using SPSS Statistics software version 24 to look for significant correlations between the Global Embeddedness Survey score and the subscales of each of the five-factor model personality traits as measured by the NEO-FFI-3, as well as a multiple regression analysis of job embeddedness and the five-factor model. Based on descriptive statistics that included Pearson's correlation coefficients (r), two Spearman's correlation coefficients (r_s), and a multiple regression analysis of the five-factor model itself, the researcher accepted the null hypotheses (Appendix D). Chapter 5 discussed the results as it related to the existing body of organizational and personality research. In the next Chapter, the researcher outlines the quantitative correlational methodology and procedures used in this study. Discussion of the online instruments, the six research questions and related hypotheses follow, as well as data analysis procedures.

Chapter 3: Methodology

Introduction

This study was a quantitative correlational study of the broad personality traits of the five-factor model and the organizational measure of job embeddedness. Mitchell et al. (2001) developed quantitative measures of job embeddedness, which led to a valid 7-item survey of embeddedness (Crossley et al., 2007). The NEO Five Factor Inventory-3 (NEO-FFI-3; McCrae & Costa, 2010) was a 60-item measure of the personality traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness that has been shown to be valid and reliable over decades (McCrae & Costa, 2010). Further, job embeddedness research to date has used correlational methodologies with descriptive statistics to describe data and relationships between variables. This correlational design was consistent with past research on embeddedness and included a multiple regression analysis to assess if job embeddedness related to the overall five-factor model (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015).

The researcher considered an alternative qualitative design that would have used interviews, case studies, focus groups, or participant observations, but current research on job embeddedness favored quantitative surveys (Lee et al., 2014). Additionally, mixed-methods studies on job embeddedness have routinely used a quantitative instrument followed by interviews and focus groups, demonstrating a call for a quantitative method at the outset of job embeddedness research (Barnes et al., 2015). Future research to explore gaps and qualifying the differences between job satisfaction, organizational commitment, and job embeddedness may be needed to better understand the lexical

limitations of all three constructs, but this research was intended to build the quantitative body of knowledge.

The research design used an online survey to deliver both the 60-item NEO-Five Factor Inventory (NEO-FFI-3) survey (McCrae & Costa, 2010) and the 7-item Global Embeddedness Survey (Crossley et al., 2007) in sequence to a convenience sample of 91 participants (Appendix H; Faul et al., 2007) from among healthcare employees in America. Six hypotheses were tested to determine if a correlation between job embeddedness and the personality traits of the five-factor model existed. After data collection, the results were analyzed using SPSS Statistics software version 24 to look for significant correlations between the Global Embeddedness Survey score of summed Likert items and the summed score from the subscales of each of the five factor personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion as measured by the NEO-FFI-3. Additionally, the researcher conducted a multiple regression analysis to determine if the overall five-factor model and job embeddedness correlated. Analysis of the data is presented in Chapter 4 and Chapter 5 is a discussion of the results as it related to the existing body of organizational and personality research.

Statement of the Problem

It is not known if, or to what extent, the personality traits of the five-factor model relate to job embeddedness among American healthcare employees. Organizational psychology may have been overlooking personality trait variables when conducting organizational surveys like job embeddedness surveys. This study assessed whether a correlation existed between job embeddedness and individual personality traits among a

convenience sample of 91 American healthcare employees. The researcher chose American healthcare employees as the population for this research because the labor force had unemployment rates 1.6% lower than the U.S. national average in March 2016, posing a greater retention challenge for organizations than other labor categories (BLS, 2016a). Additionally, this research examined American healthcare employees because two of the foundational studies on job embeddedness researched populations in hospital and community clinic settings (Crossley et al., 2007; Mitchell et al., 2001).

In 2015, Ghosh and Gurunathan (2015a) examined 37 papers on job embeddedness (JE) published between 2001 and 2011 and noted a need for further study on factors affecting job embeddedness – individual disposition, values, behaviors, mood, attitude and other factors may impact job satisfaction, organizational commitment, and job embeddedness survey results. Prior to the review by Ghosh and Gurunathan (2015a), Lee et al. (2014) found that after approximately thirteen years of job embeddedness research, there indeed remained aspects of cognition, attitudes, and behaviors of individuals that appeared to correlate with job embeddedness and had not been studied. Lee et al. (2014) claimed the most pressing academic issues of job embeddedness involved theoretical issues that needed to explore issues like socialization and psychological capital as possible causal factors for job embeddedness. In this vein, there has been a call for research that could help put the organizational measure of job embeddedness in the right context of individual behavior. This research provided further justification for future research to examine the 31 other individual factors (Ghosh & Gurunathan), besides personality, that may correlate with job embeddedness.

Research Questions and Hypotheses

The researcher developed six research questions to study the possible correlation between job embeddedness and the personality traits of the five-factor model, as well as the overall five-factor model itself. Two surveys were the instruments used for this research to collect individual responses to a total of 67 Likert items via an online survey hosted by SurveyMonkey. The researcher collected data from online survey participants who responded to two valid and reliable surveys in order to answer the six research questions: the 7-item Global Measure of Embeddedness (Crossley et al., 2007) and the 60-item NEO-FFI-3 (Mitchell et al., 2001).

The NEO-FFI-3 has been a valid and reliable personality inventory designed to measure the five-factor traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness (McCrae & Costa, 2010). The Global Measure of Embeddedness survey (Crossley et al., 2007) was a valid and reliable survey of seven Likert items that measured job embeddedness (Mitchell et al., 2001). The below research questions were used to study the possible correlation between job embeddedness and the personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion. The following research questions (Appendix D) guided this quantitative study:

Criterion Variable 1: A job embeddedness score.

Predictor Variable 2: Personality trait scores.

RQ1: To what extent, if any, do the five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees?

$H1_0$: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion do not predict job embeddedness among American healthcare employees.

$H1_a$: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees.

Criterion Variable 3: A job embeddedness score.

Predictor Variable 4: Personality trait of neuroticism.

RQ2: To what extent, if any, does the personality trait of neuroticism relate to job embeddedness among American healthcare employees?

$H2_0$: The personality trait of neuroticism does not correlate with job embeddedness among American healthcare employees.

$H2_a$: The personality trait of neuroticism correlates with job embeddedness among American healthcare employees.

Criterion Variable 5: A job embeddedness score.

Predictor Variable 6: Personality trait of openness.

RQ3: To what extent, if any, does the personality trait of openness relate to job embeddedness among American healthcare employees?

$H3_0$: The personality trait of openness does not correlate with job embeddedness among American healthcare employees.

$H3_a$: The personality trait of openness correlates with job embeddedness among American healthcare employees.

Criterion Variable 7: A job embeddedness score.

Predictor Variable 8: Personality trait of conscientiousness.

RQ4: To what extent, if any, does the personality trait of conscientiousness relate to job embeddedness among American healthcare employees?

$H4_0$: The personality trait of conscientiousness does not correlate with job embeddedness among American healthcare employees.

$H4_a$: The personality trait of conscientiousness correlates with job embeddedness among American healthcare employees.

Criterion Variable 9: A job embeddedness score.

Predictor Variable 10: Personality trait score of agreeableness.

RQ5: To what extent, if any, does the personality trait of agreeableness relate to job embeddedness among American healthcare employees?

$H5_0$: The personality trait of agreeableness does not correlate with job embeddedness among American healthcare employees.

$H5_a$: The personality trait of agreeableness correlates with job embeddedness among American healthcare employees.

Criterion Variable 11: A job embeddedness score.

Predictor Variable 12: Personality trait score of extraversion.

RQ6: To what extent, if any, does the personality trait of extraversion relate to job embeddedness among American healthcare employees?

$H6_0$: The personality trait of extraversion does not correlate with job embeddedness among American healthcare employees.

$H6_a$: The personality trait of extraversion correlates with job embeddedness among American healthcare employees.

Research Methodology

This research used a quantitative methodology based on previous research on job embeddedness that has used quantitative methods (Ghosh & Gurunathan, 2015a). Mitchell et al. (2001) developed quantitative measures of job embeddedness, later creating a valid seven-item survey of embeddedness (Crossley et al., 2007) that has been validated (Clinton et al., 2012). The NEO Five Factor Inventory-3 (NEO-FFI-3; McCrae & Costa, 2010) was a 60-item measure of the personality traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness that McCrae and Costa (2010) have shown to be valid and reliable. Mixed-methods studies on job embeddedness have also typically begun with a quantitative design based on the 7-item Global Measure of Embeddedness survey or past job embeddedness surveys, followed by interviews and focus groups. For this reason, this study was a quantitative (Barnes et al., 2015). Future research to explore gaps related to job satisfaction, organizational commitment, and job embeddedness are needed to better understand the lexical limitations of all three constructs, and this research is intended to build the quantitative body of knowledge.

Further, a quantitative methodology featuring nomothetic instruments provided the framework for a replicable process that could be more easily adapted by future practitioners (Jex & Britt, 2014). The correlational design of this research used an online survey process to collect data from adult Americans employed in the health services professions that was intended to be repeatable by researchers and practitioners in other industries and populations more readily than a qualitative design. Further, given the

professional nature of the American healthcare workforce (BLS, 2016a), the researcher assumed that a quantitative methodology with data collection in an online and nonintrusive voluntary format was preferable to an experimental, quasi-experimental, or even a qualitative methodology. The goal of this research was to expand the academic body of knowledge related to both job embeddedness and the five-factor model of personality, but the researcher expected gaps to remain. The current seminal reviews of job embeddedness (Ghosh & Gurunathan, 2015a; Lee et al., 2014) both called for more research on a myriad of variables that span multiple aspects of industrial-organizational psychology. As such, this research proposed a methodology and research design that could be easily repeated by others.

Research Design

The researcher chose a correlational design based on previous research studies in the field of personality psychology that have examined relationships between facets of personality and organizational psychology constructs. Quantitative research for the organizational measures of job satisfaction and organizational commitment have used correlational designs to show relationships between job satisfaction and organizational commitment and other concepts like fit, burnout, turnover intention, personality traits (Alniaçik et al., 2013; Huang, You, &Tsai, 2012). Additionally, the foundational studies on job embeddedness used mostly quantitative methods. Mitchell et al. (2001) and then Crossley et al. (2007) used quantitative designs to demonstrate that job embeddedness was a valid and unique construct. This research used a correlational design because this study already assumed job embeddedness to be a unique concept and further assumed

that job embeddedness could be observed in a population with organizational structures, as with previous job embeddedness research (Ghosh & Gurunathan, 2015a).

This research did not use a quasi-experimental design, as this research was not limited to a specific organization or a semi-controlled environment. Further, the researcher did not choose an experimental design due to a lack of previous research on job embeddedness using an experimental design and the fact that the removal of an organizational context might have actually prevent job embeddedness from presenting during research. While the researcher did consider an alternative qualitative design, current research on job embeddedness favors quantitative designs for embeddedness with calls for future quasi-experimental and further correlational research (Ghosh & Gurunathan, 2015a; Lee et al., 2014). Additionally, because the general population of American healthcare workers represented a population lacking sufficient data (Hilliard & Boulton, 2012), the researcher chose a research design that could be implemented online and in a nonintrusive voluntary format.

To answer the six research questions, the researcher collected data online using an existing instrument for the criterion variables of job embeddedness, the Global Measure of Embeddedness, and the NEO-FFI-3 for the predictor variables of personality traits. The responses to the seven items of the Global Measure of Embeddedness yielded an overall job embeddedness score that was used as the criterion variable in RQ1-RQ6 (Crossley et al., 2007). The results of the NEO-FFI-3 yielded results that the researcher used as the predictor variable for RQ1-RQ6. In the case of the NEO-FFI-3, 12 specific items corresponded to each of the five-factor personality traits, for a total of 60 items over five subscales (McCrae & Costa, 2010), that will be used as the criterion variables

for RQ1-RQ6. The researcher conducted a multiple regression analysis to answer RQ1, which sought to explore the overall relationship between job embeddedness and the overarching five-factor model.

Using an online survey process via SurveyMonkey, volunteers from among adult Americans employed in the health services professions provided consent (Appendix B), answered questions regarding eligibility, and then provided non-identifying demographic information on gender, age, education, current residence, current work location, salary, and years' experience in the health services field before proceeding to the two main instruments. Each of the 91 participants completed both the 7-item Global Embeddedness survey (Crossley et al., 2007) and the 60-item NEO-FFI-3 survey (McCrae & Costa, 2010) in sequence, representing the unit of analysis, individual responses among a convenience sample of American healthcare workers (Appendix C).

Population and Sample Selection

The general population was the population of approximately 15.5 million adult Americans who were literate in English and legally employed in the health services industry (BLS, 2016a). The target population was a subset of people in the general population who were able and willing to participate in online research. The sample population was a convenience sample of 91 volunteers self-selected from among the population of American healthcare employees with legal employment in the United States who spoke English, were literate, and were willing to volunteer for research. Volunteers responded to either a direct message using Facebook or LinkedIn messaging features in response to the researcher's post advertising the research opportunity (Appendix E, F). Previous researchers have used convenience samples for both job

embeddedness research (Ghosh & Gurunathan, 2015a) and personality studies (McCrae & Costa, 2010).

This research targeted healthcare workers based on the fact that healthcare employees have participated in previous job embeddedness studies and because this demographic has experienced low turnover (BLS, 2016a; Crossley et al., 2007; Mitchell et al., 2001). Participants were not affiliated with each other or a specific organization and a sample size of 91, more than required for multiple regression and correlation analyses (Appendix H), was obtained. The hypotheses were tested by noting presence or absence of statistically significant correlations using Pearson's (r) correlation coefficients, two Spearman's (r_s) correlation coefficients, and a multiple regression analysis (Ferreira et al., 2013; García Rivera et al., 2013) during the analysis stage.

The sample size for correlations in RQ2-RQ6 was computed using G*Power 3.1, with settings for a point correlation exact test for a bivariate normal, two-tailed, a priori power analysis with a type I error of $\alpha = .05$, type II error of $(1-\beta)$ of .80, and a moderate effect size of .30 to be 84 samples (Appendix H; Faul et al., 2007). For the multiple regression analysis of RQ1, sample size was computed using G*Power 3.1 as well. Settings for a linear multiple regression a priori power analysis with a type I error of $\alpha = .05$, type II error of $(1-\beta)$ of .80, 5 predictors, and a moderate effect size of .30 to be 49 samples (Appendix H; Faul et al., 2007). The researcher made the assumptions for a Pearson's (r) correlation that the research variables would be continuous, would be paired, there would be a linear relationship between variables, there would not be significant outliers, and data would have demonstrated bivariate normality (Laerd Statistics, 2015). This correlational design was consistent with past research on job

embeddedness and met the assumptions presented in past research (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015). In the case of this research, a correlation coefficient for Pearson's *r* would have been assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015).

Previous researchers conducted mail and in-person surveys during sampling (Crossley et al., 2007; Mitchell et al., 2001). This research updated the mail version by using an online survey site and by limiting the sample to the population of healthcare employees in North America. Based on Lochner (2016) and Bjornsdottir et al. (2014), the researcher expected no difference between the online survey versions of the questionnaires and previous research that used paper surveys. The data collection procedures allowed for collection of survey responses up to 126 submission responses to ensure the required sample size of at least 84 useable responses (Appendix H) would be reached while accounting for attrition. Regardless of the final intended sample size, the researcher used all 91 valid participant responses for data analysis who were recruited after soliciting participation via social media sites of Facebook and LinkedIn using a solicitation message approved by the GCU Institutional Review Board. This sample consisted of a convenience sample that answered a secure and anonymous online survey consisting of the 7-Item Global Embeddedness Survey and the 60-item NEO-FFI-3 from the target population of volunteers self-selected from among the general population of approximately 15.5 million American healthcare workers (BLS, 2016a). For this research, each participant was asked via an anonymous and secure online survey to provide participant variables that included gender, age, education, a range of years'

experience working in the healthcare industry, a current salary range, current organization or role, the 5-digit zip code where the participant lived, and the 5-digit zip code where the participant worked most often.

Instrumentation

This section provides an overview of the two main instruments used, followed by sections on the reliability and validity of both surveys. Using an online survey process via SurveyMonkey, self-identifying adult Americans employed in the health services professions provided consent (Appendix B), answered questions regarding eligibility, and then provided non-identifying demographic information related to sex, age, education, current residence, current work location, salary, and years of experience in the health services field before proceeding to the two instruments. Each participant completed both the Global Embeddedness Survey (Crossley et al., 2007) and the 60-item NEO-FFI-3 survey (McCrae & Costa, 2010) in sequence (Appendix C). The researcher chose the Global Embeddedness Survey and the NEO-FFI-3 as they both have been shown to measure the specific concepts of personality and job embeddedness related to this research. In particular, the NEO-FFI-3 has been a widely used questionnaire that measures the broad traits of the five-factor model (McCrae & Costa, 2010). Similarly, the Global Embeddedness Survey (Crossley et al., 2007) was derived from the original definition and measures of job embeddedness developed since 2001 (Mitchell et al., 2001).

The NEO-FFI-3. The NEO-FFI-3 is a 60-item version of the 240 Likert item NEO-PI-3 that provided a reliable and valid measure of the "Big Five" domains of personality: neuroticism, extraversion, openness, agreeableness, and conscientiousness

(McCrae & Costa, 2010). The NEO-FFI-3 is the 2010 version of the original NEO-PI-R first published in 1990 (McCrae & Costa, 2010). The NEO-FFI-3 contained 12 items for each of the five broad measures of personality, for a total of 60 items over five subscales. All items were on a 1-5 Likert scale and the NEO-FFI-3 has been used as a paper instrument and as an online survey (McCrae & Costa, 2010). A combined or summed score for the specific 12 items for each trait provided a single score for all five personality traits ranging from 12 to 60 (McCrae & Costa, 2010). Both McCrae and Costa (2010) and Markon, Kreuger, and Watson (2005) demonstrated content validity for the NEO-FFI-3. Since its initial implementation in 1989, versions of McCrae and Costa's NEO-FFI have been shown to be reliable (McCrae & Costa, 2013).

The Global Measure of Embeddedness. The 7-item Global Measure of Embeddedness survey (Crossley et al., 2007) constitutes the second inventory used in this research. The 7-item survey was designed as a shorter version of the original inventory to discourage careless responding and came from the original 42 and 48-item survey of 5-point Likert items (Mitchell et al., 2001). An overall score for embeddedness, based on the sum of individual item responses, provided a single score ranging from 7 to 35. Crossley et al. (2007) found the 7-item version of the job embeddedness survey to be a valid and reliable version of the longer inventories by demonstrating convergent and discriminant validity between two sample populations of grocery store workers and healthcare employees.

Validity

The Global Measure of Embeddedness. Validity, the degree to which the items measure what is intended, was measured by considering discriminant validity and

construct validity of the 7-item Global Measure of Embeddedness survey (Crossley et al., 2007). The 7-item instrument was a derivation of two longer inventories of 42 and 48 questions developed by Mitchell et al. in 2001 that demonstrated convergent and discriminant validity among their two sample populations of grocery store workers and healthcare employees (Crossley et al., 2007; Mitchell et al., 2001). For discriminant validity, the seven embeddedness items were compared to the traditional measures of job satisfaction, commitment, perceived job alternatives, and intention to quit (Crossley et al., 2007). This process was similar to that originally performed by Mitchell et al. in 2001. For content validity, two studies produced item total correlations ranging from between .60 and .75 for all seven items (Crossley et al., 2007).

The NEO-FFI-3. Validity for the NEO-FFI-3 was demonstrated on two levels. First, the NEO Five-Factor Inventory-3 was the third version of the Costa and McCrae inventory first developed in 1989; all of which have been shown to be valid among adults (NEO-FFI-3; McCrae & Costa, 2010). Markon et al. (2005) demonstrated that the NEO Five Factor Model was externally valid for both normal and abnormal psychology and compared more favorably than instruments that measured two, three, or four traits. Exploratory factor analyses yielded Monte Carlo *p* values that showed correlations between inventory items and the overall trait of neuroticism, extraversion, openness, agreeableness, and conscientiousness. Second, content validity was demonstrated as each personality trait has six items corresponding to a facet of that trait with results for each item that then corresponded to the five factors as expected (McCrae & Costa, 2010).

Reliability

The Global Measure of Embeddedness. The 7-item Global Measure of Embeddedness survey (Crossley et al., 2007) demonstrated reliability by first testing the items with a pilot sample of 87 healthcare employees before launching the full study. With the initial sample's factor analysis, Cronbach's alpha for the scale was .88 and item total correlations were between .60 and .75 for all seven items (Crossley et al., 2007). Further, the 7-item instrument was a derivation of two longer inventories of 42 and 48 questions developed by Mitchell et al. in 2001 that demonstrated significance when administered to separate samples with similar participant variables.

The NEO-FFI-3. Early versions of the NEO and the NEO-PI-R were studied and retests over a two-week period showed a correlation for neuroticism of .89, for extraversion of .86, for openness of .88, for agreeableness of .86 and for conscientiousness of .90 (Robins, Fraley, Roberts, & Trzesniewski, 2001). Six-month retest correlations in a second study were .80, .86, .87, .80, and .85 respectively (Murray, Rawlings, Allen, & Trinder, 2003). Comparing retests among subsets of NEO completions, a three-month retest coefficient was calculated to be .79, .79, .80, .75, and .83 as well (Costa & McCrae, 1992). Markon et al. (2005) also showed that only two, three, four, and five-factor models replicated well across meta-analytic personality inventory studies.

Data Collection and Management

The researcher collected data online using a third-party survey service provider, SurveyMonkey. Upon approval of GCU's Institutional Review Board (Appendix A) and with concurrence of the committee chair, the researcher activated the SurveyMonkey

survey on May 17, 2017 and solicited participants using a solicitation message approved by the GCU Institutional Review Board on online social media forums for health service professionals on Facebook.com and LinkedIn.com (King, O'Rourke, & DeLongis, 2014; Middleton, Bragin, & Parker, 2014). The researcher intended to solicit volunteers on social media until a snowball effect was achieved and the call for participants was self-sustaining, but the researcher observed no snowball effect and solicitation of volunteers continued until the target sample size of 84 complete responses was reached on May 29, 2017 (Appendix H; Child, Mentes, Pavlish, & Phillips, 2014; Dusek, Yurova, & Ruppel, 2015). The researcher monitored SurveyMonkey daily to determine the pace of responses towards the planned 84 completed surveys. The SurveyMonkey dashboard indicated how many surveys had been completed, but the dashboard data proved to be misleading, as any attempts at the survey were recorded by SurveyMonkey as a "completion". The researcher continued collection until he determined on May 29 that he had reached the threshold of at least 84 usable surveys and closed the survey (Sue & Ritter, 2012). Throughout the process, the researcher had set the maximum number of responses at 126, 50% more surveys than the 84 required (Appendix H). In all cases, the researcher planned to use all valid surveys in the analysis.

SurveyMonkey allowed researchers to use the platform as a research tool and provided blanket permission to any Institutional Review Boards (Appendix G, SurveyMonkey, 2016a). SurveyMonkey also legally attested that data collected belonged to the user; that all provided information from users and participants remained private; that data was maintained on servers in the United States; and that the company abided by a legally binding security policy (Appendix E). Further, the researcher accessed the

SurveyMonkey platform from the research computer at a private residence over a secure WPA-encrypted link.

Because research participants were volunteers taking an online survey, data was collected by self-report, as opposed to an experiment or quasi-experiment in which behaviors could have been recorded by a third party and then analyzed (Kormos & Gifford, 2014). While a self-report may have been prone to deliberate faking or responses assumed by the respondent to be more desirable, these same risks would have been present in other experimental designs (Parkash & Kumar, 2015). The researcher eliminated incomplete surveys from the data set, and some attrition occurred (Sue & Ritter, 2012). The researcher accessed survey data using the SurveyMonkey user interface and only information related to participant variables and the responses to the 67-items were allowed into SurveyMonkey, reducing privacy risks and data security concerns. While no system has been shown to be completely secure, the procedures outlined here were as secure as in-person research (Appendix E, F; SurveyMonkey, 2016b).

After participants responded to a request for participation in this research via social media posts and messages from the researcher, the researcher directed volunteers to a SurveyMonkey landing page that contained informed consent (Appendix B) and a brief explanation of the survey process. After providing consent, an initial question asked the participant to confirm that he/she was over 18 years of age, had full time employment as a health services worker, and was not self-employed. When the participant answered "no" to this question, the survey automatically routed the participant to the completion screen and the data was not be included in the final data analysis. After the participant

answered "yes," then he or she proceeded to additional items that collected participant variables of gender, age, education, current residence, current work location, salary, and years' experience in the health services field. To protect the privacy of participants, the survey did not solicit personally identifiable information, only generalized demographic variables. If the participant declined to answer these questions, then the survey directed the participant to the completion screen and the data was not included in the full data set. Upon completion of participant variables, the survey then routed the participant to the surveys.

After completing the participant variable questions, the first seven numbered questions of the survey were the 7-item Global Measure of Embeddedness survey (Appendix C, Crossley et al., 2007). Questions eight through 67 were the NEO Five-Factor Inventory-3 (NEO-FFI-3; Appendix, C; McCrae & Costa, 2010). Once in the survey, all answers were recorded and the participant was not automatically redirected to a completion screen until all 67-items were completed and a final item was answered that asked the participant if he or she had answered every item on the survey honestly. Because this was an online survey, a participant was free to leave the survey at any time, and some attrition did occur. The researcher interpreted incomplete data sets to be either a function of technical errors or the participant's de facto revocation of consent and did not include that data in the final data set. Upon completion of the final question, the survey automatically directed the participant to a SurveyMonkey completion screen and the participant's role was complete (Sue & Ritter, 2012).

All data remained with SurveyMonkey until the required sample size was reached. SurveyMonkey's user agreement (Appendix E and F) was such that only the

account holder had access to the survey and its data throughout the life of the account, which is secured by TRUSTe (Appendix E and F). The researcher maintained the sole SurveyMonkey account access. The researcher monitored SurveyMonkey daily until at least 84 and no more than 126 completed surveys were recorded. Upon reaching the required sample size, the researcher closed the survey and no further data was collected (Sue & Ritter, 2012). After closing the survey, the researcher downloaded a copy of the data to an Excel file on the research computer that was held under password until such time as the data can be deleted, which is expected to be 3 years upon receipt of Dean approval for this dissertation, based on GCU Institutional Review Board guidelines. The research computer has remained physically located at the private residence of the researcher, where no other users had access to the computer or the password-protected user account. The data held with SurveyMonkey is expected to remain protected under the privacy and security policies (Appendix E and F) until the account is closed in April 2018; at which point all data held with SurveyMonkey will be deleted by SurveyMonkey. The researcher will only maintain copies of raw data for the GCU-mandated 3-year retention period.

Data Analysis Procedures

The following correlational design was justified as it was consistent with past research on job embeddedness that have found significant results and have similarly focused primarily on job embeddedness and individual factors using a correlational design (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015). Additionally, the sample size for correlations in RQ2-RQ6 was determined to be 84 samples (Appendix H; Faul et al.,

2007) and 49 for the multiple regression analysis of RQ1 – both of which were attained in the convenience sample of this research. The researcher conducted analysis of data using IBM's SPSS Statistics software, version 24. The researcher chose SPSS as the researcher was comfortable with the program and was trained on the software during a Doctoral Statistics and Multivariate Statistics courses at GCU's College of Doctoral Studies in February and September of 2013; respectively. To answer the research questions, data were collected from a convenience sample of 91 volunteers self-selected from the population of American healthcare professionals in the general population who were able and willing to participate in online research.

The sample size was computed using G*Power 3.1, with settings for a correlation exact test for a bivariate normal, two-tailed, a priori power analysis with a type I error of $\alpha = .05$, type II error of $(1-\beta)$ of .80, and a moderate effect size of .30 to be 84 samples (Appendix H; Faul et al., 2007). For the multiple regression analysis of RQ1, sample size was computed using G*Power 3.1 as well. Settings for a linear multiple regression a priori power analysis with a type I error of $\alpha = .05$, type II error of $(1-\beta)$ of .80, 5 predictors, and a moderate effect size of .30 to be 49 samples (Appendix H; Faul et al., 2007). The researcher made the assumptions for Pearson's correlation (r) that the research variables would be continuous, would be paired, there would be a linear relationship between variables, there would not be significant outliers, and data would have demonstrated bivariate normality (Laerd Statistics, 2015). This quantitative correlational design was consistent with past research on job embeddedness and met the assumptions presented in past research (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015). In the case

of this research, a correlation coefficient for Pearson's correlation coefficient *(r*) was assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015).

Data collected for analysis consisted of the individual responses to 7 items of the Global Measure of Embeddedness, and 60 items of the NEO-FFI-3 for personality traits separated into five subscales for each of the five-factor traits. Descriptive statistics to characterize the sample summarized the quantitative data to include the mean, median, kurtosis, and skewness of the data points for job embeddedness and for each of the five broad traits of neuroticism, openness, agreeableness, conscientiousness, and extraversion. Data were imported from the online survey service's secure interface for clients directly to the research computer. Corrupt or incomplete test results and the related participant variable data were removed from the final analysis. Participation was restricted to one Internet Protocol (IP) address via SurveyMonkey advanced settings, reducing the risk of multiple responses from the same user (Gill, Leslie, Grech, & Latour, 2013). Though listed below in order from RQ1 through RQ6, the researcher conducted data analysis by first completing the Pearson correlation coefficient (*r*) analyses for RQ2 through RQ6 before addressing the more global analysis of the multiple regression related to RQ1. Following were the research questions and the procedures for their analyses (Appendix D):

Criterion Variable 1: A job embeddedness score.

Predictor Variables: Five factor personality traits (neuroticism, openness, conscientiousness, agreeableness, and extraversion).

RQ1: To what extent, if any, do the five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees?

H10: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion do not predict job embeddedness among American healthcare employees.

H1a: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees.

Research Question 1 analysis. To analyze the collected data in support of RQ1 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variables, the researcher identified the 12 items of the NEO-FFI-3 that correspond to each of the five traits measured by the NEO-FFI-3 and calculate a single numeric value for each trait, yielding five numeric values from 12 to 60 for each of the five traits (McCrae & Costa, 2010). With these 6 values, the researcher conducted an SPSS-based multiple regression analysis to determine if there was a significant correlation between the criterion and predictor variables. In the case of this research, a correlation coefficient was assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher rejected the null hypothesis and concluded that the alternative hypothesis was confirmed; that there was a significant correlation between personality traits and job embeddedness.

Conversely, if the correlation coefficient was less than moderate, then the researcher accepted the null hypothesis and conclude that there was not a significant correlation between personality traits and job embeddedness.

Criterion Variable 3: A job embeddedness score.

Predictor Variable 4: Personality trait of neuroticism.

RQ2: To what extent, if any, does the personality trait of neuroticism relate to job embeddedness among American healthcare employees?

H20: The personality trait of neuroticism does not correlate with job embeddedness among American healthcare employees.

H2: The personality trait of neuroticism correlates with job embeddedness among American healthcare employees.

Research Question 2 analysis. To analyze the collected data in support of RQ2 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that corresponded to the trait of neuroticism and summed the scores of all 12 questions to yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation (*r*) analysis to determine if there was a significant correlation between the criterion and predictor variables. In the case of this research, a correlation coefficient for Pearson's correlation (*r*) was assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher rejected the null

hypothesis and concluded that the alternative hypothesis was confirmed; that there was a significant correlation between neuroticism and job embeddedness. Conversely, if the correlation coefficient (*r*) was less than moderate, then the researcher accepted the null hypothesis and concluded that there was not a significant correlation between neuroticism and job embeddedness.

Criterion Variable 5: A job embeddedness score.

Predictor Variable 6: Personality trait of openness.

RQ3: To what extent, if any, does the personality trait of openness relate to job embeddedness among American healthcare employees?

H30: The personality trait of openness does not correlate with job embeddedness among American healthcare employees.

H3: The personality trait of openness correlates with job embeddedness among American healthcare employees.

Research Question 3 analysis. To analyze the collected data in support of RQ3 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that corresponded to the trait of openness and summed the scores of all 12 questions to yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation (*r*) analysis to determine if there was a significant correlation between the criterion and predictor variables. In the case of this research, a correlation coefficient for Pearson's correlation

(*r*) was assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher rejected the null hypothesis and concluded that the alternative hypothesis was confirmed; that there was a significant correlation between openness and job embeddedness. Conversely, if the correlation coefficient (*r*) was less than moderate, then the researcher accepted the null hypothesis and concluded that there was not a significant correlation between openness and job embeddedness.

Criterion Variable 7: A job embeddedness score.

Predictor Variable 8: Personality trait of conscientiousness.

RQ4: To what extent, if any, does the personality trait of conscientiousness relate to job embeddedness among American healthcare employees?

H40: The personality trait of conscientiousness does not correlate with job embeddedness among American healthcare employees.

H4: The personality trait of conscientiousness correlates with job embeddedness among American healthcare employees.

Research Question 4 analysis. To analyze the collected data in support of RQ4 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that corresponded to the trait of conscientiousness and summed the scores of all 12 questions to yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation (*r*) analysis

to determine if there was a significant correlation between the criterion and predictor variables. In the case of this research, a correlation coefficient for Pearson's correlation (*r*) was assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher rejected the null hypothesis and concluded that the alternative hypothesis was confirmed; that there was a significant correlation between conscientiousness and job embeddedness. Conversely, if the correlation coefficient (*r*) was less than moderate, then the researcher accepted the null hypothesis and concluded that there was not a significant correlation between conscientiousness and job embeddedness.

Criterion Variable 9: A job embeddedness score.

Predictor Variable 10: Personality trait score of agreeableness.

RQ5: To what extent, if any, does the personality trait of agreeableness relate to job embeddedness among American healthcare employees?

H50: The personality trait of agreeableness does not correlate with job embeddedness among American healthcare employees.

H5: The personality trait of agreeableness correlates with job embeddedness among American healthcare employees.

Research Question 5 analysis. To analyze the collected data in support of RQ5 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that corresponded to the trait of agreeableness and summed the scores of all 12 questions to

yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation (*r*) analysis to determine if there was a significant correlation between the criterion and predictor variables. In the case of this research, a correlation coefficient for Pearson's correlation (*r*) was assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher rejected the null hypothesis and concluded that the alternative hypothesis was confirmed; that there was a significant correlation between agreeableness and job embeddedness. Conversely, if the correlation coefficient (*r*) was less than moderate, then the researcher accepted the null hypothesis and concluded that there was not a significant correlation between agreeableness and job embeddedness.

Criterion Variable 11: A job embeddedness score.

Predictor Variable 12: Personality trait score of extraversion.

RQ6: To what extent, if any, does the personality trait of extraversion relate to job embeddedness among American healthcare employees?

H60: The personality trait of extraversion does not correlate with job embeddedness among American healthcare employees.

H6: The personality trait of extraversion correlates with job embeddedness among American healthcare employees.

Research Question 6 analysis. To analyze the collected data in support of RQ6 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess

the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that corresponded to the trait of extraversion and summed the scores of all 12 questions to yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation (*r*) analysis to determine if there was a significant correlation between the criterion and predictor variables. In the case of this research, a correlation coefficient for Pearson's correlation (*r*) was assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher rejected the null hypothesis and concluded that the alternative hypothesis was confirmed; that there was a significant correlation between extraversion and job embeddedness. Conversely, if the correlation coefficient (*r*) was less than moderate, then the researcher accepted the null hypothesis and concluded that there was not a significant correlation between extraversion and job embeddedness.

Ethical Considerations

The research design proposed the use of human subjects. Specifically, this research solicited participation of a convenience sample of up to 126 volunteers from among an online population who met criteria of being English-speaking and employed in the healthcare field. Upon consent to participate, participants provided consent to participate in research, answered demographic and employment questions, and completed both the 7-item Global Embeddedness Survey (Crossley et al., 2007) and the 60 item NEO-Five Factor Inventory – Revised (NEO-FFI-3) survey (McCrae & Costa, 2010). The researcher used the framework of the U.S. Department of Health and Human Services Office for Human Research Protections' Belmont Report Principles to identify

possible ethical issues (HHS, 2016). The Belmont Report called for the respect for persons, beneficence, and justice (HHS, 2016). This research used only volunteers from populations not expected to contain protected classes, solicited only volunteers, required informed consent prior to soliciting individual responses, and collected only the amount of responses necessary for analysis. Further, in terms of justice, the participation of between 84 and 126 volunteers was expected to lead to results and implications that may translate to the full population of those people in the target population, but could also have implications for further research among the approximately 19 million Americans working in the health industry (BLS, 2016a), and possibly to even larger populations.

Possible ethical issues identified included both the use of human participants and the use of data collected from human subjects. In accordance with Grand Canyon University guidelines for doctoral students, Institutional Review Board (IRB) approval was required prior to approving a doctoral dissertation (Appendix A; GCU, 2011). Based on the design of the quantitative research, the researcher elicited information that falls into the category of survey, interview, behavioral observation, or educational test-based research. This research was approved by the GCU IRB as expedited research based on the criteria that all participants' confidentiality was maintained during research, as no identifying information was solicited and the online survey tool's settings masked the participant IP addresses. As such, data was collected and maintained in a manner that no individual could be identified via data analysis, and the confidentiality and anonymity prevented risk to participants' reputation (GCU, 2011).

Data were collected online via a third-party survey service provider, SurveyMonkey. Upon approval of GCU's Institutional Review Board in May 2017

(Appendix A) and with concurrence of the committee chair, the researcher activated the SurveyMonkey survey on May 17, 2017 and solicited participants via online social media forums for health service professionals on Facebook.com and LinkedIn.com (King et al., 2014; Middleton et al., 2014). This solicitation continued until the target sample size of 84 complete responses was reached on May 29, 2017 (Appendix H; Child et al., 2014; Dusek et al., 2015). SurveyMonkey was monitored daily to determine the pace of responses towards the required 84 completed surveys (Appendix H). The SurveyMonkey dashboard indicated how many surveys had been fully completed, avoiding potentially counting those results that would be later disqualified. When the researcher determined on May 29, 2017 that 91 useable surveys existed, the survey was closed and no further data was collected (Sue & Ritter, 2012). As the survey process continued, some attrition occurred, but the researcher expected between 84 and 126 useable responses with the intent to use all valid surveys for the analysis.

SurveyMonkey allowed researchers to use the platform as a research tool and provided blanket permission to any Institutional Review Boards (Appendix G, SurveyMonkey, 2016b). SurveyMonkey also legally attested that data collected belongs to the user, that all provided information from users and participants remained private, that data is maintained on servers in the United States, and that the company abided by a legally binding security policy (Appendix E and F). Further, access to the SurveyMonkey account was conducted from the research computer at a private residence over a secure WPA-encrypted link. Access to the data was done using the SurveyMonkey user interface and only information related to participant variables and the responses to the 67-items was reported, reducing privacy risks and data security concerns. While no system

has been proven to be completely secure, the procedures outlined in this section were as secure as in-person research (Appendix E and F; SurveyMonkey, 2016a).

All data remained with SurveyMonkey until the expected sample size was attained. SurveyMonkey's user agreement was such that only the account holder has access to the survey and its data throughout the life of the account, which was secured by TRUSTe (Appendix E and F). The SurveyMonkey account access has been maintained solely by the researcher. SurveyMonkey was monitored daily until at least 84 completed surveys were recorded. Upon reaching the target sample size of at least 84 useable responses, the survey was concluded and no further data was collected (Sue & Ritter, 2012). After closing the survey, a copy of the data were downloaded to an Excel file on the researcher's computer and was held under password until such time as the data can be deleted, which is expected to be 3 years upon receipt of Dean approval for the dissertation, based on GCU IRB guidelines. The research computer will remain physically located at the private residence of the researcher, where no other users have access to the computer or the password-protected user account. The data held with SurveyMonkey will remain protected under the privacy and security policies (Appendix E and F) until the account is closed in April 2018, at which point all data held with SurveyMonkey will be deleted.

Mitigating strategies for the ethical risks and risks to humans included formal training completed by the researcher from the Collaborative Institutional Training Initiative, use of informed consent as administered by a third party survey service that includes disclosure of the research focus, recruitment of volunteers from a population with low numbers of protected classes, no offer of compensation that could be viewed as

coercive, and anonymization of participant data by the assignment of random numbers to data submissions in place of participant names when identification was needed during analysis. This study's beneficent impact may extend to the greater population of all American healthcare employees and much larger populations. To reduce the risk of maleficence, the volunteer participant pool was limited to no more than 126 responses, which yielded 91 useable responses, more than the number required to reach statistical significance as indicated by G*Power 3.1.9.2 (Appendix H). Further, participants did not receive interpretation of their survey results, reducing the possibility of a participant being negatively impacted by a perception of receiving suboptimal results. Finally, the survey allowed any participant to exit at any time with no additional obligation to the study, reducing the risk of perceived coercion.

Assumptions, Limitations, and Delimitations

The following assumptions were present in this study:

1. It was assumed that survey participants in this study were not deceptive and that participants answered questions honestly and to the best of their ability. This assumption was reasonable based on the fact that no remuneration was offered in exchange for participation and participants had no access to results, preventing attempts to manipulate the surveys for specific results. In addition to removing incentives, the general population of American healthcare workers have been governed by multiple professional and organizational oversight bodies that imply the potential for higher ethical conduct than those outside of the healthcare professions (BLS, 2016a).

2. It was assumed that this study is an accurate representation of the American healthcare industry. This assumption was based on the Department of Labor's assessment that American healthcare workers represent approximately 15.5 million professionals and paraprofessionals who have daily access to online forums and access to computers (BLS, 2016a). The target population for this research was a subset of people in the general population who were able and willing to participate in online research.

3. Survey participation was restricted to those who self-identified as healthcare employees and were actively employed full time in the field.

The following limitations and delimitations were present in this study:

1. A lack of remuneration and access to study results limited the amount of research participants. To make the above assumptions valid, limitations on compensation and access to results were imposed on this study.

2. The recruitment approach to solicit volunteers for the convenience sample was limited to online campaigning via social media websites and the researcher's online social media networks using a solicitation message approved by the GCU Institutional Review Board social media sites of Facebook and LinkedIn. The delimitation was done to increase the repeatability of the research and to maintain the same general population characteristics.

3. The survey of American healthcare employees was delimited to those who had active full-time employment and characterized themselves as being healthcare employees, limiting the demographic sample. The delimitation was done to build on previous research on embeddedness tied to healthcare employees (Crossley et al., 2007; Mitchell et al., 2001).

Summary

Chapter 3 explained that this study was a quantitative correlational study designed to explore the relationship between the five-factor model of personality traits and the organizational measure of job embeddedness. This study was a quantitative correlational design based on previous research on job embeddedness. Mitchell et al. (2001) developed quantitative measures of job embeddedness, which led to a valid 7-item Global Measure of Embeddedness. Job embeddedness research to date has used correlational methodologies with descriptive statistics to describe data and relationships between variables and this correlational design was consistent with past research on job embeddedness (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015).

This research design used an online survey to deliver both the 60 item NEO-Five Factor Inventory (NEO-FFI-3) survey (McCrae & Costa, 2010) and the 7-item Global Embeddedness Survey (Crossley et al., 2007) in sequence to a convenience sample of 91

participants (Appendix H; Faul et al., 2007) from among the population of healthcare workers in America. An alternative qualitative design was considered that would have used interviews, case studies, focus groups, or participant observations; but current research on embeddedness has favored quantitative surveys (Lee et al., 2014).

Six hypotheses were tested to determine if a correlation between job embeddedness and the personality traits of the five-factor model existed. After data collection, the results were analyzed using IBM's SPSS Statistics software version 24 to look for significant correlations between the Global Embeddedness Survey score and the scores from the subscales of the scores from each subscale of the five broad traits as measured by the NEO-FFI-3. The next chapter, Chapter 4, details the researcher's data and analysis with summaries of the results. After data collection, the researcher analyzed results using SPSS Statistics software, version 24, to look for significant correlations between the Global Embeddedness Survey score and the scores for each of the five subscales of the five-factor model traits of the NEO-FFI-3. To answer the research questions, the researcher conducted analyses that included Pearson's correlation coefficients (r), two Spearman's correlation coefficients (r_s), and a multiple regression analysis of the five-factor model itself (Appendix D). These results are discussed in the following chapter.

Chapter 4: Data Analysis and Results

Introduction

This study was a quantitative correlational study designed to explore the relationship between the five-factor model of personality and the organizational measure of job embeddedness (JE). It was not known if, or to what extent, the personality traits of the five-factor model relate to job embeddedness among American healthcare employees. The researcher based the quantitative correlational design on previous research on job embeddedness. Mitchell et al. (2001) developed quantitative measures of embeddedness, which led to a valid 7-item Global Measure of Embeddedness. Job embeddedness research to date has used correlational methodologies with descriptive statistics to describe data and relationships between variables and this correlational design is consistent with past research on job embeddedness (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015). The instrument used to measure personality traits, the NEO-Five Factor Inventory – Revised (NEO-FFI-3), a valid and reliable survey. McCrae and Costa (2010) and Markon et al. (2005) demonstrated content validity for the NEO-FFI-3. Since its initial implementation in 1989, McCrae and Costa have shown that versions of the NEO-FFI were reliable (McCrae & Costa, 2013). Chapter 4 is a summary of the analysis process outlined in Chapter 3, consisting of descriptive data, analysis procedures, and the results; before discussing the study's findings in Chapter 5.

Based on the data collection procedures outlined in Chapter 3, the researcher conducted an experiment in late May 2017. Using LinkedIn and Facebook, the researcher recruited 116 participants from the population of healthcare workers in the United States,

with 91 providing useable surveys – more cases than the needed sample size of 84 (Appendix H; Faul et al., 2007). Overall, the sample was normal and heterogeneous, consisting of mostly female volunteers from 32 states who had at least an associate's degree, over 15 years' experience in primarily public healthcare, and earned between $50,000 and $80,000 per year. The research design used an online survey to deliver both the 60 item NEO-Five Factor Inventory – Revised (NEO-FFI-3) survey (McCrae & Costa, 2010) and the 7-item Global Embeddedness Survey (Crossley et al., 2007) in sequence to the convenience sample of 91 participants. The sample yielded an average job embeddedness score of 22.198 on a scale of 7 to 35 (*SD*=6.454), 32.648 for neuroticism (*SD*=8.191), 41.022 for extraversion (*SD*=7.371), 43.780 for openness (*SD*=6.060), 44.263 for agreeableness (*SD*=6.640), and 46.374 (*SD*=6.668) for conscientiousness; all on scales of 12 to 60.

Based on the six research questions (Appendix D), the researcher tested six hypotheses to determine if a correlation between job embeddedness and the personality traits of the five-factor model existed. After data collection, the results were analyzed using SPSS Statistics software version 24 to look for significant correlations between the Global Embeddedness Survey scores and the subscale scores from the five factor traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion as measured by the NEO-FFI-3. Based on analyses that included a multiple regression analysis and analysis of Pearson's correlation coefficients, the researcher accepted the null hypotheses related to each of the 6 research questions (Appendix D) and determined that there was no statistically significant relationship between job embeddedness and traits of the five-factor model in this sample.

Descriptive Data

For this research, the general population was the population of approximately 15.5 million adult Americans who are literate in English and legally employed in the healthcare industry (BLS, 2016a). The target population was a subset of people in the general population who were able and willing to participate in online research. The sample population was a convenience sample of 91 volunteers self-selected from among the population of American healthcare employees with legal employment in the United States who spoke English, were literate, and were willing to volunteer for research. These volunteers responded to either direct message via a social media solicitation from the researcher posted on Facebook or LinkedIn. Previous researchers have used convenience samples for both job embeddedness research (Ghosh & Gurunathan, 2015a) and personality studies (McCrae & Costa, 2010).

The researcher recruited participants online using the social media sites of LinkedIn and Facebook between May 17, 2017 and May 29, 2017 using a solicitation message approved by the GCU Institutional Review Board; providing volunteers with a password and directing volunteers to a SurveyMonkey link. Of the 116 people who were qualified and provided consent, eight did not continue past the consent and qualification screens, five did not continue past the participant variables section of the survey, six did not fully complete the survey, and six participants skipped at least one question. While the NEO-FFI-3 allows for scoring of surveys with blanks under certain conditions (McCrae & Costa, 2010), the researcher did not count the surveys with missing responses. The data collection process yielded 91 useable surveys.

For this research, each participant was asked to provide participant variables that included gender, age, education, a range of years' experience working in the healthcare industry, a current salary range, current organization or role, the 5-digit zip code where the participant lived, and the 5-digit zip code where the participant worked most often. Of the 91 participants, 64 were female (70.3%), 26 were male (28.9), and 1 preferred not to answer (1.1%). Ages ranged from 20 to 63, with a mean age of 41.6 (*SD*=10.76). In terms of education, 33 participants had an associate's degree (36.3%), while 26 had a bachelor's degree (28.6%), 15 had a Master's degree (16.5%), 2 were doctors of philosophy (2.2%), 2 were medical doctors (2.2%), 8 held a certification (8.8%), and 5 (5.5%) had only high school equivalency. The largest group of volunteers (43, 47.3%) reported having more than 15 years' experience in the healthcare field, with another 17.6% (16) reporting 10-15 years' experience and another 17.6% (16) reporting 5-10 years' experience. 13.2% (12) reported having 2-5 years' experience and 4.4% (4) claimed less than 2 years' experience.

For wages, the bulk of the sample (36, 39.6%) reported a salary between $50,000-$80,000 per year, with another 29.7% (27) reporting between $30,000-$50,000, 15.4% (14) reporting $80,000-$100,000 per year, 9.9% (9) claiming more than $100,000 per year, and 5.5% (5) reporting a salary of less than $30,000 per year. In terms of their organizations, 51.6% (47) reported working in public healthcare, while 31.9% (29) reported working in private healthcare. Another 13.2% (12) said they worked for a university or an organization affiliated with a university, while 3.3% (3) said they held a healthcare job in a non-healthcare organization. In terms of where participants worked,

the sample represented 32 states, with the highest concentrations of participants reporting that they worked in Oklahoma (16, 17.6%), Texas (13, 13.2%), and California (7, 7.7%).

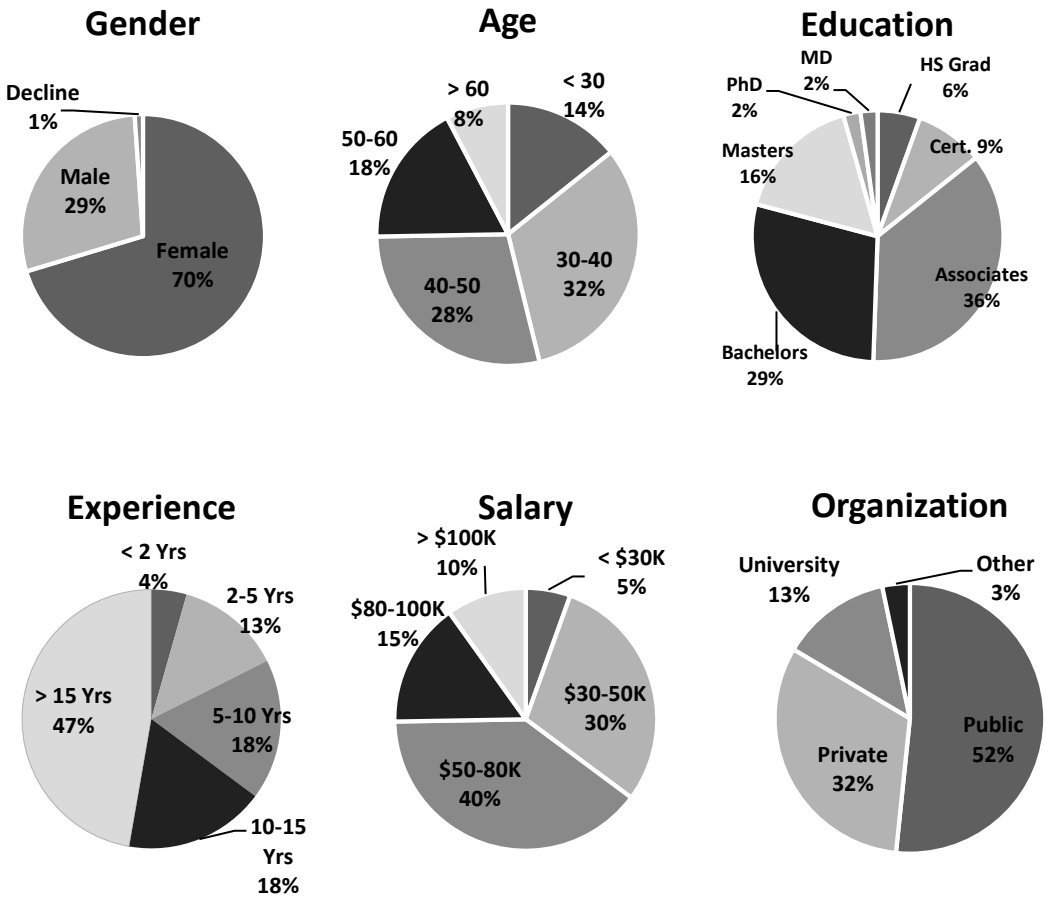

Figure 1. Pie charts of select participant variables.

The researcher used all 91 responses of the convenience sample, and the needed sample size of 84 samples for RQ2-RQ6 was computed using G*Power 3.1 with settings for a correlation exact test for a bivariate normal, two-tailed, a priori power analysis with a type I error of $\alpha = .05$, type II error of $(1-\beta)$ of .80, and a moderate effect size of .30 (Appendix H; Faul et al., 2007). For the multiple regression analysis of RQ1, sample size was computed using G*Power 3.1 as well. Settings for a linear multiple regression a

priori power analysis with a type I error of $\alpha = .05$, type II error of $(1-\beta)$ of .80, 5 predictors, and a moderate effect size of .30 to be 49 samples (Appendix H; Faul et al., 2007). While previous researchers conducted mail and in-person surveys during sampling (Crossley et al., 2007; Mitchell et al., 2001), this research used an online survey site. Based on Lochner (2016) and Bjornsdottir et al. (2014), the researcher expected no difference between the online survey versions of the surveys and previous research that used paper surveys. In terms of job embeddedness (JE), the mean JE score was 22.198 on a scale of 7 to 35 (*SD*=6.454), with scores ranging from 7 to 35. In terms of the five factor personality traits, this sample reported mean scores of 32.648 for neuroticism (*SD*=8.191), 41.022 for extraversion (*SD*=7.371), 43.780 for openness (*SD*=6.060), 44.263 for agreeableness (*SD*=6.640), and 46.374 (*SD*=6.668) for conscientiousness; all on scales of 12 to 60.

Data Analysis Procedures

The researcher conducted analysis of data using IBM's SPSS Statistics software, version 24. To answer the six research questions (Appendix D), the researcher collected data from a convenience sample of 91 volunteers self-selected from a target population of people in the general population of American healthcare workers who were qualified, able, and willing to participate in online research. Of the 116 people who were qualified and provided consent, eight did not continue past the consent and qualification screens, five did not continue past the participant variables section of the survey, six did not fully complete the survey, and six participants skipped at least one question. While the NEO-FFI-3 allows for scoring of surveys with some blanks (McCrae & Costa, 2010), the researcher did not count the surveys with missing responses and the data collection

process yielded 91 useable surveys. The researcher computed a needed sample size of 84 using G*Power 3.1, with settings for a correlation test for a bivariate normal, two-tailed, a priori power analysis with a type I error of $\alpha = .05$, type II error of $(1-\beta)$ of .80, and a moderate effect size of .30 (Appendix H; Faul et al., 2007). For the multiple regression analysis of RQ1, sample size was computed using G*Power 3.1 as well. Settings for a linear multiple regression a priori power analysis with a type I error of $\alpha = .05$, type II error of $(1-\beta)$ of .80, 5 predictors, and a moderate effect size of .30 to be 49 samples (Appendix H; Faul et al., 2007). Because the sample size of 91 useable responses exceeded the 84 needed for both the correlational analyses and the multiple regression analyses, there were no limitations to this research based on the size of the convenience sample or missing data.

Based on the methodology outlined in Chapter 3, the researcher assessed that the six assumptions for a multiple regression analysis would also be met for RQ1. Specifically, the researcher assumed that the sample would meet the following assumptions for a multiple regression analysis: there would be at least two independent and continuous variables, there would be independence of residuals, there would be linearity, there would be homoscedasticity, there would not be multicollinearity nor outliers, and residual errors would be normally distributed (Laerd Statistics), The researcher also assessed the assumptions for the use of a Pearson's correlation for RQ2-RQ6 would be met and that the research variables were continuous, could be paired, there would be a linear relationship between variables, there would not be significant outliers, and data would be normally distributed (Laerd Statistics, 2015).

This quantitative correlational design was consistent with past research on embeddedness and met similar assumptions made in past research (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015). Further, the use of the NEO-FFI-3 was consistent with past research under quasi-experimental conditions that also yielded valid and reliable data (McCrae & Costa., 2010). Similarly, Mitchell et al. (2001) has shown the use of the Global Measure of Job Embeddedness to be valid and reliable in quasi-experimental conditions. As a result, and when considering the convenience sample size was larger than the computed needed sample size of 84 (Appendix H; Faul et al., 2007), the researcher assessed that the data were valid and reliable and that a correlation should have presented in the data as hypothesized. In the case of this research, a correlation coefficient for Pearson's *r* was assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). Not only was this approach consistent with past research on job embeddedness that found significant results, the researcher used appropriate sample sizes (Appendix H) and keyed hypotheses to a moderate effect size using Cohen's convention to ensure a threshold on which to base conclusions (Ferreira et al., 2013; García Rivera et al., 2013; Kraemer & Blasey, 2015). Data collected for analysis consisted of 91 valid individual responses to the seven items of the Global Measure of Embeddedness and 60 items of the NEO-FFI-3 for personality traits.

Based on SPSS analysis, the researcher considered the results for the specific traits of agreeableness and conscientiousness to be skewed, as skewness for agreeableness was -.682 and for conscientiousness was -1.118 (Table 1; Appendix I). The researcher would have considered a value of between -.5 and .5 to be symmetric and the

other three traits of neuroticism, extraversion, and openness were between the -.5 and .5 range (Appendix I; George & Mallery, 2010). These two measures appeared again during the analysis of RQ4 and RQ5 when assessing normality based on the Shapiro-Wilk test. Kurtosis for all variables was considered normal, wherein the five values of kurtosis ranged between -2 and +2 (Table 1; Appendix I; George & Mallery). The researcher finally assessed homogeneity of variance with Levene's test, where a value of less than .05 ($p < .05$) indicated the assumption for homogeneity of variance was not met (Laerd Statistics, 2015). As a result, data corresponding to RQ4, RQ5, and RQ6 did not meet the assumptions for a Pearson's correlation analysis, which led the researcher to conduct additional analyses using Spearman's correlation for RQ4, RQ5, and RQ6. Overall, and based on scoring interpretations of the NEO-FFI-3 (McCrae & Costa, 2010), these mean scores would be reported as "average" for all traits, with the exception of openness, which could be interpreted as having the lowest "high" score possible. Select SPSS output of descriptive statistics can be found in Appendix I.

Table 1

Summary of Assumptions

Variables	*JE*	*Neur.*	*E*	*O*	*A*	*C*
Skewness	.005	.169	-.134	-.035	-.652	-1.118
Assumption met?	Yes	Yes	Yes	Yes	No	No
Kurtosis	-.385	-.279	-.636	.023	.882	1.821
Assumption met?	Yes	Yes	Yes	Yes	Yes	Yes
Normality (*sig.*)	.503	.520	.417	.905	.023	.000
Assumption met?	Yes	Yes	Yes	Yes	No	No
Homogeneity of variance (*sig.*)		.103	.021	.161	.037	.013
Assumption met?		Yes	No	Yes	No	No

N = 91; JE = job embeddedness, Neur. = neuroticism, E = extraversion, O = openness, A = agreeableness, C = conscientiousness; skewness was considered normal between -.5 and .5; kurtosis was considered normal between -2 and 2; normality assessed by Shapiro-Wilk's test when significance was p > .05; homogeneity of variance assessed as met when Levene's test resulted in p > .05.

The hypotheses were tested by using Cohen's conventions to determine the presence or absence of statistical significance by noting a small correlation at .10, a moderate correlation at .30 and a large correlation at .50 in the following section (Ferreira et al., 2013; García Rivera et al., 2013; Kraemer & Blasey, 2015). Though listed below in order from RQ1 through RQ6, the researcher conducted data analysis by first completing the analyses for RQ2 through RQ6 before addressing the more global analysis of RQ1. Based on past research on job embeddedness, the researcher assessed the six research questions were consistent with past research that has yielded significant results, that the multiple regression analysis would provide a general conclusion of the relationship between job embeddedness and the five factor model, and that the correlational analyses would identify which trait, if any, correlated most with job embeddedness (Chen et al., 2010; Clinton et al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015). Following are the research questions and the analysis procedures that were completed:

Criterion Variable 1: A job embeddedness score.

Predictor Variables: Five factor personality traits (neuroticism, openness, conscientiousness, agreeableness, and extraversion).

RQ1: To what extent, if any, do the five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees?

H10: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion do not predict job embeddedness among American healthcare employees.

H1a: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees.

Research Question 1 analysis. To analyze the collected data in support of RQ1 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variables, the researcher identified the 12 items of the NEO-FFI-3 that correspond to each of the five traits measured by the NEO-FFI-3 and calculated a single numeric value for each trait, yielding five numeric values from 12 to 60 for each of the five traits (McCrae & Costa, 2010). With these six values, the researcher conducted an SPSS-based multiple regression analysis to determine if there was a significant correlation between the criterion and predictor variables. In the case of this research, the researcher assessed a Pearson's correlation coefficient (*r*) as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher would have rejected the null hypothesis, concluded that the alternative hypothesis was confirmed, and that there was a significant correlation between personality traits and job embeddedness. Conversely, if the correlation coefficient was less than moderate, then the researcher would have accepted the null hypothesis and conclude that there was not a significant correlation between personality traits and job embeddedness.

Criterion Variable 3: A job embeddedness score.

Predictor Variable 4: Personality trait of neuroticism.

RQ2: To what extent, if any, does the personality trait of neuroticism relate to job embeddedness among American healthcare employees?

H20: The personality trait of neuroticism does not correlate with job embeddedness among American healthcare employees.

H2a: The personality trait of neuroticism correlates with job embeddedness among American healthcare employees.

Research Question 2 analysis. To analyze the collected data in support of RQ2 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that correspond to the trait of neuroticism and sum the scores of all 12 questions to yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation analysis to determine if there was a significant correlation between the criterion and predictor variables. In the case of this research, the researcher assessed a Pearson's correlation coefficient (r) as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher would have rejected the null hypothesis, concluded that the alternative hypothesis was confirmed, and that there was a significant correlation between neuroticism and job embeddedness. If the correlation was at least moderate, then the researcher would have rejected the null hypothesis, concluded that the alternative hypothesis was confirmed, and that there was a significant correlation between neuroticism and job embeddedness. Conversely, if the correlation coefficient

was less than moderate, then the researcher would have accepted the null hypothesis and concluded that there was not a significant correlation between neuroticism and job embeddedness.

Criterion Variable 5: A job embeddedness score.

Predictor Variable 6: Personality trait of openness.

RQ3: To what extent, if any, does the personality trait of openness relate to job embeddedness among American healthcare employees?

H30: The personality trait of openness does not correlate with job embeddedness among American healthcare employees.

H3a: The personality trait of openness correlates with job embeddedness among American healthcare employees.

Research Question 3 analysis. To analyze the collected data in support of RQ3 (Appendix D), the researcher assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that correspond to the trait of openness and sum the scores of all 12 questions to yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation analysis to determine if there was a significant correlation between the criterion and predictor variables. In the case of this research, the researcher assessed a Pearson's correlation coefficient (r) as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher would have rejected the null hypothesis,

concluded that the alternative hypothesis was confirmed, and that there was a significant correlation between openness and job embeddedness. Conversely, if the correlation coefficient was less than moderate, then the researcher would have accepted the null hypothesis and concluded that there was not a significant correlation between openness and job embeddedness

Criterion Variable 7: A job embeddedness score.

Predictor Variable 8: Personality trait of conscientiousness.

RQ4: To what extent, if any, does the personality trait of conscientiousness relate to job embeddedness among American healthcare employees?

H40: The personality trait of conscientiousness does not correlate with job embeddedness among American healthcare employees.

H4a: The personality trait of conscientiousness correlates with job embeddedness among American healthcare employees.

Research Question 4 analysis. To analyze the collected data in support of RQ4 (Appendix D), the researcher assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that correspond to the trait of conscientiousness and sum the scores of all 12 questions to yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation analysis to determine if there was a significant correlation between the criterion and predictor variables. Additionally, because the data appeared to violate the assumptions for

skewness, normality, and homogeneity of variance for a Pearson's correlation coefficient analysis, the researcher also conducted a Spearman's correlation analysis. In the case of this research, the researcher assessed a correlation coefficient (r, r_s) as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher rejected the null hypothesis and concluded that there was a significant correlation between conscientiousness and job embeddedness. Conversely, if the correlation coefficient was less than moderate, then the researcher accepted the null hypothesis and concluded that there was not a significant correlation between conscientiousness and job embeddedness.

Criterion Variable 9: A job embeddedness score.

Predictor Variable 10: Personality trait score of agreeableness.

RQ5: To what extent, if any, does the personality trait of agreeableness relate to job embeddedness among American healthcare employees?

H50: The personality trait of agreeableness does not correlate with job embeddedness among American healthcare employees.

H5a: The personality trait of agreeableness correlates with job embeddedness among American healthcare employees.

Research Question 5 analysis. To analyze the collected data in support of RQ5 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that corresponded to the trait of agreeableness and summed the scores of all 12 questions to

yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation analysis to determine if there was a significant correlation between the criterion and predictor variables. Additionally, because the data appeared to violate the assumptions for skewness, normality, and homogeneity of variance for a Pearson's correlation coefficient analysis, the researcher also conducted a Spearman's correlation analysis. In the case of this research, the researcher assessed a correlation coefficient (r, r_s) as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher rejected the null hypothesis and concluded that there was a significant correlation between agreeableness and job embeddedness. Conversely, if the correlation coefficient was less than moderate, then the researcher accepted the null hypothesis and concluded that there was not a significant correlation between agreeableness and job embeddedness.

Criterion Variable 11: A job embeddedness score.

Predictor Variable 12: Personality trait score of extraversion.

RQ6: To what extent, if any, does the personality trait of extraversion relate to job embeddedness among American healthcare employees?

H60: The personality trait of extraversion does not correlate with job embeddedness among American healthcare employees.

H6a: The personality trait of extraversion correlates with job embeddedness among American healthcare employees.

Research Question 6 analysis. To analyze the collected data in support of RQ6 (Appendix D), the researcher first assessed the criterion variable, a job embeddedness

score, by summing the scores of all 7 questions of the Global Embeddedness Survey (Crossley et al., 2007) and converting the total to a numeric score from 7 to 35. To assess the predictor variable, the researcher identified the 12 items of the NEO-FFI-3 that corresponded to the trait of extraversion and summed the scores of all 12 questions to yield a single numeric value from 12 to 60 (McCrae & Costa, 2010). With these two numeric values, the researcher conducted an SPSS-based Pearson correlation analysis to determine if there was a significant correlation between the criterion and predictor variables. Additionally, because the data appeared to violate the assumption of homogeneity of variance for a Pearson's correlation coefficient analysis, the researcher also conducted a Spearman's correlation analysis. In the case of this research, the researcher assessed a correlation coefficient (r, r_s) as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher rejected the null hypothesis and concluded that there was a significant correlation between extraversion and job embeddedness. Conversely, if the correlation coefficient was less than moderate, then the researcher accepted the null hypothesis and concluded that there was not a significant correlation between extraversion and job embeddedness.

Results

Six research questions (Appendix D) examined the correlation between job embeddedness (JE) and the personality traits of the five-factor model, as well as the overall five-factor model itself. The researcher collected data from 91 online survey participants who provided responses to two valid and reliable surveys to answer the research questions: the 7-item Global Measure of Embeddedness (Crossley et al., 2007)

and the 60-item NEO-FFI-3 (Mitchell et al., 2001). Of the 116 people who were qualified and provided consent, eight did not continue past the consent and qualification screens, five did not continue past the participant variables section of the survey, six did not fully complete the survey, and six participants skipped at least one question. While the NEO-FFI-3 allows for scoring of surveys with blanks under certain conditions (McCrae & Costa, 2010), the researcher did not count the surveys with missing responses and the data collection process yielded 91 useable surveys. The NEO-FFI-3 has been a valid and reliable personality inventory designed to measure the five-factor traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness (McCrae & Costa, 2010). The Global Measure of Embeddedness survey (Crossley et al., 2007) is a valid and reliable survey of seven Likert items that measure embeddedness (Mitchell et al., 2001). The below results show the results of the quantitative analyses, with select SPSS output also presented in Appendix I:

Criterion Variable 1: A job embeddedness score.

Predictor Variables: Five factor personality traits (neuroticism, openness, conscientiousness, agreeableness, and extraversion).

RQ1: To what extent, if any, do the five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees?

H10: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion do not predict job embeddedness among American healthcare employees.

H1a: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees.

Research Question 1 results. A multiple regression was run to examine the relationship between job embeddedness (JE) and the five-factor model of personality, which is comprised of the individual traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness (Laerd Statistics, 2015). Based on the methodology outlined in Chapter 3, the researcher assessed the six assumptions for a multiple regression analysis were met for RQ1. The sample had at least two independent and continuous variables, there would be independence of residuals, there would be linearity, there would be homoscedasticity, there would not be multicollinearity nor outliers, and residual errors would be normally distributed (Laerd Statistics), 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 1.704, wherein the researcher assessed any Durbin-Watson value between 1.5 and 4 to be normal (Field, 2009). There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1 and variance inflation factor (VIF) less than 10. There were no studentized deleted residuals greater than plus or minus three standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. The data met an assumption of normality as assessed by Q-Q Plot.

Based on a multiple correlation coefficient analysis, assessment of the coefficient of determination, assessment of significance, and assessment of collinearity by observation of an acceptable variance inflation factor less than 10, the multiple regression analysis did not show a moderate effect size or a statistically significant relationship between personality traits and job embeddedness that could be used for prediction while meeting the assumptions of multiple regression. The coefficient of determination, R^2, for the overall model was 6.5% with an adjusted R^2 of 1%, a less than small effect size according to Cohen (1988); F (5, 85) = 1.176, p = .328, adj. R^2 = .010. None of the five dependent variables were statistically significant for prediction with $p < .05$ (p = .328, Appendix I). Regression coefficients, standard errors, and the collinearity statistic can be found in Table 2 (Appendix I).

Table 2

Summary of Multiple Regression Analysis, Analysis of Coefficients, and Collinearity Statistic

Variable	*B*	$SE_{\hat{o}}$	$\hat{o}$	*p*	*VIF*
Intercept(Constant)	18.597	10.068		0.068	
Neuroticism	0.154	0.096	0.196	0.110	1.337
Extraversion	0.196	0.107	0.224	0.071	1.366
Openness	-0.134	0.118	-0.126	0.259	1.110
Agreeableness	0.002	0.108	0.002	0.986	1.119
Conscientiousness	-0.080	0.112	-0.082	0.478	1.214

B = unstandardized regression coefficient; $SE_{\hat{o}}$ = Standard error of the coefficient; $\hat{o}$ = standardized coefficient; *p* = significance; *VIF (variance inflation factor)* = collinearity

Criterion Variable 3: A job embeddedness score.

Predictor Variable 4: Personality trait of neuroticism.

RQ2: To what extent, if any, does the personality trait of neuroticism relate to job embeddedness among American healthcare employees?

H20: The personality trait of neuroticism does not correlate with job embeddedness among American healthcare employees.

H2a: The personality trait of neuroticism correlates with job embeddedness among American healthcare employees.

Research Question 2 results. A Pearson's product-moment correlation was run to assess the relationship between Job Embeddedness (JE) and the five-factor model trait of neuroticism in a sample of 91 American healthcare professionals. The researcher also assessed the assumptions for the use of a Pearson's correlation for RQ2 were met and that the research variables were continuous, were paired, showed a linear relationship between variables, there were no significant outliers, and data was normally distributed (Laerd Statistics, 2015). Preliminary analyses showed the relationship to be slightly linear with both variables normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). The researcher noted two possible outliers for job embeddedness based on visual inspection of the scatterplot and ran analyses in SPSS version 24 that both included and excluded the apparent outliers with no change in the effect size or significance, so all data points were included in the analysis. While there appeared to be a small positive correlation between JE and neuroticism, $r(89) = .146$ (Appendix I), with neuroticism explaining 2.132% of the variation in JE, the result did not meet the moderate threshold of $r \geq .30$ and was not significant ($p = .167$). In the case of this research, a correlation coefficient for Pearson's r would have been assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher would have accepted the alternative hypothesis. Because there was not a moderate or higher correlation or a statistically significant relationship between neuroticism and JE, the

researcher accepted the null hypothesis.

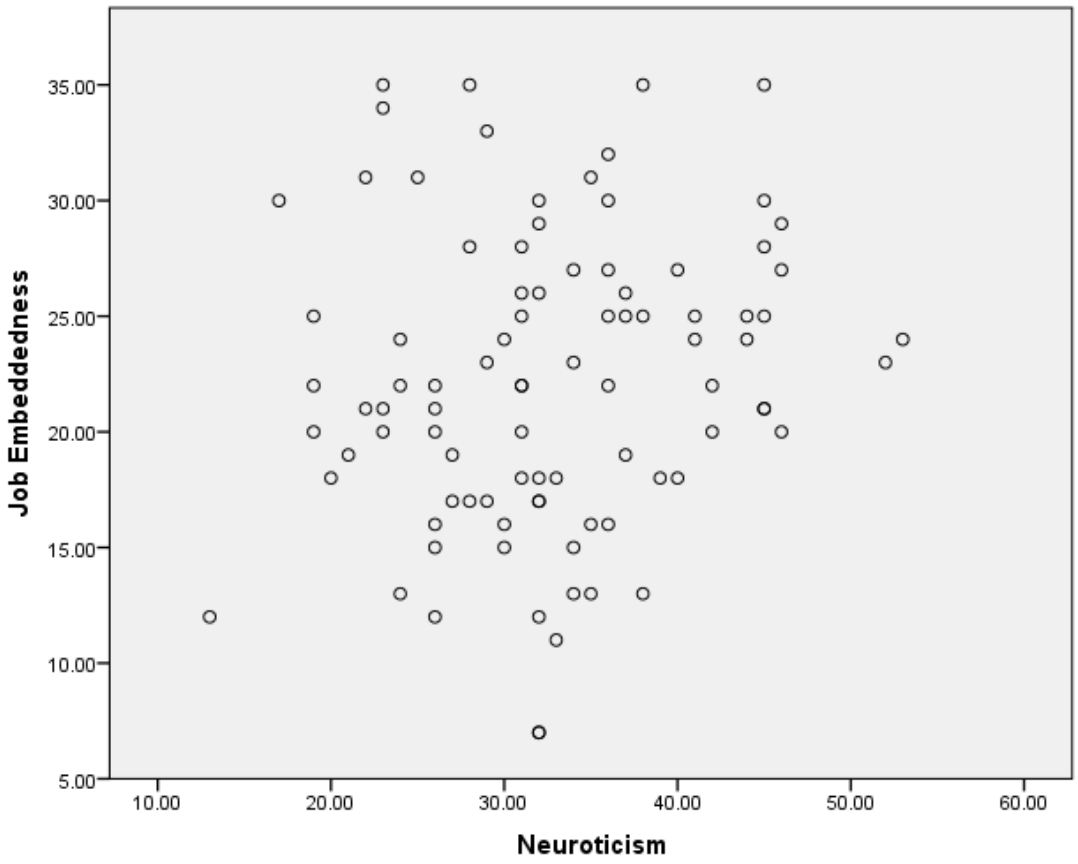

Figure 2. Scatter plot of job embeddedness compared to neuroticism.

Criterion Variable 5: A job embeddedness score.

Predictor Variable 6: Personality trait of openness.

RQ3: To what extent, if any, does the personality trait of openness relate to job embeddedness among American healthcare employees?

H30: The personality trait of openness does not correlate with job embeddedness among American healthcare employees.

H3a: The personality trait of openness correlates with job embeddedness among American healthcare employees.

Research Question 3 results. A Pearson's product-moment correlation was run to assess the relationship between Job Embeddedness (JE) and the five-factor model trait of openness in a sample of 91 American healthcare professionals. The researcher also assessed the assumptions for the use of a Pearson's correlation for RQ3 were met and that the research variables were continuous, were paired, showed a linear relationship between variables, there were no significant outliers, and data was normally distributed (Laerd Statistics, 2015). Preliminary analyses showed the relationship to be slightly linear with both variables normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). The researcher noted two possible outliers for job embeddedness based on visual inspection of the scatterplot and ran analyses in SPSS version 24 that both included and excluded the apparent outliers with no change in the effect size or significance, so all data points were included in the analysis. While there appeared to be a small negative correlation between JE and openness, $r(89) = -.078$ (; Appendix I), with openness explaining up to .6084% of the variation in JE, the result did not meet the moderate threshold of $r \geq .30$ and the result was not significant ($p = .465$). In the case of this research, a correlation coefficient for Pearson's *r* would have been assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher would have accepted the alternative hypothesis. Because there was not a moderate or higher correlation or a statistically significant relationship between openness and JE, the researcher accepted the null hypothesis.

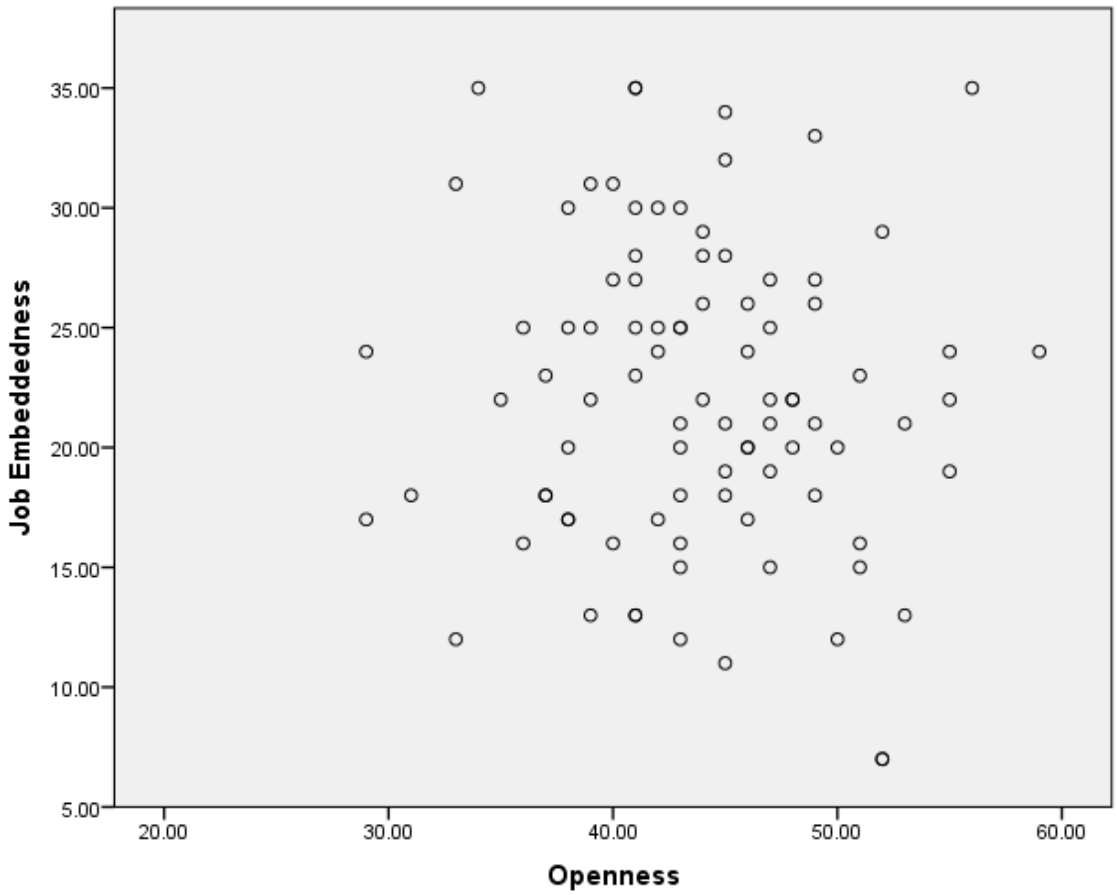

Figure 3. Scatter plot of job embeddedness compared to openness.

Criterion Variable 7: A job embeddedness score.

Predictor Variable 8: Personality trait of conscientiousness.

RQ4: To what extent, if any, does the personality trait of conscientiousness relate to job embeddedness among American healthcare employees?

H40: The personality trait of conscientiousness does not correlate with job embeddedness among American healthcare employees.

H4a: The personality trait of conscientiousness correlates with job embeddedness among American healthcare employees.

Research Question 4 results. A Pearson's product-moment correlation was run to assess the relationship between Job Embeddedness (JE) and the five-factor model trait of conscientiousness in a sample of 91 American healthcare professionals. The researcher also assessed the assumptions for the use of a Pearson's correlation for RQ4 were met and that the research variables were continuous, were paired, showed a linear relationship between variables, and there were no significant outliers. However, homogeneity of variance was not met, so a Spearman correlation was also conducted (Laerd Statistics, 2015). Preliminary analyses showed the relationship to be slightly linear, but not normally distributed, as assessed by Shapiro-Wilk's test ($p < .05$). The researcher also noted two possible outliers for job embeddedness based on visual inspection of the scatterplot and ran analyses in SPSS version 24 that both included and excluded the apparent outliers with no change in the effect size or significance, so all data points were included in the analysis. Because the data appeared to violate the assumption of normality, the researcher conducted both Pearson's and Spearman's correlation analyses.

In terms of the Spearman correlation, there appeared to be a linear and monotonic relationship from the scatterplot and analysis showed there was a very small negative correlation between job embeddedness and openness that was not statistically significant, $r_s(89) = -.067$, $p = .528$ (Table 4, Appendix I). In terms of the Pearson's correlation, while there appeared to be a small negative correlation between JE and conscientiousness, $r(89) = -.086$ (; Appendix I), with conscientiousness explaining up to 0.7396% of the variation in JE, the result did not meet the moderate threshold of $r \geq .30$ and the result was not significant ($p = .417$). In the case of this research, a correlation coefficient for Pearson's *r* would have been assessed as small at .10, moderate at .30 and

large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher would have accepted the alternative hypothesis. Because there was not a moderate or higher correlation or a statistically significant relationship between conscientiousness and JE after analyzing both Pearson's and Spearman's correlations, the researcher accepted the null hypothesis.

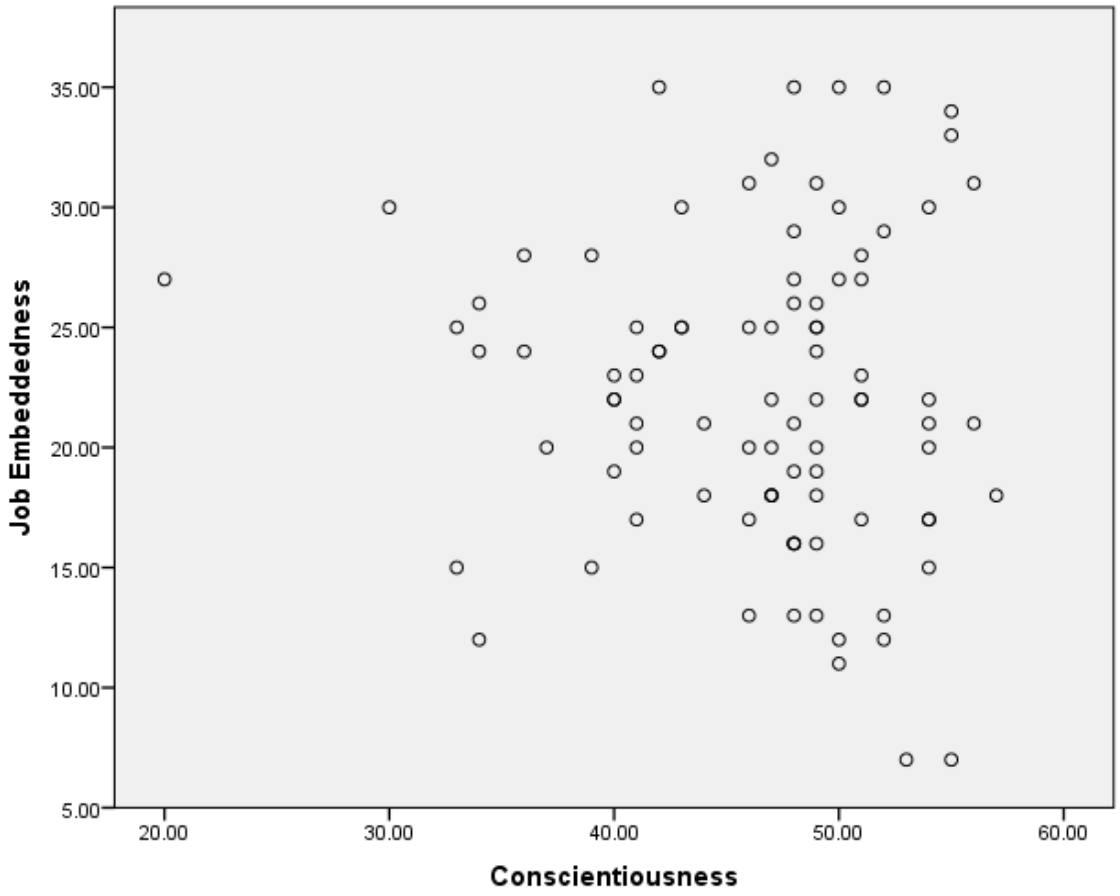

Figure 4. Scatter plot of job embeddedness compared to conscientiousness.

Criterion Variable 9: A job embeddedness score.

Predictor Variable 10: Personality trait score of agreeableness.

RQ5: To what extent, if any, does the personality trait of agreeableness relate to job embeddedness among American healthcare employees?

H50: The personality trait of agreeableness does not correlate with job embeddedness among American healthcare employees.

H5a: The personality trait of agreeableness correlates with job embeddedness among American healthcare employees.

Research Question 5 results. A Pearson's product-moment correlation was run to assess the relationship between Job Embeddedness (JE) and the five-factor model trait of agreeableness in a sample of 91 American healthcare professionals. The researcher also assessed the assumptions for the use of a Pearson's correlation for RQ5 were met and that the research variables were continuous, were paired, showed a linear relationship between variables, and there were no significant outliers. However, homogeneity of variance was not met, so a Spearman correlation was also conducted (Laerd Statistics, 2015). Preliminary analyses showed the relationship to be slightly linear, but not normally distributed, as assessed by Shapiro-Wilk's test ($p < .05$). The researcher also noted two possible outliers for job embeddedness based on visual inspection of the scatterplot and ran analyses in SPSS version 24 that both included and excluded the apparent outliers with no change in the effect size or significance, so all data points were included in the analysis. Because the data appeared to violate the assumption of normality, the researcher conducted both Pearson's and Spearman's correlation analyses.

In terms of the Spearman correlation, there appeared to be a linear and monotonic relationship from the scatterplot, and analysis showed there was a very small negative correlation between job embeddedness and agreeableness that was not statistically

significant, $r_s(89) = -.063$, $p = .555$ (Table 4, Appendix I). In terms of the Pearson's correlation, while there appeared to be a small negative correlation between JE and agreeableness, $r(89) = -.018$ (Appendix I), with agreeableness explaining up to .0324% of the variation in JE, the result did not meet the moderate threshold of $r \geq .30$ and the result was not significant ($p = .867$). In the case of this research, a correlation coefficient for Pearson's *r* would have been assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher would have accepted the alternative hypothesis. Because there was not a moderate or higher correlation or a statistically significant relationship between agreeableness and JE after analyzing both Pearson's and Spearman's correlations, the researcher accepted the null hypothesis.

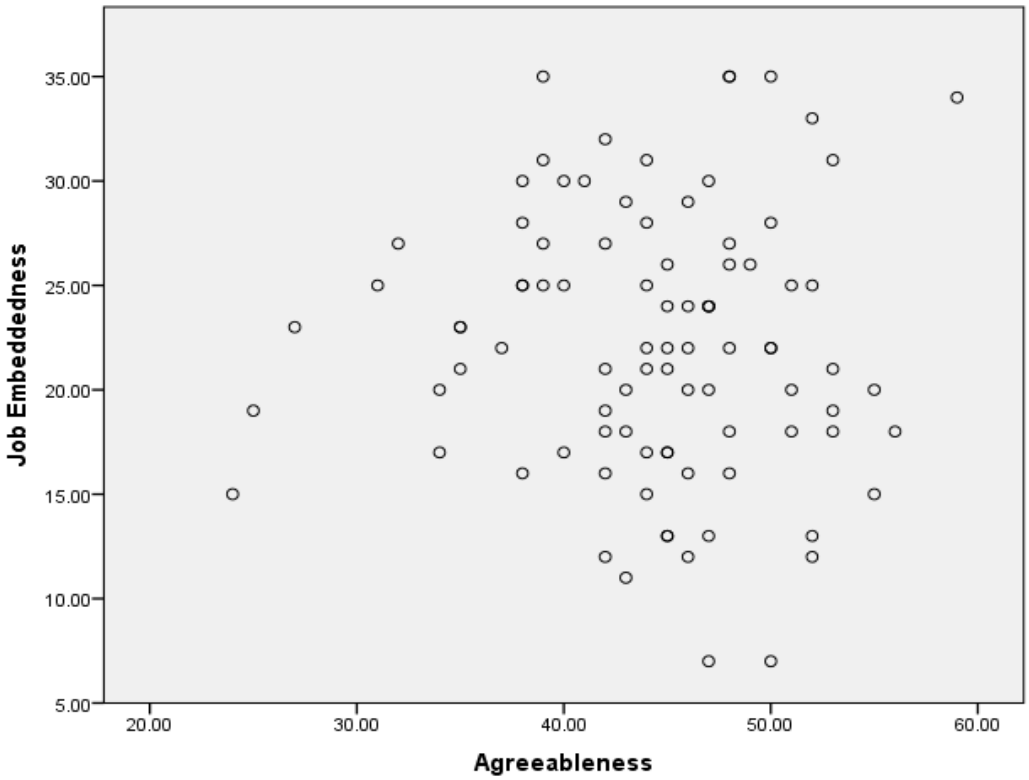

Figure 5. Scatter plot of job embeddedness compared to agreeableness.

Criterion Variable 11: A job embeddedness score.

Predictor Variable 12: Personality trait score of extraversion.

RQ6: To what extent, if any, does the personality trait of extraversion relate to job embeddedness among American healthcare employees?

H60: The personality trait of extraversion does not correlate with job embeddedness among American healthcare employees.

H6a: The personality trait of extraversion correlates with job embeddedness among American healthcare employees.

Research Question 6 results. The researcher ran a Pearson's product-moment correlation to assess the relationship between Job Embeddedness (JE) and the five-factor model trait of extraversion in a sample of 91 American healthcare professionals. The researcher also assessed the assumptions for the use of a Pearson's correlation for RQ6 were met and that the research variables were continuous, were paired, showed a linear relationship between variables, and there were no significant outliers. However, homogeneity of variance was not met, so a Spearman correlation was also conducted (Laerd Statistics, 2015). Preliminary analyses showed the relationship to be slightly linear with both variables normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). The researcher also noted two possible outliers for job embeddedness based on visual inspection of the scatterplot and ran analyses in SPSS version 24 that both included and excluded the apparent outliers with no change in the effect size or significance, so all data points were included in the analysis. Because the data for extraversion appeared to violate the assumption of homogeneity of variance (Table 1), the researcher conducted both Pearson's and Spearman's correlation analyses.

In terms of the Spearman correlation, there appeared to be a linear and monotonic relationship from the scatterplot and analysis showed there was a small positive correlation between job embeddedness and extraversion that was not statistically significant, $r_s(89)= .060$, $p = .573$ (Table 4, Appendix I).While there appeared to be a small positive correlation between JE and extraversion, $r(89) = .086$ (Appendix I), with extraversion explaining up to .7396% of the variation in JE, the result did not meet the moderate threshold of $r \geq .30$ and the result was not significant ($p = .416$). In the case of this research, a correlation coefficient for Pearson's *r* would have been assessed as small at .10, moderate at .30 and large at .50 (Kraemer & Blasey, 2015). If the correlation was at least moderate, then the researcher would have accepted the alternative hypothesis. Because there was not a moderate or higher correlation or a statistically significant relationship between extraversion and JE, the researcher accepted the null hypothesis.

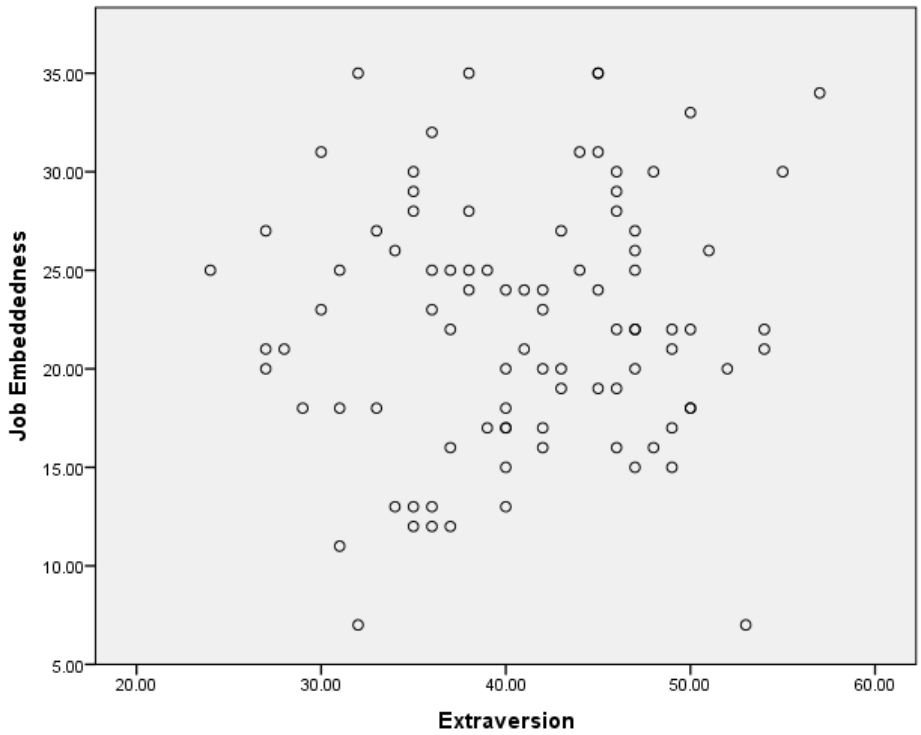

Figure 6. Scatter plot of job embeddedness compared to extraversion.

Table 3

Pearson Correlations (r) for Job Embeddedness and Five Factor Traits of Neuroticism and Openness, With 2-Tailed Significance (p)

Variable	JE *r*	2-tailed significance *p*
Neuroticism	0.146	0.167
Openness	-0.078	0.465

Table 4

Spearman Correlations (r_s) for Job Embeddedness and Five Factor Traits of Conscientiousness, Agreeableness, and Extraversion; With 2-Tailed Significance (p)

Variable	JE r_s	2-tailed significance *p*
Conscientiousness	-0.067	0.528
Agreeableness	-0.063	0.555
Extraversion	0.060	0.573

Summary

Chapter 4 explained the analysis of the experiment first outlined in Chapter 3. This study was a quantitative correlational study designed to explore the relationship between the five-factor model of personality and the organizational measure of job embeddedness (JE). Specifically, it is not known if, or to what extent, the personality traits of the five-factor model relate to job embeddedness among American healthcare employees. The researcher based the quantitative correlational design on previous research on embeddedness. Mitchell et al. (2001) developed quantitative measures of embeddedness, which led to a valid 7-item Global Measure of Embeddedness. Job embeddedness research to date has used correlational methodologies with descriptive statistics to describe data and relationships between variables and this correlational design is consistent with past research on job embeddedness (Chen et al., 2010; Clinton et

al., 2012; Collins et al., 2014; Crossley et al., 2007; Mitchell et al., 2001; Peltokorpi et al., 2015). The instrument used to measure personality traits, the NEO-Five Factor Inventory (NEO-FFI-3) has been a valid and reliable survey. McCrae and Costa (2013) and Markon et al. (2005) demonstrated content validity for the NEO-FFI-3. Since its initial implementation in 1989, versions of McCrae and Costa's NEO-FFI has been shown to be reliable (McCrae & Costa, 2013).

The researcher conducted an experiment in late May, 2017, recruiting 116 participants from the population of healthcare workers in the United States, with 91 providing useable surveys (Appendix H; Faul et al., 2007). Of the 116 people who were qualified and provided consent, eight did not continue past the consent and qualification screens, five did not continue past the participant variables section of the survey, six did not fully complete the survey, and six participants skipped at least one question. The researcher did not count the surveys with missing responses and the data collection process yielded 91 useable surveys that met the limitations outlined in Chapters 1 and 3, specifically that participants gained no tangible remuneration for participation, that the participants were recruited from exclusively online sources, and that participants were active, full-time healthcare workers. No new limitations were noted because the initial sample was large enough to allow for the removal of data to maintain the integrity of the assumptions and limitations noted in Chapters 1 and 3 while still meeting the needed sample size of 84 (Appendix H).

Overall, the sample was normal and heterogeneous, consisting of mostly female volunteers from 32 states who had at least an associate's degree, over 15 years' experience in primarily public healthcare, and earned between $50,000 and $80,000 per

year. The research design used an online survey to deliver both the 60-item NEO-Five Factor Inventory – Revised (NEO-FFI-3) survey (McCrae & Costa, 2010) and the 7-item Global Embeddedness Survey (Crossley et al., 2007) in sequence to the convenience sample of 91 participants. The researcher made assumptions that participants had not been deceptive and was an accurate representation of the American healthcare industry. For this research, the researcher observed no evidence to the contrary that these two assumptions had been violated. Additionally, limitations included a lack of remuneration and recruitment of volunteers only through social media sites and the sample was delimited to those from among the target population who would respond to an online request for participation in research. Likewise, these limitations and delimitation remained static throughout data collection. The sample yielded an average job embeddedness score of 22.198 on a scale of seven to 35 (*SD*=6.454), 32.648 for neuroticism (*SD*=8.191), 41.022 for extraversion (*SD*=7.371), 43.780 for openness (*SD*=6.060), 44.263 for agreeableness (*SD*=6.640), and 46.374 (*SD*=6.668) for conscientiousness; all on scales of 12 to 60.

Based on the six research questions (Appendix D), the researcher tested six hypotheses to determine if a correlation between job embeddedness and the personality traits of the five-factor model existed. After data collection, the researcher analyzed results using SPSS Statistics software version 24 to look for significant correlations between the Global Embeddedness Survey scores and the subscale scores from the five factor traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion as measured by the NEO-FFI-3. Based on analyses that included a multiple regression analysis ($F(5, 85) = 1.176$, $p = .328$, adj. $R^2 = .010$; Appendix I) and analysis of Pearson's

and two Spearman's correlation coefficients (Table 2, Appendix I), the researcher accepted the null hypotheses related to each of the six research questions (Appendix D) and determined that there were no statistically significant correlations between job embeddedness and traits of the five factor model in this sample. In the next and final chapter, Chapter 5, the researcher summarizes the study, the conclusions of this research, and offer implications and recommendations for the fields of organizational and personality psychology.

Chapter 5: Summary, Conclusions, and Recommendations

Introduction

This research was a quantitative correlational study intended to assess the possible correlation between the broad personality traits of the five-factor model and the organizational measure of job embeddedness (JE) among American healthcare workers. This study built on a foundation of Person-Environment (PE) fit theory and the relatively new concept of job embeddedness (Ghosh & Gurunathan, 2015a) to explore if, or to what extent, the broad personality traits of the five-factor model related to job embeddedness among a population of healthcare workers in America. This study attempted to further both organizational psychology and personality psychology by demonstrating that personality traits of openness, conscientiousness, extraversion, neuroticism, and openness correlated with job embeddedness either as an entire construct or through individual traits. The implication of this research was that organizations conducting only organizational surveys, particularly those in the healthcare field, have been ignoring relevant personality variables when assessing organizational health.

Based on the six research questions (Appendix D), six hypotheses were tested to determine if a correlation between job embeddedness and the personality traits of the five-factor model existed. After data collection, the results were analyzed using SPSS Statistics software version 24 to look for significant correlations between the 7-item Global Embeddedness Survey scores and the subscale scores from the five factor traits corresponding to neuroticism, openness, conscientiousness, agreeableness, and extraversion as measured by the NEO-FFI-3. Based on analyses that included a multiple regression analysis and analysis of Pearson's correlation coefficients (*r*) and select

Spearman's correlation coefficients (r_s), the researcher assessed the hypotheses related to each of the six research questions to determine the correlation between job embeddedness and traits of the five-factor model in this convenience sample.

Regardless of the results presented in this research, the basic problem presented by job satisfaction, organizational commitment, and now job embeddedness surveys have remained that none of these three theories have reliably predicted who will stay with the organization and who will go (Mitchell et al., 2001). Based on the findings of this research, the researcher suggested that at least 31 other factors have yet to be explored (Ghosh & Gurunathan, 2015a) and there is more research to be done (Lee et al., 2014). This research also may have demonstrated that practitioners who lead interventions with personality psychology can continue to work under the pretense that all employees will be able to demonstrate job embeddedness.

Summary of the Study

The purpose of this quantitative correlational study was to examine if, or to what extent, the broad personality traits of the five-factor model relate to job embeddedness among a population of health services workers in America. The researcher based this study on a foundation of Person-Environment (PE) fit theory and the relatively new concept of job embeddedness (Ghosh & Gurunathan, 2015a), as well as personality psychology's trait theory (McCrae & Costa, 2013). This study furthered both organizational psychology and personality psychology by examining the relationship between the five factor model personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion with job embeddedness in a sample of American healthcare workers. Until this study, it has not been known if, or to what

extent, the personality traits of the five-factor model relate to job embeddedness among American healthcare employees. The implications of this research have been that organizational measures, like job embeddedness in the healthcare field, have been intended to explore whether or not practitioners are ignoring relevant personality variables when assessing organizational health.

Criterion Variable 1: A job embeddedness score.

Predictor Variables: Five factor personality traits (neuroticism, openness, conscientiousness, agreeableness, and extraversion).

RQ1: To what extent, if any, do the five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees?

H10: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion do not predict job embeddedness among American healthcare employees.

H1a: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees.

Criterion Variable 3: A job embeddedness score.

Predictor Variable 4: Personality trait of neuroticism.

RQ2: To what extent, if any, does the personality trait of neuroticism relate to job embeddedness among American healthcare employees?

H20: The personality trait of neuroticism does not correlate with job embeddedness among American healthcare employees.

H2a: The personality trait of neuroticism correlates with job embeddedness among American healthcare employees.

Criterion Variable 5: A job embeddedness score.

Predictor Variable 6: Personality trait of openness.

RQ3: To what extent, if any, does the personality trait of openness relate to job embeddedness among American healthcare employees?

H30: The personality trait of openness does not correlate with job embeddedness among American healthcare employees.

H3a: The personality trait of openness correlates with job embeddedness among American healthcare employees.

Criterion Variable 7: A job embeddedness score.

Predictor Variable 8: Personality trait of conscientiousness.

RQ4: To what extent, if any, does the personality trait of conscientiousness relate to job embeddedness among American healthcare employees?

H40: The personality trait of conscientiousness does not correlate with job embeddedness among American healthcare employees.

H4a: The personality trait of conscientiousness correlates with job embeddedness among American healthcare employees.

Criterion Variable 9: A job embeddedness score.

Predictor Variable 10: Personality trait score of agreeableness.

RQ5: To what extent, if any, does the personality trait of agreeableness relate to job embeddedness among American healthcare employees?

H50: The personality trait of agreeableness does not correlate with job embeddedness among American healthcare employees.

H5a: The personality trait of agreeableness correlates with job embeddedness among American healthcare employees.

Criterion Variable 11: A job embeddedness score.

Predictor Variable 12: Personality trait score of extraversion.

RQ6: To what extent, if any, does the personality trait of extraversion relate to job embeddedness among American healthcare employees?

H60: The personality trait of extraversion does not correlate with job embeddedness among American healthcare employees.

H6a: The personality trait of extraversion correlates with job embeddedness among American healthcare employees.

As stated earlier in Chapters 1 and 2, the foundation of this research has been Person-Environment (PE) fit theory. In organizations, PE fit has been routinely used to predict whether individuals within an organization will stay (Su et al., 2015). PE fit theory has also attempted to explain and measure the variables that lead to conditions that correlate with desired organizational outcomes and, to date, PE fit has been measured most often by job satisfaction (JS) and organizational commitment (OC; Su et al., 2015). The underlying assumption of these organizational measures has been that job satisfaction and organizational commitment reflect PE fit, which can then serve as a predictor of behavior. Regardless of the intent, measures of JS and OC did not reliably predict all behavior (Mitchell et al., 2001). As a result, Mitchell et al. proposed job embeddedness as an alternative to job satisfaction and organizational commitment. The

key feature of job embeddedness that distinguished it from decades of job satisfaction and organizational commitment work was the addition of the concept of sacrifice. Sacrifice was the measure of the costs associated with leaving an organization, something not found in job satisfaction and organizational commitment surveys. Since 2001, job embeddedness research has continued and, while job embeddedness may be an improvement over job satisfaction and organizational commitment, the fact remains that there remain phenomena wherein those with relatively high job embeddedness still leave organizations. Indeed, Sellers et al. (2015) found that while public health workers are generally satisfied, 42% of those surveyed reported that they intended to leave their current job. This research explored that paradox by proposing that job embeddedness, like JS and OC, has not accounted for the role of individual personality traits.

Ghosh and Gurunathan (2015a) examined 37 studies published between 2001 and 2011 and called for further study on factors related to an individual's disposition, values, behaviors, mood, attitude and other factors in relation to job embeddedness. Prior to that, Lee et al. (2014) found that after approximately 13 years of job embeddedness research, theoretical aspects of cognition, attitudes, and behaviors of individuals still need to be explored. This research added to scholarly body of knowledge by considering individual five-factor personality traits alongside job embeddedness in an attempt to provide a more holistic model of PE fit. This research attempted to further both the fields of personality psychology and organizational psychology and has provided a basis for continuing to implement organizational and personality-based interventions separately. This research used a quantitative correlational study to examine if, or to what extent, the broad personality traits of the five-factor model relate to job embeddedness among a population

of health services workers in America. This research also added to previous studies specific to job embeddedness conducted among American healthcare employees (Crossley, Bennett, Jex, & Burnfield, 2007; Mitchell et al., 2001). The next section will summarize the findings and conclusions before moving to a discussion on theoretical and research implications, and recommendations for future research and practice.

Summary of Findings and Conclusion

This quantitative correlational study was designed to test the relationship between the five-factor model of personality and the organizational measure of job embeddedness (JE). This research addressed a research gap that explored if, or to what extent, the personality traits of the five-factor model related to job embeddedness among American healthcare employees. Based on the six research questions (Appendix D), the researcher tested six hypotheses to determine if a correlation between job embeddedness and the personality traits of the five-factor model existed. After data collection, the researcher analyzed the data using SPSS Statistics software version 24 to look for significant correlations between the 7-item Global Embeddedness Survey scores and the subscale scores from the five factor traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion as measured by the NEO-FFI-3. Based on analyses that included a multiple regression analysis, analysis of Pearson's correlation coefficients (r), and three Spearman's correlation coefficients (r_s), the researcher accepted the null hypotheses related to each of the six research questions (Appendix D) and determined that there was no statistically significant correlation between job embeddedness and traits of the five-factor model in this sample.

This research increased the understanding of how the broad personality traits of the five-factor model do not correlate with job embeddedness among a sample of employees in the American healthcare industry. This research explored the relationship between Big Five personality traits and job embeddedness to inform at least recruiting, selection, hiring, retention, turnover, and organizational change among American healthcare workers. This research was also significant because job embeddedness is a relatively new concept of PE fit theory that incorporated a concept of sacrifice not found in the traditional organizational measures of JS and OC (Lee et al., 2014). Reitz and Anderson (2011) even specifically proposed the use of job embeddedness as an alternative to job satisfaction and organizational commitment in combating retention and turnover challenges in the face of a looming nursing shortage in America. This study also built on the last 15 years of research in the field of job embeddedness, adding to findings from previous samples of health services workers (Lee et al., 2014) and addressing gaps that remained after 37 studies (Ghosh & Gurunathan, 2015a).

This study advanced scientific knowledge by increasing the research related to the organizational psychological theories of Person-Environment fit theory, particularly job embeddedness theory, and trait theory of personality psychology. Specifically, this study attempted to narrow the gap between organizational and personality psychology by studying a possible correlation between the organizational measure of job embeddedness and the personality traits of the five-factor model, finding no significant correlations (Ghosh & Gurunathan, 2015a). For personality psychology, this research contributed new research to the body of knowledge related to the five-factor model (Hough, Oswald, & Ock, 2015). This research also furthered personality psychology by putting the five-factor

model in the context of a newer organizational construct, job embeddedness. The lack of correlation between job embeddedness and personality traits in this sample refuted criticism that organizational and personality theories should be more cohesive (Crossley et al., 2007; Mitchell et al., 2001).

This research expanded understanding of the theory of job embeddedness and its constituent factors of links, fit, and sacrifice (Mitchell et al., 2001). As explained in the literature review, job embeddedness offered a new means for looking at individual behavior in an organization by including a measure the cost, or sacrifice, of leaving a job. As such, the research design proposed in Chapter 3 and analyzed in Chapter 4 was consistent with previous research on job embeddedness (Ghosh & Gurunathan, 2015a). Practically, this research added to the body of knowledge related to the American healthcare industry. Hilliard and Boulton (2012) noted that current and future shortages in the public health workforce prompt a call for recruitment and retention practices to be improved and found that in the period between 1985 and 2010, very little data regarding public healthcare workers existed. As such, this research intended to advance understanding of the general population of healthcare workers and provide additional data on this workforce. Pragmatically, this research also supported the theory that no specific personality is more or less likely to show high or low job embeddedness, as explored in the Chapter 2 literature review. Based on Ghosh and Gurunathan (2015a) and Lee et al. (2014), this study addressed one gap identified in the body of job embeddedness research while reinforcing the continued need to explore the other individual and organizational factors that may affect job embeddedness scores.

Implications

Theoretical implications. This research study was conducted on the premise that there was a gap between job embeddedness theory and trait theory (Hilliard & Boulton, 2012) and that personality traits might correlate with job embeddedness. Ghosh and Gurunathan (2015a) found at least 32 variables could potentially influence job embeddedness, including the Big Five personality traits, and identified three significant gaps in job embeddedness research to date. Prior to Ghosh and Gurunathan, after 13 years of research, even Lee and Mitchell (2014) recognized that job embeddedness research needed additional studies to further validate their concept. Based on the findings in this research; the Big Five personality traits are not correlated with job embeddedness. The second theoretical basis for this research was personality trait theory. While trait theory proposed that behavior can be ascribed to specific traits or combinations of an individual's traits (Eysenck, 1967), Lewis Goldberg's "Big Five" model (McCrae & Costa, 2013) did not correlate with job embeddedness. This research may have provided further impetus to continue considering organizational and personality psychology separately in at least the American healthcare industry (Lee et al., 2014), as the study outcomes imply that understanding an individual's personality is not significant when evaluating his or her perceptions of job embeddedness.

Practical implications. Practically, this research implied that practitioners of organizational psychology may work with the understanding that all personality traits, can show high or low job embeddedness and that JE is not missing a key factor, at least in terms of personality (Ghosh & Gurunathan, 2015a). Along these same lines, practitioners who lead interventions with personality psychology approaches can

continue to work under the pretense that all employees will be able to demonstrate job embeddedness in a manner not tied to their individual five-factor personality traits. For the organizational practitioner, this research supported a view that personality traits remain separate from the organizational measure of job embeddedness.

Future implications. Based on Ghosh and Gurunathan (2015a) and Lee et al. (2014), there has been continued need to explore the other 31 factors that may affect job embeddedness scores, as well as continued need to validate job embeddedness Cognition, attitude, Leader-Member Exchange (LMX), workload, stress, autonomy, opportunity, work schedules, and other factors still may be significantly correlated with job embeddedness. In terms of future research designs, this research highlighted that there may be a need to design a mixed-method experiment where job embeddedness survey results lead to interviews or other qualitative methods to more quickly determine which predictor variables are indeed related to job embeddedness, if any. Additionally, this study was limited to one target population. Sampling in different target populations may yield different results, so future research should include different and/or larger target populations from the American healthcare industry.

Strengths and weaknesses. While personality psychology, and trait theory in particular, has not explained their job embeddedness scores, perhaps one of the many other individual factors articulated in the literature review of this research may be related to job embeddedness (Ghosh & Gurunathan, 2015a; Lee et al., 2014). Also, while direct correlations between the personality traits of the five-factor model and job embeddedness did not present in this sample as hypothesized, second-order concepts related to personality could still be relevant in the context of organizational measures. For example,

if certain personality types had greater potential for leadership, then organizational measures that addressed leadership as an aspect of job embeddedness' concept of "links" may emerge as a function of Leader-Member Exchange (LMX) theory explained in Chapter 2. In this manner, additional research using a different methodology and the original 42 and 48-item job embeddedness surveys may be preferable to the composite measure provided by the 7-item Global Measure of Job Embeddedness (Crossley et al., 2007).

In terms of methodology, this study assumed that participants were not deceptive, or behaving deceptively. While there may not have been deliberate deception, participants may have detected the nature of the survey during completion and offered answers that may have reflected more aspirational answers instead of true measures of either job embeddedness or personality traits. In fact, the concept of faking must be considered in this context (Vecchione, Dentale, Alessandri, and Barbaranelli, 2014), even though this study assumed the lack of incentives and the more professionalized nature of the healthcare workforce (BLS, 2016a) mitigated the risk of faking. While intentional deception may not have been committed by any participants, it may have been that participants hid their true personalities when primed with a survey regarding their workplace. Along these same lines, while the researcher offered no remuneration, the participants may have obtained a psychological benefit simply by being recruited for a research project. This self-selection may have practically altered the makeup of the convenience sample. This study also assumed that the sample would be an accurate representation of the American healthcare industry, which appeared to be a reasonable assumption based on Department of Labor information (BLS), but it may be that those

who participated in this research represent a different demographic within the health services industry. Further, this research assumed that the convenience sample was normal when compared to the target and general populations. Future researchers will need to test these assumptions to determine if this holds true. In terms of strengths, the researcher completed the study as proposed, leading to valid and reliable results that added to the body of knowledge for the five-factor model and job embeddedness, as well as added to research related to the American healthcare workforce.

Recommendations

The basic problem presented by job satisfaction, organizational commitment, and now job embeddedness surveys remain: none of these three theories can predict who will stay with the organization and who will go (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). Even after 13 years of additional research with new instruments (Crossley et al., 2007), new populations, and new Person-Environmental factors (Lee et al., 2014), many predictor variables remain to be explored in relation to job embeddedness (Ghosh & Gurunathan, 2015a).

Recommendations for future research. Next steps for research similar to that conducted in this study should include a mixed-methods study that leads with a job embeddedness survey and follows with a qualitative method. This would help determine which aspects of individual behaviors or perceptions, from among the remaining 31 factors (Ghosh & Gurunathan, 2015a), may be significantly correlated with job embeddedness. The practical implications of discovering this correlation could lead researchers to better understand which individual variables might be malleable among employees. This approach may fill the gaps in contemporary person-environment fit

theory. Further, an additional study in an industry far removed from healthcare would be welcomed to confirm or refute this study's findings and build the body of knowledge related to job embeddedness theory. Additionally, the concerns of Hilliard and Boulton (2012) outlined in Chapters 1 and 2 remain and additional research on pay, promotion, performance, and job satisfaction among public healthcare workers is still needed.

Additionally, there is an opportunity to conduct similar research on job embeddedness using a personality psychology different from the five-factor model. While the "Big Five" has been the most popular personality psychology model (McCrae & Costa, 2013), other models exist and may demonstrate a correlation with job embeddedness that did not present in this study. The Myers-Briggs Type Indicator (MBTI) has been a popular alternative to the five-factor model in large organizations and populations like the U.S. military (Gerras & Wong, 2016). A study specifically examining job embeddedness and MBTI typologies among American healthcare workers would be a logical extension of this research. Similarly, the DiSC assessment has also been used in the American healthcare sector and should be researched alongside job embeddedness (Fuqua & Bryan, 2017). Finally, other assessments like the 16PF® (Paschal, 2016) and the Minnesota Multiphasic Personality Inventory (MMPI-2) could be just as easily compared with job embeddedness in the American healthcare sector. Indeed, the emergence of trait theory in the 1960's prompted an explosion of newly defined traits (Eysenck, 1991), with all contemporary models like the five-factor model, the MBTI, the DiSC assessment, and other models prioritizing named traits ahead of others. In this manner, there are still many models of personality psychology and trait theory that can be compared with organizational measures, like job embeddedness, for

decades to come that can advance the body of knowledge for both organizational and personality psychology. Examining these personality assessments alongside job embeddedness could still show a correlation between job embeddedness and trait theory, answering the foundational question of this study: whether or not there is a relationship between the individual and an organizational measure (Mitchell et al., 2001).

Along these same lines, there are additional opportunities to research job embeddedness in contexts that don't directly address personality psychology. By way of example, all the instruments and methods explored in Chapter 2 of this research, and even those of the previous paragraph, have depended heavily on self-perception and active, cognitive functions. Personality psychology also includes the field of bias, both conscious and unconscious, and trait theory may be too dependent on self-reports, unintentional faking, and bias (Offurum, Silva, & Gulati, 2017). As such, there is also an opportunity for researchers to compare biases, as an aspect of personality, with job embeddedness in the American healthcare sector (Kim et al., 2017).

Recommendations for future practice. Practically, this research has early implications that the organizational measure of job embeddedness does not correlate with personality traits of the five-factor model among American healthcare workers. Practitioners of organizational psychology may continue to work under the pretext that all personality traits can show high or low job embeddedness (Ghosh & Gurunathan, 2015a). In practice, this research empowers a consultant to counter an argument that some Big Five personality typologies may not demonstrate high or low job embeddedness. Further, practitioners who lead interventions using personality psychology can work knowing that some employees may be able to demonstrate job embeddedness in a manner that is not

tied to his or her individual five-factor personality traits. A practitioner can, therefore focus on one of the many other factors identified as potentially relating to job embeddedness rather than personality.

This significance of this study to the practitioner has been twofold. First, job embeddedness could be an alternative to job satisfaction or organizational commitment measures and this research added to the job embeddedness body of knowledge. Second, this study reinforced the notion that personality traits remain separate from organizational measures. In terms of Person-Environment fit theory, this may give the practitioner of organizational development more support to focus on organizational factors rather than shifting to the individual personality traits. For the practitioner of personality psychology, this study supported a view that organizational factors can continue to be measured uniquely, even among a population with varied personality traits. Practically, this research also added to the body of knowledge related to the American healthcare industry. While Hilliard and Boulton (2012) noted there were significant gaps in research of at least the public healthcare sector, practitioners of industrial-organizational psychology will likely find themselves practicing in the healthcare sector or its related sectors either to fill this gap, or in response to the U.S. Bureau of Labor Statistics (BLS, 2016a) predictions that healthcare occupations will grow 19% between 2014 and 2024, adding more jobs than any other career field.

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Appendix A

IRB Approval Letter

GRAND CANYON UNIVERSITY™

3300 West Camelback Road, Phoenix Arizona 85017 602.639.7500 Toll Free 800.800.9776 www.gcu.edu

DATE:	May 15, 2017
TO:	Christopher Young
FROM:	Grand Canyon University Institutional Review Board
STUDY TITLE:	[1055545-1] The Relationship between Job Embeddedness and Five-Factor Model Personality Traits among American Healthcare Employees
IRB REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	APPROVED
APPROVAL DATE:	May 15, 2017
EXPIRATION DATE:	May 15, 2018
REVIEW TYPE:	Expedited Review
REVIEW CATEGORY:	Expedited review category # *[7.7]*

Thank you for your submission of New Project materials for this research study. Grand Canyon University Institutional Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document. The approved, watermarked informed consent is included in your published documents in your IRBNet submission for use with your study.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact Cathrine Ames at (602) 639-6460 or cathrine.ames@gcu.edu. Please include your study title and reference number in all correspondence with this office.

cc:

Appendix B

Informed Consent – Adult Minimal Risk

The following text appeared as the first screen of the online questionnaire as viewed by research participants and served as the informed consent as approved by GCU's Institutional Review Board on May 15, 2017:

Research Study – JOB EMBEDDEDNESS AND PERSONALITY IN AMERICAN HEALTHCARE

Consent for Participation in Research

INTRODUCTION

The purpose of this page and the next is to provide you (as a prospective research study participant) information that may affect your decision as to whether or not to participate in this research and to record the consent of those who agree to be involved.

RESEARCH

Chris Young, doctoral student in the College of Doctoral Studies at Grand Canyon University, has invited you to participate in a research study.

STUDY PURPOSE & JUSTIFICATION

The purpose of the research is to explore the relationship between personality traits and job embeddedness. Today, we do not know if personality relates to embeddedness, if at all. This research will further our understanding of psychology among a population of American health care workers and may provide actionable information for practitioners in health care organizations.

DESCRIPTION OF RESEARCH STUDY

If you decide to participate, then you will join a study involving research of your personality traits and the concept of job embeddedness, a measure of how you feel about your quality of life both on-the-job and at home. If you say YES, then your participation will last for about 30 minutes as you complete an online survey. Once in the survey, you may skip questions. Approximately 100 subjects across the United States will participate.

RISKS & BENEFITS

There are no known risks from taking part in this study, but in any research, there is some possibility that you may be subject to risks that have not yet been identified. Although there may be no direct benefits to you, participation may further psychological research, as well as possibly improving our understanding of the healthcare industry in the United States.

NEW INFORMATION

If the researcher finds new information during the study that would reasonably

change a volunteer's decision about participating, then access to this survey will be closed.

CONFIDENTIALITY & COPYRIGHT

All information obtained in this study is confidential. The results of this research study may be used in reports, presentations, and publications; but the researcher will not identify you. In order to maintain confidentiality of your records, the researcher will not solicit your personal information. When conducting analysis of results, your data will be identified only as "Respondent [number]". All data collected will be stored for a period of 3 years following completion of the study and then destroyed.

This survey contains items adapted and reproduced by special permission of the Publisher, Psychological Assessment Resources, Inc. (PAR), 16204 North Florida Avenue, Lutz, Florida 33549, from the NEO Five-Factor Inventory-3 by Paul Costa, PhD and Robert McCrae, PhD, Copyright 1978, 1985, 1989, 1991, 2003, 2010 by PAR. Further reproduction is prohibited without permission of PAR.

This survey contains items from the Global Measure of Job Embeddedness by Crossley, C. D., Bennett, R. J., Jex, S. M., & Burnfield, J. L. (2007). Development of a global measure of job embeddedness and integration into a

traditional model of voluntary turnover. Journal of Applied Psychology, 92(4), 1031.

WITHDRAWAL PRIVILEGE

Participation in this study is voluntary. It is okay for you to say no and even if you say yes now, then you are free to leave the study at any time. Because this is an online survey, you may simply close out of the survey. Data will be shown on the researcher's dashboard as "incomplete" and will not be included in the study.

COSTS & PAYMENTS

There is no payment for your participation in the study.

VOLUNTARY CONSENT

Any questions you have concerning the research study or your participation, before or after your consent, will be answered by Chris Young, (512) 439-9067, cyoung3@gcu.edu. If you have questions about your rights as a participant in this research or if you feel you have been placed at risk, you can contact the Institutional Review Board Chair at (602) 639-7804.

SUMMARY

This page and the page before it explained the nature, demands, benefits and any risk of this research project. By answering "Yes" to the question below, you agree knowingly to assume any risks involved. Remember, your participation is voluntary. You may choose not to participate or to withdraw your consent and discontinue participation at any time without penalty or loss of benefit. In providing your consent by answering "Yes" to the below question, you are not

waiving any legal claims, rights, or remedies. You may print a copy of this consent from this screen for your records and it can be requested directly from the researcher.

Q1: Your answer of "Yes" below indicates that you consent to participate in this study.

Yes. I agree to participate in the research study. I understand the purpose and nature of this study and I am participating voluntarily. I understand that I can withdraw from this study at any time without penalty or consequences by simply exiting any of the survey windows.

No. I do not agree to participate in this research study.

Q2: To qualify for participation in this research, you must be over the age of 18, legally employed in the United States as a healthcare professional not working for himself/herself, and able to complete an online survey process conducted in English. Do you qualify to participate in this research?

Yes

No

Appendix C

Copy of Instruments and Permission Letters to Use the Instruments

Global Measure of Embeddedness Survey

Below is the Global Measure of Embeddedness Survey (Crossley, C. D., Bennett, R. J., Jex, S. M., & Burnfield, J. L. (2007):

This survey contains 7 statements. Read each statement carefully. For each statement, fill in the circle for the response that best represents your opinion. Make sure that your answer is in the correct box.

Fill in [SD] if you strongly disagree or the statement is definitely false.

Fill in [D] if you disagree or the statement is mostly false.

Fill in [N] if you are neutral on the statement, if you cannot decide, of if the statement is about equally true and false.

Fill in [A] if you agree of the statement is mostly true.

Fill in [SA] if you strongly agree or the statement is definitely true.

After considering both work related (such as relationships, fit with job, benefits) and nonwork related factors (such as neighbors, hobbies, community perks), please rate your agreement with the statements below

1. I feel attached to this organization.

[SD] [D] [N] [A] [SA]

2. It would be difficult for me to leave this organization.

[SD] [D] [N] [A] [SA]

3. I'm too caught up in this organization to leave.

[SD] [D] [N] [A] [SA]

4. I feel tied to this organization.

[SD] [D] [N] [A] [SA]

5. I simply could not leave the organization that I work for.

[SD] [D] [N] [A] [SA]

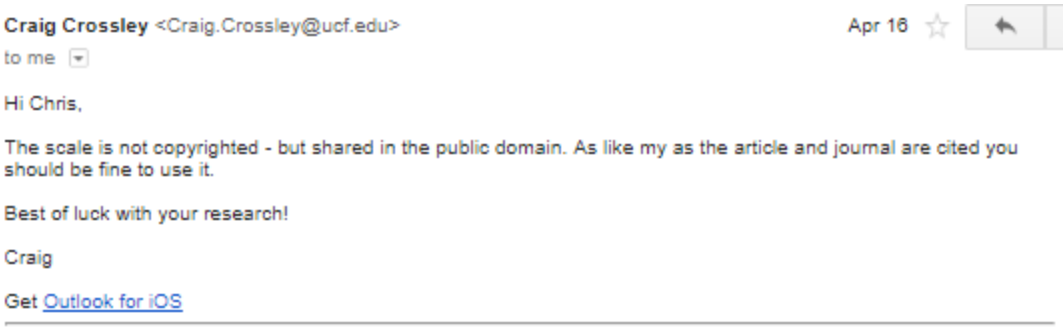
6. It would be easy for me to leave this organization.

[SD] [D] [N] [A] [SA]

7. I am tightly connected to this organization.

[SD] [D] [N] [A] [SA]

Below is the permission letter to use the 7-item Global Measure of Embeddedness Survey:



Craig Crossley <Craig.Crossley@ucf.edu> Apr 16

to me

Hi Chris,

The scale is not copyrighted - but shared in the public domain. As like my as the article and journal are cited you should be fine to use it.

Best of luck with your research!

Craig

Get Outlook for iOS

NEO-FFI-3

Due to copyright restrictions, please contact the author or Psychological Assessment Services, Incorporated (PAR Inc.) to review the 60 items of the NEO-FFI-3 Survey (McCrae & Costa, 2010). A copy of the instrument as used in this research is on file with GCU's Institutional Review Board and has been furnished by the researcher to reviewers. Permission to use the NEO-FFI-3 Questionnaire for this research is below:

Please find attached your fully executed License Agreement.

When you have your survey ready for administration, please forward a print screen that displays the required PAR Copyright Notice to comply with Section 8 of your License Agreement. You can begin administering the NEO-FFI-3 online on May 1, 2017.

Your License Agreement will expire on **August 31, 2017**. Please contact me if you need an extension for your research or any additional administrations.

If you have any questions, please feel free to contact me.

Sincerely,

Vicki McFadden
Permissions Specialist

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Appendix D

Research Questions and Hypotheses

Research Question(s): State the research Questions	**Hypotheses**: State the hypotheses to match each Research question	**List of Variables/Groups to collect data for:** Independent and Dependent Variable(s)	**Instrument(s)** to collect data for each variable	**Analysis Plan:** Data analysis approach to (1) describe data and (2) test the hypothesis is
RQ1: To what extent, if any, do the five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees?	$H1_0$: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion do not predict job embeddedness among American healthcare employees. $H1_a$: The five personality traits of neuroticism, openness, conscientiousness, agreeableness, and extraversion predict job embeddedness among American healthcare employees	Criterion Variable 1: A job embeddedness score. Predictor Variables: Five factor personality traits (neuroticism, openness, conscientiousness, agreeableness, and extraversion).	7-item Global Embeddedness survey (Crossley, Bennett, Jex, & Burnfield, 2007) NEO-FFI-3 Survey (McCrae & Costa, 2010)	1. Descriptive statistics will be used to describe data and relationships between variables. 2. Hypotheses will be tested by noting presence or absence of statistically significant multiple regression using Pearson's *r*.
RQ2: To what extent, if any, does the personality trait of neuroticism relate to job embeddedness among American healthcare employees among American healthcare employees?	$H2_0$: The personality trait of neuroticism does not correlate with job embeddedness among American healthcare employees. $H2_a$: The personality trait of neuroticism correlates with job embeddedness among American healthcare employees.	Criterion Variable 3: A job embeddedness score. Predictor Variable 4: Personality trait of neuroticism.	7-item Global Embeddedness survey (Crossley, Bennett, Jex, & Burnfield, 2007) NEO-FFI-3 Survey (McCrae & Costa, 2010)	1. Descriptive statistics will be used to describe data and relationships between variables. 2. Hypotheses will be tested by noting presence or absence of statistically significant correlations using Pearson's *r*.
RQ3: To what extent, if any, does the personality trait of openness	$H3_0$: The personality trait of openness does not correlate with job	Criterion Variable 5: A job embeddedness score.		

relate to job embeddedness among American healthcare employees?	embeddedness among American healthcare employees. $H3_a$: The personality trait of openness correlates with job embeddedness.	Predictor Variable 6: Personality trait of openness.		
RQ4: To what extent, if any, does the personality trait of conscientiousness relate to job embeddedness among American healthcare employees?	$H4_0$: The personality trait of conscientiousness does not correlate with job embeddedness among American healthcare employees. $H4_a$: The personality trait of conscientiousness correlates with job embeddedness among American healthcare employees.	Criterion Variable 7: A job embeddedness score. Predictor Variable 8: Personality trait of conscientiousness.		
RQ5: To what extent, if any, does the personality trait of agreeableness relate to job embeddedness among American healthcare employees?	$H5_0$: The personality trait of agreeableness does not correlate with job embeddedness among American healthcare employees. $H5_a$: The personality trait of agreeableness correlates with job embeddedness among American healthcare employees.	Criterion Variable 9: A job embeddedness score. Predictor Variable 10: Personality trait of agreeableness.		
RQ6: To what extent, if any, does the personality trait of extraversion relate to job embeddedness among American healthcare employees?	$H6_0$: The personality trait of extraversion does not correlate with job embeddedness among American healthcare employees. $H6_a$: The personality trait of extraversion correlates with	Criterion Variable 10: A job embeddedness score. Predictor Variable 11: Personality trait of extraversion		

	job embeddedness among American healthcare employees.			

Appendix E

SurveyMonkey Security Policy

Security Statement

Millions of users have entrusted SurveyMonkey with their survey data, and we make it a priority to take our users' security and privacy concerns seriously. We strive to ensure that user data is kept securely, and that we collect only as much personal data as is required to provide our services to users in an efficient and effective manner. SurveyMonkey uses some of the most advanced technology for Internet security that is commercially available today. This Security Statement is aimed at being transparent about our security infrastructure and practices, to help reassure you that your data is appropriately protected.

Application and User Security

- **SSL/TLS Encryption:** Users can determine whether to collect survey responses over secured, encrypted SSL/TLS connections. All other communications with the surveymonkey.com website are sent over SSL/TLS connections. Secure Sockets Layer (SSL) and Transport Layer Security (TLS) technology (the successor technology to SSL) protect communications by using both server authentication and data encryption. This ensures that user data in transit is safe, secure, and available only to intended recipients.
- **User Authentication:** User data on our database is logically segregated by account-based access rules. User accounts have unique usernames and passwords that must be entered each time a user logs on. SurveyMonkey issues a session cookie only to record encrypted authentication information for the

duration of a specific session. The session cookie does not include the password of the user.

- **User Passwords:** User application passwords have minimum complexity requirements. Passwords are individually salted and hashed.
- **Data Encryption:** Certain sensitive user data, such as credit card details and account passwords, is stored in encrypted format.
- **Data Portability:** SurveyMonkey enables you to export your data from our system in a variety of formats so that you can back it up, or use it with other applications.
- **Privacy:** We have a comprehensive privacy policy that provides a very transparent view of how we handle your data, including how we use your data, who we share it with, and how long we retain it.
- **HIPAA:** Enhanced security features for HIPAA-enabled accounts.

Physical Security

- **Data Centers:** Our information systems infrastructure (servers, networking equipment, etc.) is collocated at third party SSAE 16/SOC 2 audited data centers. We own and manage all of our equipment located in those data centers.
- **Data Center Security:** Our data centers are staffed and surveilled 24/7. Access is secured by security guards, visitors logs, and entry requirements such as passcards and biometric recognition. Our equipment is kept in locked cages.
- **Environmental Controls:** Our data center is maintained at controlled temperatures and humidity ranges which are continuously monitored for variations. Smoke and fire detection and response systems are in place.

- **Location:** All user data is stored on servers located in the United States and Luxembourg.

Availability

- **Connectivity:** Fully redundant IP network connections with multiple independent connections to a range of Tier 1 Internet access providers.
- **Power:** Servers have redundant internal and external power supplies. Data center has backup power supplies, and is able to draw power from the multiple substations on the grid, several diesel generators, and backup batteries.
- **Uptime:** Continuous uptime monitoring, with immediate escalation to SurveyMonkey staff for any downtime.
- **Failover:** Our database is log-shipped to standby servers and can failover in less than an hour.

Network Security

- **Uptime:** Continuous uptime monitoring, with immediate escalation to SurveyMonkey staff for any downtime.
- **Third Party Scans:** Weekly security scans are performed by Qualys.
- **Testing:** System functionality and design changes are verified in an isolated test "sandbox" environment and subject to functional and security testing prior to deployment to active production systems.
- **Firewall:** Firewall restricts access to all ports except 80 (http) and 443 (https).
- **Patching:** Latest security patches are applied to all operating system and application files to mitigate newly discovered vulnerabilities.

- **Access Control:** Secure VPN, multifactor authentication, and role-based access is enforced for systems management by authorized engineering staff.
- **Logging and Auditing:** Central logging systems capture and archive all internal systems access including any failed authentication attempts.

Storage Security

- **Backup Frequency:** Backups occur hourly internally, and daily to a centralized backup system for storage in multiple geographically disparate sites.
- **Production Redundancy:** Data stored on a RAID 10 array. O/S stored on a RAID 1 array.

Organizational & Administrative Security

- **Employee Screening:** We perform background screening on all employees.
- **Training:** We provide security and technology use training for employees.
- **Service Providers:** We screen our service providers and bind them under contract to appropriate confidentiality obligations if they deal with any user data.
- **Access:** Access controls to sensitive data in our databases, systems and environments are set on a need-to-know / least privilege necessary basis.
- **Audit Logging:** We maintain and monitor audit logs on our services and systems (our logging systems generate gigabytes of log files each day).
- **Information Security Policies:** We maintain internal information security policies, including incident response plans, and regularly review and update them.

Software Development Practices

- **Stack:** We code in Python and C# and run on SQL Server 2008, Ubuntu Linux, and Windows 2008 Server.

- **Coding Practices:** Our engineers use best practices and industry-standard secure coding guidelines to ensure secure coding.

Handling of Security Breaches

Despite best efforts, no method of transmission over the Internet and no method of electronic storage is perfectly secure. We cannot guarantee absolute security. However, if SurveyMonkey learns of a security breach, we will notify affected users so that they can take appropriate protective steps. Our breach notification procedures are consistent with our obligations under various state and federal laws and regulation, as well as any industry rules or standards that we adhere to. Notification procedures include providing email notices or posting a notice on our website if a breach occurs.

Your Responsibilities

Keeping your data secure also depends on you ensuring that you maintain the security of your account by using sufficiently complicated passwords and storing them safely. You should also ensure that you have sufficient security on your own systems, to keep any survey data you download to your own computer away from prying eyes. We offer SSL to secure the transmission of survey responses, but it is your responsibility to ensure that your surveys are configured to use that feature where appropriate.

Custom Requests

Due to the number of customers that use our service, specific security questions or custom security forms can only be addressed for customers purchasing a certain volume of user accounts within a SurveyMonkey Enterprise subscription. If your company has a large number of potential or existing users and is interested in exploring such arrangements, please check out www.surveymonkey.com/mp/enterprise.

Last updated: September 9, 2013.

SurveyMonkey (2016a). SurveyMonkey and IRB Guidelines. Security Statement. Retrieved July 7, 2016 from https://www.surveymonkey.com/mp/policy/security/

Appendix F

SurveyMonkey Privacy Policy

Privacy Policy

Effective Date: April 7, 2016

This privacy policy explains how SurveyMonkey handles your personal information and data. We value your trust, so we've strived to present this policy in clear, plain language instead of legalese. The policy is structured so you can quickly find answers to the questions that interest you the most.

This privacy policy applies to all the products, services and websites offered by SurveyMonkey Inc., SurveyMonkey Europe, SurveyMonkey Brasil Internet Ltda. and their affiliates, except where otherwise noted. We refer to those products, services and websites collectively as the "services" in this policy. Some services have supplementary privacy statements that explain in more detail our specific privacy practices in relation to them. Unless otherwise noted, our services are provided by SurveyMonkey Inc. inside of the United States, by SurveyMonkey Brasil Internet Ltda. Inside of Brazil, and by SurveyMonkey Europe everywhere else.

TRUSTe. The TRUSTe program covers information that is collected through www. surveymonkey.com, www. surveymonkey.net, and the services offered through those sites. In order to view information about our relationship with TRUSTe, click on the TRUSTe seal above to view our validation page.

European Safe Harbors. SurveyMonkey Inc. complies with the US-EU and US-Swiss Safe Harbor Frameworks developed by the U.S. Department of Commerce regarding the collection, use and retention of personal information from EU member countries and Switzerland. We have certified, and TRUSTe has verified, that we adhere to the Safe Harbor Privacy Principles of notice, choice, onward transfer, security, data integrity, access and enforcement. View our certification on the U.S. Department of Commerce's Safe Harbor website.

Questions? For questions regarding our privacy policy or practices, contact SurveyMonkey by mail at 101 Lytton Avenue, Palo Alto, CA 94301, USA, or electronically through this form. You may contact TRUSTe if you feel your question has not been satisfactorily addressed.

Key Privacy Points: The Stuff You Really Care About

IF YOU CREATE SURVEYS:

- **Your survey data is owned by you.** And we respect the privacy of your surveys. We don't sell them to anyone and we don't use the survey responses you collect for purposes unrelated to you or our services, except in a limited set of circumstances (e. g. if we are compelled by a subpoena, or if you've given us permission to do so).
- **We safeguard respondents' email addresses.** To make it easier for you to invite people to take your surveys via email, you may upload lists of email addresses, in which case SurveyMonkey acts as a mere custodian of that data. We don't sell

these email addresses and we use them only as directed by you and in accordance with this policy. The same goes for any email addresses collected by your surveys.

- **We hold your data securely.** Read our Security Statement for more information.
- **Survey data is stored on servers located in the United States.** More information about this is available if you are located in Canada or Europe. SurveyMonkey will process your survey data on your behalf and under your instructions (including the ones agreed to in this privacy policy).

IF YOU ANSWER SURVEYS:

- **Surveys are administered by survey creators.** Survey creators conduct tens of thousands of surveys each day using our services. We host the surveys on our websites and collect the responses that you submit to the survey creator. If you have any questions about a survey you are taking, please contact the survey creator directly as SurveyMonkey is not responsible for the content of that survey or your responses to it. The survey creator is usually the same person that invited you to take the survey and sometimes they have their own privacy policy.
- **Are your responses anonymous?** This depends on how the survey creator has configured the survey. Contact them to find out, or click here to read more about respondent anonymity.
- **We don't sell your responses to third parties.** SurveyMonkey doesn't sell or share your survey responses with third party advertisers or marketers (although the survey creator might, so check with them). SurveyMonkey merely acts as a

custodian on behalf of the survey creator who controls your data, except as further described in this privacy policy with regard to public surveys.

- If you think a survey violates our Terms of Use or may be engaging in illegal activity, click here to report it.

SurveyMonkey (2016a). SurveyMonkey and IRB Guidelines. Security Statement. Retrieved July 7, 2016 from https://www. surveymonkey.com/mp/policy/security

Appendix G

SurveyMonkey Institutional Review Board Release

Re: Permission to Conduct Research Using SurveyMonkey

To whom it may concern:

This letter is being produced in response to a request by a student at your institution who wishes to conduct a survey using SurveyMonkey in order to support their research. The student has indicated that they require a letter from SurveyMonkey granting them permission to do this. Please accept this letter as evidence of such permission. Students are permitted to conduct research via the SurveyMonkey platform provided that they abide by our Terms of Use, a copy of which is available on our website.

SurveyMonkey is a self-serve survey platform on which our users can, by themselves, create, deploy and analyze surveys through an online interface. We have users in many different industries who use surveys for many different purposes. One of our most common use cases is students and other types of researchers using our online tools to conduct academic research. If you have any questions about this letter, please contact us through our Help Center at help. surveymonkey.com.

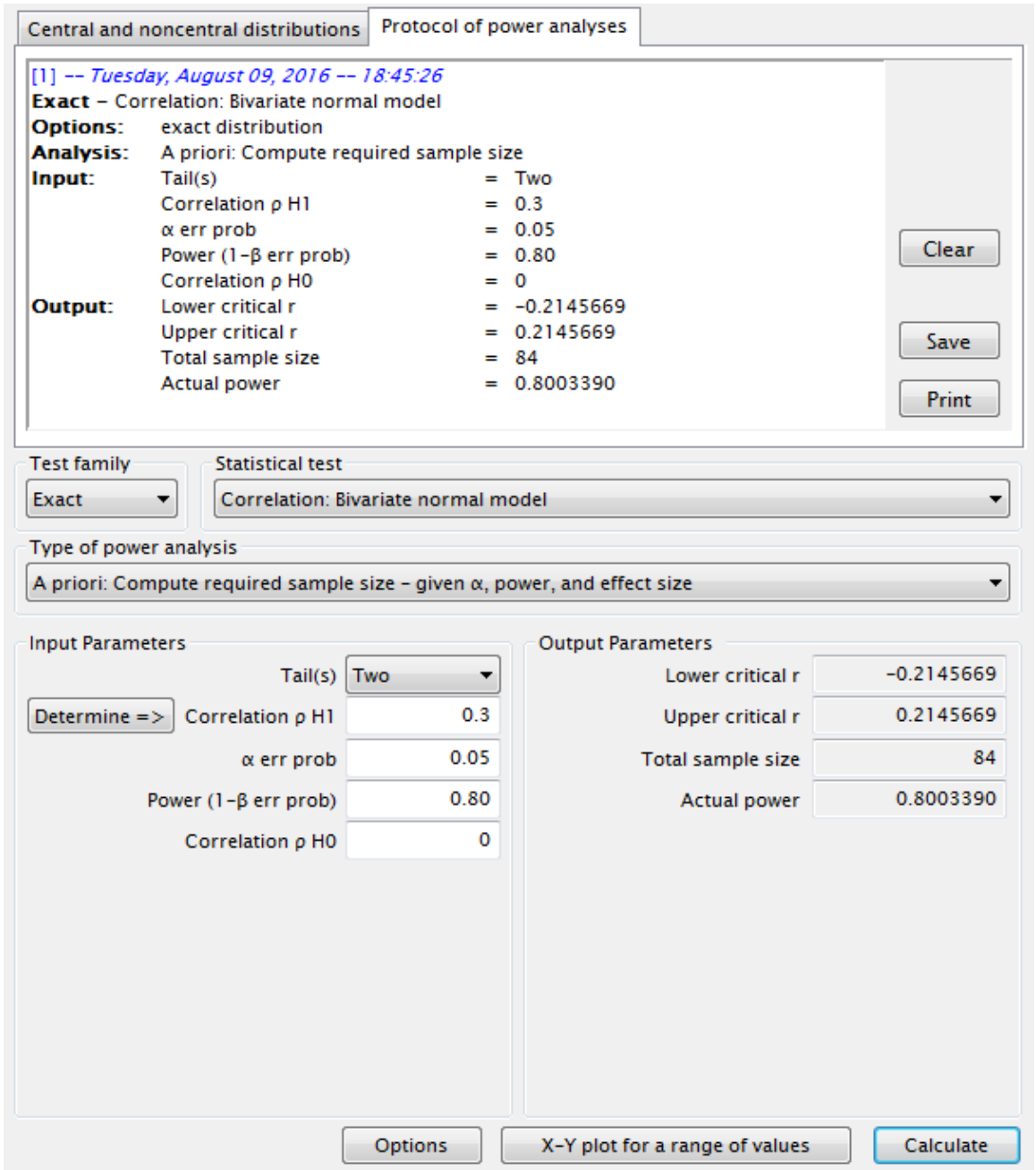
Sincerely,

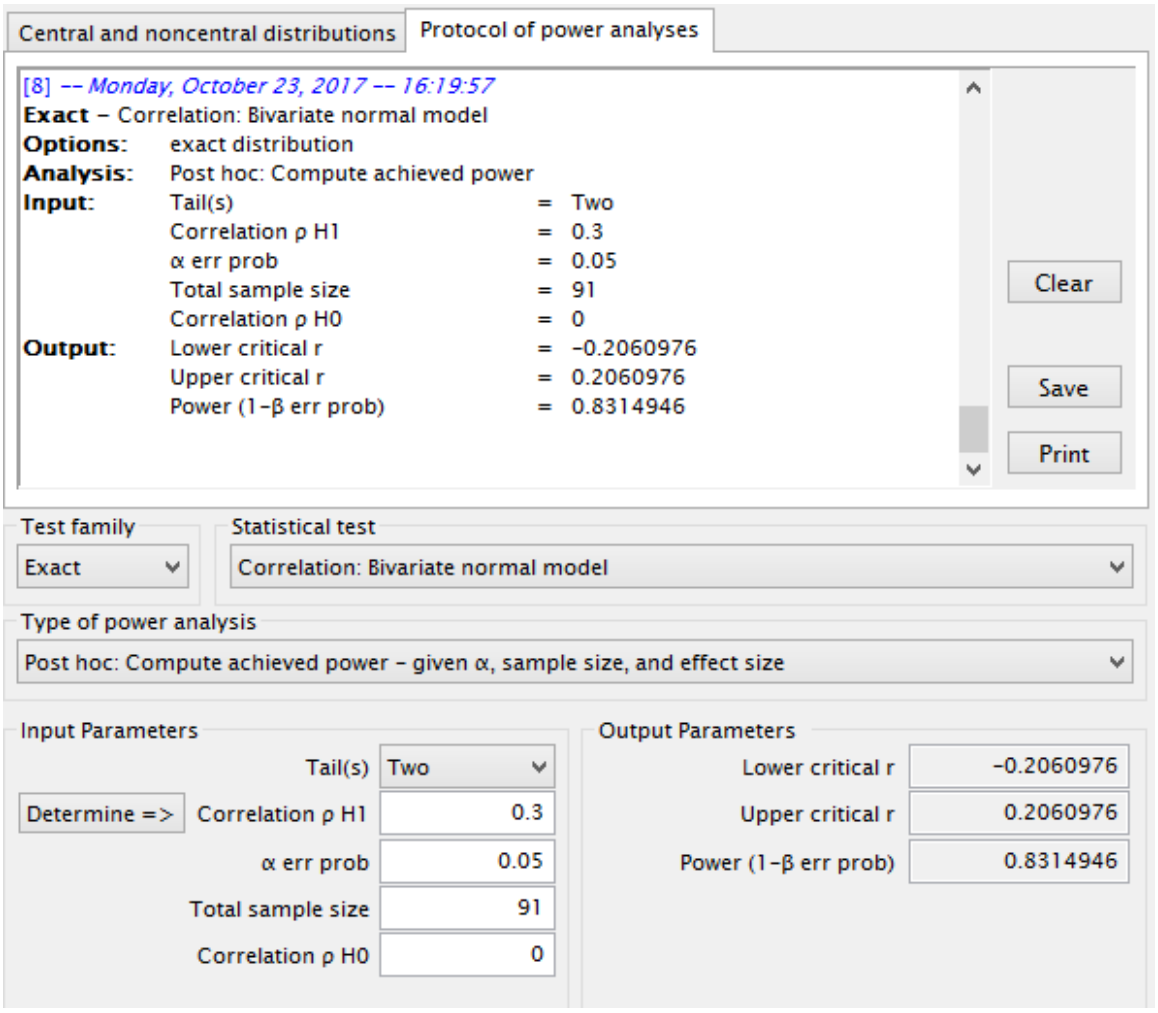
SurveyMonkey Inc.

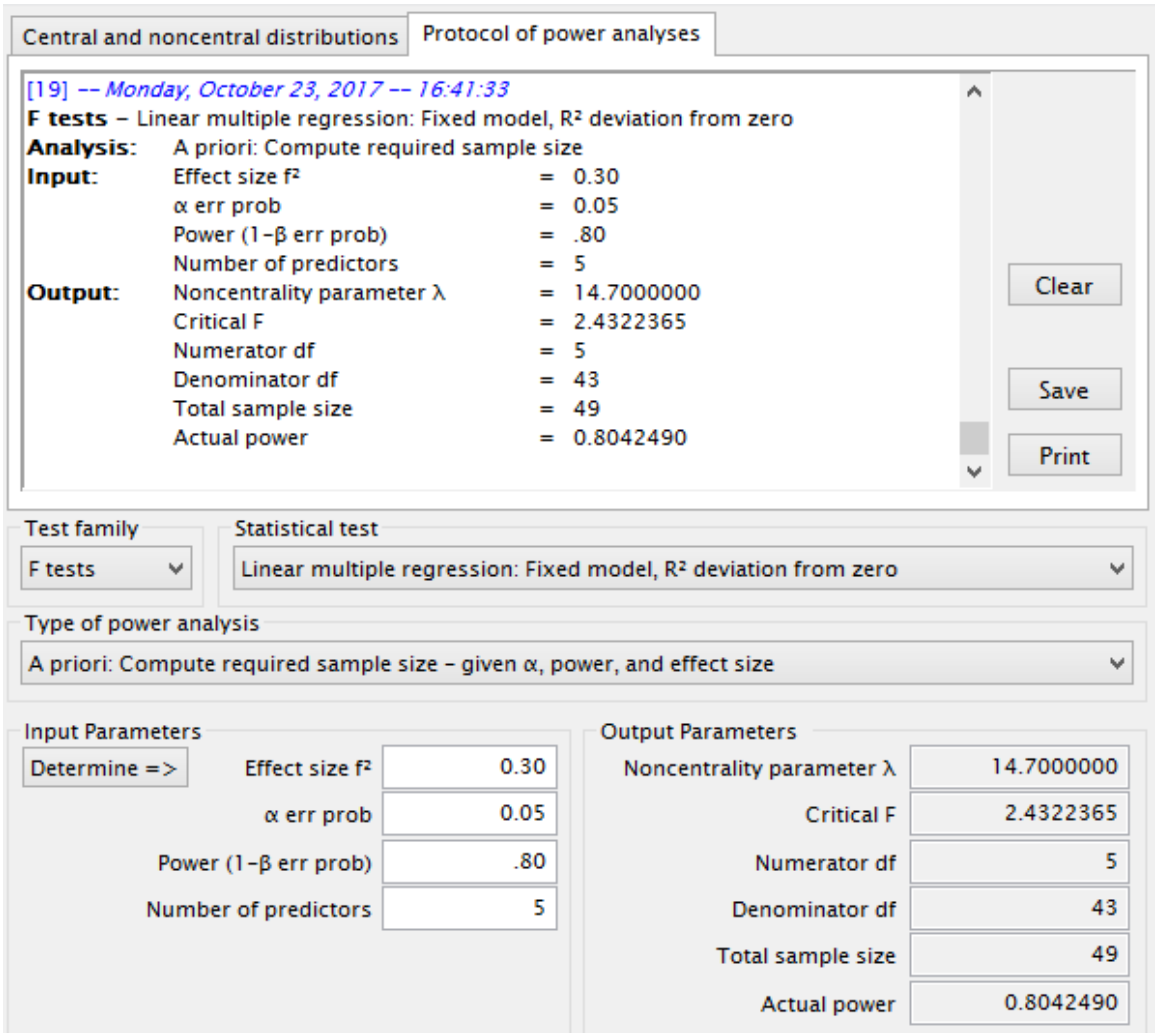
SurveyMonkey (2016b). SurveyMonkey and IRB Guidelines. Permission to Conduct Research Using SurveyMonkey. Retrieved July 7, 2016 from http://help.surveymonkey.com/articles/en_US/kb/How-does-SurveyMonkey-adhere-to-IRB-guidelines Thompson, E. R., & Phua, F. T. (2012). A brief index of affective job satisfaction. Group & Organization Management, 37(3), 275-307.

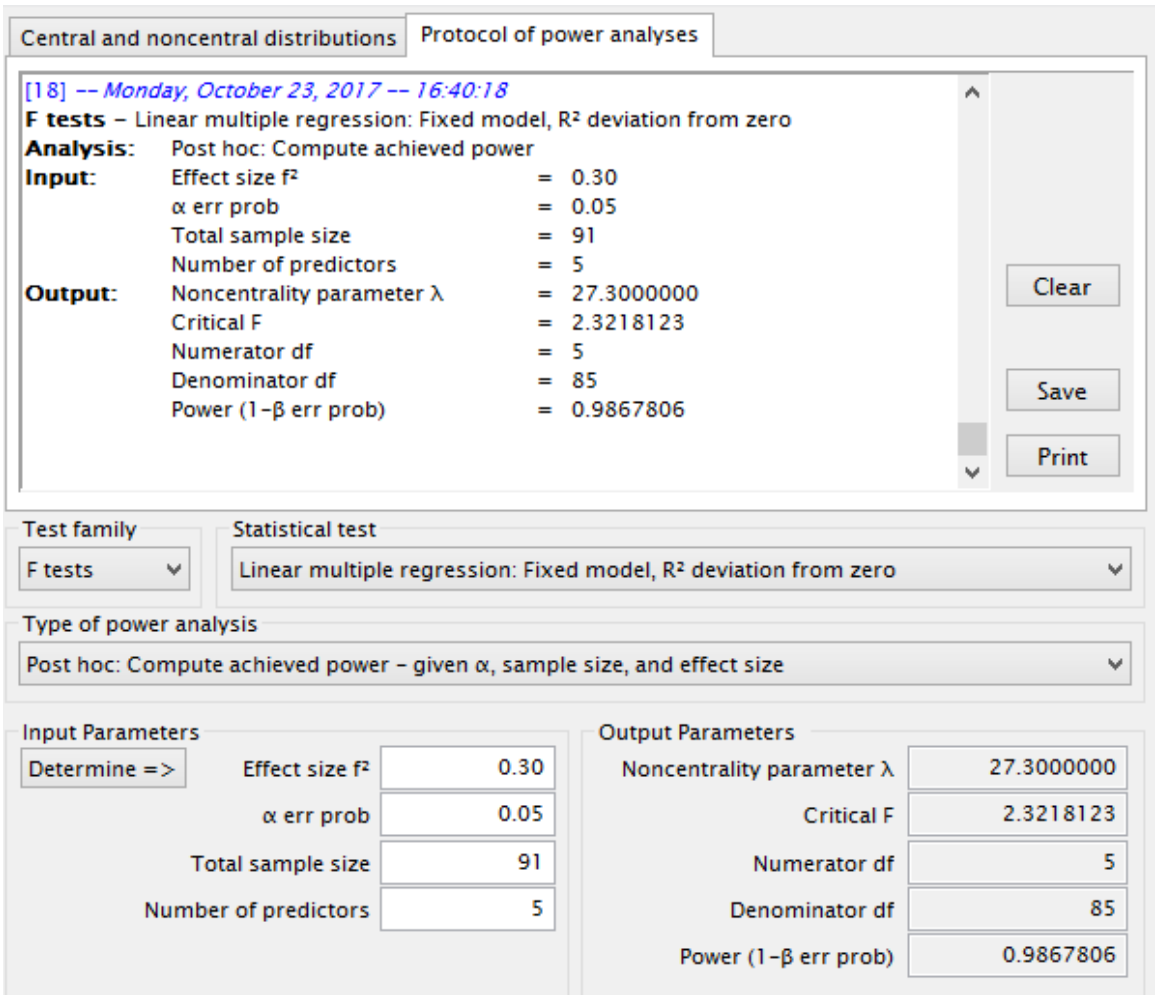
Appendix H

G*Power Output









Appendix I

Select SPSS Output

Sample Descriptive Statistics

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	26	28.6	28.6	28.6
	Female	64	70.3	70.3	98.9
	Prefer not to answer	1	1.1	1.1	100.0
	Total	91	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma/HS equivalency	5	5.5	5.5	5.5
	Associates	33	36.3	36.3	41.8
	Bachelors	26	28.6	28.6	70.3
	Masters	15	16.5	16.5	86.8
	PhD	2	2.2	2.2	89.0
	MD/DO	2	2.2	2.2	91.2
	Other	8	8.8	8.8	100.0
	Total	91	100.0	100.0	

Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 2 years	4	4.4	4.4	4.4
	2 - 5 years	12	13.2	13.2	17.6
	5 - 10 years	16	17.6	17.6	35.2
	10 - 15 years	16	17.6	17.6	52.7
	More than 15 years	43	47.3	47.3	100.0
	Total	91	100.0	100.0	

Salary

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Less than $30,000 per year	5	5.5	5.5	5.5
	$30,000 - $50,000 per year	27	29.7	29.7	35.2
	$50,000 - $80,000 per year	36	39.6	39.6	74.7
	$80,000 - $100,000 per year	14	15.4	15.4	90.1
	More than $100,000 per year	9	9.9	9.9	100.0
	Total	91	100.0	100.0	

Organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I work in public healthcare	47	51.6	51.6	51.6
	I work in private healthcare	29	31.9	31.9	83.5
	I work for a university or university-affiliated healthcare organization	12	13.2	13.2	96.7
	I have a healthcare job in a non-healthcare organization	3	3.3	3.3	100.0
	Total	91	100.0	100.0	

Age

	N	Minimum	Maximum	Mean	Std. Deviation
Age	91	20.00	63.00	41.5934	10.76102
Valid N (listwise)	91				

Descriptives

			Statistic	Std. Error
Job Embeddedness	Mean		22.1978	.67652
	95% Confidence Interval for Mean	Lower Bound	20.8538	
		Upper Bound	23.5418	
	5% Trimmed Mean		22.1941	
	Median		22.0000	
	Variance		41.649	
	Std. Deviation		6.45363	
	Minimum		7.00	
	Maximum		35.00	
	Range		28.00	

	Interquartile Range		9.00	
	Skewness		.005	.253
	Kurtosis		-.385	.500
Neuroticism	Mean		32.6484	.85868
	95% Confidence Interval for Mean	Lower Bound	30.9424	
		Upper Bound	34.3543	
	5% Trimmed Mean		32.6038	
	Median		32.0000	
	Variance		67.097	
	Std. Deviation		8.19129	
	Minimum		13.00	
	Maximum		53.00	
	Range		40.00	
	Interquartile Range		12.00	
	Skewness		.169	.253
	Kurtosis		-.279	.500
Extraversion	Mean		41.0220	.77270
	95% Confidence Interval for Mean	Lower Bound	39.4869	
		Upper Bound	42.5571	
	5% Trimmed Mean		41.0678	
	Median		41.0000	
	Variance		54.333	
	Std. Deviation		7.37108	
	Minimum		24.00	
	Maximum		57.00	
	Range		33.00	
	Interquartile Range		11.00	
	Skewness		-.134	.253
	Kurtosis		-.636	.500
Openness	Mean		43.7802	.63531
	95% Confidence Interval for Mean	Lower Bound	42.5181	
		Upper Bound	45.0424	
	5% Trimmed Mean		43.8168	
	Median		43.0000	
	Variance		36.729	
	Std. Deviation		6.06044	
	Minimum		29.00	
	Maximum		59.00	

	Range		30.00	
	Interquartile Range		8.00	
	Skewness		-.035	.253
	Kurtosis		.023	.500
Agreeableness	Mean		44.2637	.69603
	95% Confidence Interval for Mean	Lower Bound	42.8810	
		Upper Bound	45.6465	
	5% Trimmed Mean		44.5574	
	Median		45.0000	
	Variance		44.085	
	Std. Deviation		6.63967	
	Minimum		24.00	
	Maximum		59.00	
	Range		35.00	
	Interquartile Range		8.00	
	Skewness		-.682	.253
	Kurtosis		.882	.500
Conscientiousness	Mean		46.3736	.69897
	95% Confidence Interval for Mean	Lower Bound	44.9850	
		Upper Bound	47.7623	
	5% Trimmed Mean		46.7772	
	Median		48.0000	
	Variance		44.459	
	Std. Deviation		6.66775	
	Minimum		20.00	
	Maximum		57.00	
	Range		37.00	
	Interquartile Range		9.00	
	Skewness		-1.118	.253
	Kurtosis		1.821	.500

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Job Embeddedness	.051	91	.200*	.987	91	.503
Neuroticism	.081	91	.187	.987	91	.520

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Job Embeddedness	.051	91	.200*	.987	91	.503
Extraversion	.090	91	.067	.986	91	.417

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Job Embeddedness	.051	91	.200*	.987	91	.503
Openness	.059	91	.200*	.993	91	.905

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Job Embeddedness	.051	91	.200*	.987	91	.503
Agreeableness	.103	91	.019	.968	91	.023

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Job Embeddedness	.051	91	.200*	.987	91	.503
Conscientiousness	.164	91	.000	.925	91	.000

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Neuroticism	1.523	20	66	.103
Extraversion	1.973	20	66	.021

Openness	1.388	20	66	.161
Agreeableness	1.815	20	66	.037
Conscientiousness	2.091	20	66	.013

RQ1

Descriptive Statistics

	Mean	Std. Deviation	N
Job Embeddedness	22.1978	6.45363	91
Neuroticism	32.6484	8.19129	91
Extraversion	41.0220	7.37108	91
Openness	43.7802	6.06044	91
Agreeableness	44.2637	6.63967	91
Conscientiousness	46.3736	6.66775	91

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.254[a]	.065	.010	6.42227	1.704

a. Predictors: (Constant), Conscientiousness, Openness, Agreeableness, Neuroticism, Extraversion

b. Dependent Variable: Job Embeddedness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	242.565	5	48.513	1.176	.328[b]
	Residual	3505.875	85	41.246		
	Total	3748.440	90			

a. Dependent Variable: Job Embeddedness

b. Predictors: (Constant), Conscientiousness, Openness, Agreeableness, Neuroticism, Extraversion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	18.597	10.068		1.847	.068	-1.421	38.615
	Neuroticism	.154	.096	.196	1.613	.110	-.036	.344
	Extraversion	.196	.107	.224	1.825	.071	-.017	.409
	Openness	-.134	.118	-.126	-1.136	.259	-.368	.100
	Agreeableness	.002	.108	.002	.018	.986	-.212	.216
	Conscientiousness	-.080	.112	-.082	-.713	.478	-.302	.143

a. Dependent Variable: Job Embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	18.597	10.068		1.847	.068		
	Neuroticism	.154	.096	.196	1.613	.110	.748	1.337
	Extraversion	.196	.107	.224	1.825	.071	.732	1.366
	Openness	-.134	.118	-.126	-1.136	.259	.901	1.110
	Agreeableness	.002	.108	.002	.018	.986	.894	1.119
	Conscientiousness	-.080	.112	-.082	-.713	.478	.824	1.214

a. Dependent Variable: Job Embeddedness

RQ2

Correlations

		Job Embeddedness	Neuroticism
Job Embeddedness	Pearson Correlation	1	.146
	Sig. (2-tailed)		.167
	N	91	91
Neuroticism	Pearson Correlation	.146	1
	Sig. (2-tailed)	.167	
	N	91	91

RQ3

Correlations

		Job Embeddedness	Openness
Job Embeddedness	Pearson Correlation	1	-.078
	Sig. (2-tailed)		.465
	N	91	91
Openness	Pearson Correlation	-.078	1
	Sig. (2-tailed)	.465	
	N	91	91

RQ4

Correlations

		Job Embeddedness	Conscientiousness
Job Embeddedness	Pearson Correlation	1	-.086
	Sig. (2-tailed)		.417
	N	91	91
Conscientiousness	Pearson Correlation	-.086	1
	Sig. (2-tailed)	.417	
	N	91	91

Correlations

			Job Embeddedness	Conscientiousness
Spearman's rho	Job Embeddedness	Correlation Coefficient	1.000	-.067
		Sig. (2-tailed)	.	.528
		N	91	91
	Conscientiousness	Correlation Coefficient	-.067	1.000
		Sig. (2-tailed)	.528	.
		N	91	91

RQ5

Correlations

		Job Embeddedness	Agreeableness
Job Embeddedness	Pearson Correlation	1	-.018
	Sig. (2-tailed)		.867
	N	91	91
Agreeableness	Pearson Correlation	-.018	1
	Sig. (2-tailed)	.867	
	N	91	91

Correlations

			Job Embeddedness	Agreeableness
Spearman's rho	Job Embeddedness	Correlation Coefficient	1.000	-.063
		Sig. (2-tailed)	.	.555
		N	91	91
	Agreeableness	Correlation Coefficient	-.063	1.000
		Sig. (2-tailed)	.555	.
		N	91	91

RQ6

Correlations

		Job Embeddedness	Extraversion
Job Embeddedness	Pearson Correlation	1	.086
	Sig. (2-tailed)		.416
	N	91	91
Extraversion	Pearson Correlation	.086	1
	Sig. (2-tailed)	.416	
	N	91	91

Correlations

			Job Embeddedness	Extraversion
Spearman's rho	Job Embeddedness	Correlation Coefficient	1.000	.060
		Sig. (2-tailed)	.	.573
		N	91	91
	Extraversion	Correlation Coefficient	.060	1.000
		Sig. (2-tailed)	.573	.
		N	91	91