RELATIONSHIPS AMONG NURSING BURNOUT, THE BIG FIVE PERSONALITY FACTORS, AND OVERALL SELF-CONCEPT: THE IMPACT OF ASSESSING COMMON METHOD VARIANCE

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A Thesis Submitted to the Faculty of the University
Of Tennessee at Chattanooga in Partial
Fulfillment of the Requirements of the
Degree of Master's of Psychology

The University of Tennessee at Chattanooga
Chattanooga, Tennessee

May 2013

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ABSTRACT

The purpose of the present study was to evaluate the extent to which common method variance (CMV) impacted many of the relationships between personality traits and the construct of burnout among registered nurses. It was hypothesized that once CMV was calculated and controlled for, relationships between personality traits and burnout would be weakened. Data were collected from working registered nurses (N = 274) and from BSN student nurses (N = 68). Scales measuring the IPIP Big Five, burnout, hardiness, core self-evaluation, optimism, and stress in general were combined to create a survey questionnaire. Results indicated burnout among nurses was significantly related with one's level of hardiness, core self-evaluation, stability, and conscientiousness. When CMV was calculated and controlled for, those relationships were significantly weakened. Researchers and practitioners need to be aware of the impact of CMV and how to appropriately remove its contamination when trying to establish relationships between self-report variables.

DEDICATION

I would like to dedicate this project to my fiancée Katie Bittinger, a registered nurse working in oncology. Thank you for being my inspiration; you amaze me every single day. I wouldn't be where I'm at without you. I would also like to dedicate this to my mother, Jody Ecie. Thank you for always being in my corner and providing me with endless amounts of support.

ACKNOWLEDGEMENTS

I want to acknowledge my thesis advisor and committee chair, Dr. Michael Biderman. Thank you for your help throughout this project; your enthusiasm for my topic and support kept me going. Thank you to Dr. Chris Cunningham for providing me with honest and direct feedback throughout this process. I feel like you really helped me become a better writer and researcher. I would also like to say thank you to Dr. Bart Weathington for being a model of how to stay calm and collected when there are a million things going on at once. Thank you all, this has been a wonderful experience that I will always fondly remember.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The purpose of the present study was to evaluate the extent to which common method variance (CMV) impacts self-reported relationships between different personality factors and the construct of burnout among registered nurses. Simply, CMV is variance that is caused by a common method bias associated with self-report questionnaires (Biderman, Nguyen, Cunningham, & Ghorbani, 2011). This manuscript provides a background on burnout and how it has been investigated, introduces the concept of the method factor, M, as a way to measure common method variance, confirms previous findings of relationships between personality factors and burnout, and then retests those relationships after controlling for the contamination of M. Finally, a discussion of research implications and directions for future research will be provided.

Conceptualizing Burnout

Freudenberger (1974) coined the term "burnout" to describe the emotional and physical exhaustion felt by employees working in a variety of social and service occupations. In a healthcare context, burnout has been conceptualized as the feelings of stress that can develop from relieving pain, preventing illness, promoting healthy lifestyle choices, and aiding patients through their course of recovery (Altun, 2002). Burnout can also be thought of as a gradual process, where excessive and prolonged stress can lead an individual to feel drained of his or her

energy and continually mentally fatigued (Espeland, 2006). It is important to note that stress and burnout are not synonymous; burnout is an extremely strong and negative reaction to chronic stress (Espeland, 2006). In a more general sense, burnout is "a state of exhaustion in which one is cynical about the value of one's occupation and doubtful of one's capacity to perform" (Maslach, Jackson, & Leiter, 1996, p. 20).

Through extensive research, including interviews, observation, and psychometric development, three core dimensions of burnout have been identified: emotional exhaustion, depersonalization, and diminished feelings of personal accomplishment (Maslach, 1982; Maslach & Jackson, 1981; Maslach et al., 1996; Maslach, Schaufeli, & Leiter, 2001; Schaufeli, Leiter, & Maslach, 2009). Emotional exhaustion refers to feelings of being over-extended and drained. Depersonalization is the development of negative, cynical, detached, and impersonal attitudes towards people. Finally, diminished feelings of personal accomplishment are increased negative self-evaluations of one's work and overall competence (Maslach et al., 2001; Schaufeli et al., 2009).

Emotional exhaustion is the central factor within burnout; it is the most reported of the three factors and has garnered the most attention (Maslach et al., 2001). It is argued that the emotional demands of human services occupations can exhaust one's ability to be involved and responsive to the needs of patients. Depersonalization, or cynicism, has been viewed as a way to emotionally distance one's self as a protection method against emotional exhaustion (Maslach et al., 2001). Exhaustion and depersonalization come from feelings of being overwhelmed in the workplace, and those feelings can damage one's sense of self-efficacy and effectiveness. Once exhausted and emotionally removed from the situation, feelings of accomplishment or self-efficacy are much harder to attain (Maslach et al., 2001). Maslach's research on burnout has

impacted the field greatly, and her conceptualization of three core dimensions of burnout have been used as the basis for much of the more recent burnout literature and scale development (Buhler & Land, 2004; Fearon & Nicol, 2011; Garrosa, Moreno-Jimenez, Rodriguez-Munoz, & Rodriguez-Carvajal, 2011; Laschinger & Finegan, 2008; Poghosyan, Clark, Finlayson, & Aiken, 2010; Zellars, Hochwarter, Perrewe, Hoffman, & Ford, 2004)

Recently, researchers have been conceptualizing individuals' psychological relationships to their jobs along a continuum with burnout (exhaustion, cynicism, and inefficacy) representing the negative end and engagement (energy, involvement, and efficacy) representing the positive end (Maslach & Leiter, 2008; Maslach, Leiter, & Jackson, 2012). This idea of a burnout-engagement continuum helps provide practitioners with a goal with regard to burnout interventions – increasing engagement (Maslach et al., 2012). Having such a goal associated with a burnout intervention can help practitioners focus their energy on factors within the workplace that promote employees' involvement, dedication, and sense of efficacy and success on the job (Maslach et al., 2012).

Alternative Conceptualizations of Burnout

The original conceptualization and measure of burnout as a three dimensional construct (Maslach & Jackson, 1981) was designed for those working in helping industries, generally healthcare, that deal directly with people. Since then, burnout has been recognized in a number of different occupations, and this recognition has prompted the need for different conceptualizations and measures that are more generalizable to those not working in person centric occupations (Demerouti, Bakker, Vardakou, & Kantas, 2002; Halbesleben & Demerouti, 2005; Shirom & Melamed, 2006).

In an effort to conceptualize burnout differently, Demerouti et al. (2002) investigated a two dimensional burnout construct that consisted of exhaustion and disengagement. Exhaustion is a product of the demands of a job, while disengagement results from a lack of resources. Demerouti et al. were able to broaden the construct of burnout by focusing on both the cognitive and the physical components of exhaustion. When comparing the two dimensional model to the classic three dimensional model, Halbesleben and Demerouti (2005) found that, among a wide range of occupations, there was relatively more support for the two dimensional model than the original three dimensional model proposed by Maslach et al. (2001).

In a similar vein, Shirom and Melamed (2006) proposed a two dimensional construct based on the Conservation of Resources (COR) theory (Hobfoll, 1989; Hobfoll, 1998). Shirom and Melamed's conceptualization focused on two dimensions: physical fatigue and cognitive weariness. Both dimensions expanded the emotional exhaustion concept of burnout. The central idea of COR theory is that "people have a basic motivation to obtain, retain, and protect the resources they value" (Shirom & Melamed, 2006, p. 179). After administering both measures and conducting confirmatory factor analysis, support was shown for both a three dimensional construct as well as their two dimensional construct across multiple occupations.

Most concerns with regard to a three factor model stem from a lack of generalizability to other occupations outside health and human services (Demoerouti et al. 2002; Halbesleben & Demerouti, 2005; Shirom & Melamed, 2006). The present research is primarily concerned with burnout as it relates to healthcare workers, nurses in particular. Based on this, the use of the original, patient-centered, three dimensional model would be the most appropriate for a study of this nature.

Impact of Burnout in Healthcare

While the phenomenon of burnout can be observed in many occupations, it can be argued that healthcare workers, especially nurses, suffer at higher rates than other occupations due to their long hours, continually working with the sick and dying, and excessive patient/people interactions (Aiken et al., 2001; Espeland, 2006; Wright, 2003). It has been reported that 40% of nurses around the world have burnout levels that surpass healthcare worker norms, and their levels of job dissatisfaction are four times the average of all U.S. workers (Aiken et al., 2001). The organizational impacts of burnout faced by hospitals include lower productivity, decreased team morale, and increased absenteeism and personnel turnover, all of which can negatively affect patient satisfaction and the overall quality of the care they receive (Cimiotti, Aiken, Sloane, & Wu, 2012; Sherman, Edwards, Simonton, & Mehta, 2006). Hospitals that effectively reduced rates of burnout by 30% saw more than 6000 fewer urinary tract and surgical onsite infections, resulting in annual cost savings of almost $70 million (Cimiotti et al., 2012).

Nursing Turnover

Negative perceptions of work and job dissatisfaction have been found to positively relate to both turnover intentions and turnover behaviors (Leiter & Maslach, 2009). Turnover in the nursing profession is wide spread and costly to hospitals, with the median turnover rate between 31% and 65% in the first year of a new nurse's first job (Pine & Tart, 2007). The National Institutes of Health (2002) found that 43% of nurses who reported job burnout planned on leaving the job within a year, compared to just 11% who planned on leaving within a year who did not report being burned out.

In an attempt to determine the financial burden hospitals incur due to nursing turnover, taking inflation rates into account, Jones (2008) calculated that in 2007 hospitals spent between $82,000 and $88,000 on each individual case of nurse turnover, and that total costs faced by individual hospitals ranged between $7,875,000 and $8,449,000. Hospitals incurred costs due to the recruitment and training of new nurses, along with the use of temporary nurses, staff overtime, closed beds, and patient deferrals to make up for the loss of permanent nurses on staff (Jones, 2008).

The negative impact of nursing turnover is exacerbated by the fact that hospitals have an increasingly smaller professional pool to recruit from due to a nursing shortage over the last decade, as well as the increasing demand and need of healthcare services (Jones, 2008; Laschinger & Finegan, 2008). The Bureau of Labor Statistics (2012) estimates 1.2 million nursing job openings by 2020, and that the profession is to grow faster than average with a predicted 26% growth rate within the same time frame. According to Juraschek, Zhang, Ranganathan, and Lin (2012) there will be a deficit of over one million nursing jobs by 2030 due to an aging workforce as well as population growth, and the rapid growth and demand of health care services. Juraschek et al. predict that 30 states will experience extreme levels of nursing shortage, mostly impacting the Western and Southern United States.

Personal Impact of Burnout on Nurses

Nurses are susceptible to burnout because of their stressful work environment consisting of extensive interactions with the chronically sick and dying as well as grieving family members of patients (Altun, 2002; Mealer, Burnham, Goode, Rothbaum, & Moss, 2009). Often nurses report feelings of frustration, anger, and depression (emotional exhaustion), as well as irritability,

cynicism, and bitterness toward coworkers and clients (depersonalization), and they feel as if they are stuck or paralyzed, depressed, and negative about their self, others and the world as a whole (diminished feelings of personal accomplishment) (Espeland, 2006). Research has also shown nurses can suffer from symptoms of Post-Traumatic Stress Disorder (PTSD), including depression, reported problems with family and friends, and increased occurrence of nightmares (Mealer et al., 2009). Also, taking time off to recover from burnout can negatively impact nurses' career advancement by putting suffering nurses behind their peers, with little way to catch back up (Espeland, 2006).

Nurses suffering from burnout have also been known to engage in compulsive activities such as overeating or under-eating, smoking more, drinking excessive caffeine, drinking alcoholic beverages to excess, using street drugs, using prescription drugs illegally, worrying, gambling, and excessive shopping (Espeland, 2006). These actions are negative ways of coping with stress, and highlight the importance of the development of positive coping strategies to reduce feelings of burnout and thereby reduce these types of negative reactions to stress (Fearon & Nicol, 2011).

How Burnout has Been Investigated

Organizational Factors

Generally, job burnout research has focused on stressors inherent to the job environment, almost to the exclusion of the impact of an individual's personality or mood (Zellars et al., 2004). Work overload, role ambiguity and conflict, time and staffing limitations, lack of advancement opportunities, heavy demands by patients and families, and frequent exposure to death and dying have all been identified as organizational factors that lead to burnout among

nurses (Garrosa et al., 2011; Garrosa, Rainho, Moreno-Jimenez, & Monteiro, 2010; Papadatou, Anagnostopoulos, & Monos, 1994).

Laschinger, Finegan, Shamian, and Wilk (2004) found that nursing work environments significantly impacted both nurses' mental and physical health. They found that hospitals that supported nurse autonomy and nurse-physician collaboration had lower levels of emotional exhaustion and an increased trust in management. It was also found that perceptions of workplace empowerment were predictive of job satisfaction and burnout up to three years later (Laschinger et al., 2004). In a study of 1,545 nurses, Duquette, Kerouac, Sandhu, Ducharme, and Saulnier (1995) found that work stressors alone accounted for 21% of the observed variance in burnout ratings. Despite the support shown for organizational contributions effecting burnout among nurses, one question still remains unanswered, "Why, under the same working conditions, one individual burns out, while another shows no symptoms at all" (Buhler & Land, 2004, p. 35).

Individual Differences

While the organizational factors associated with burnout are well documented and researched, person-level antecedents of burnout have received less attention in the literature. When person-level antecedents of burnout have been investigated, personality traits like hardiness, core self-evaluation (CSE) and the Big Five personality factors have generally received the most attention (Buhler & Land, 2004; Garrosa et al., 2011; Garrosa et al., 2010; Laschinger & Finegan, 2008; Zellars et al., 2004). In the following section, hardiness, CSE, and the Big Five will be discussed, along with how they have been investigated in relation to burnout.

Hardiness

Hardiness is a person's resistance to the harmful effects of stressors and his or her ability to adjust to and manage a fast paced stressful environment (Eschleman, Bowling, & Alarcon, 2010). Hardiness is conceptualized as a multidimensional personality construct with three categories: commitment (feelings of involvement), control (a sense of personal influence), and challenge (openness to change and problem solving) (Kobasa, 1979; Maddi, 1999; Maddi et al., 2002). Hardiness describes a general attitude one has about the workplace rather than a behavior that is exhibited in the workplace (Simoni & Paterson, 1997). While hardiness and optimism are related (Eschleman, et al., 2010), in actuality hardiness is a resilience trait specific to stress (Kobasa, 1979) while optimism is better described as a dispositional outlook one has and how he/she approaches the world (Scheier & Carver, 1985; Scheier, Carver, & Bridges, 1994).

Hardiness has been found to significantly relate to a nurse's level of burnout and intention for turnover (Duquette et al., 1995; Garrosa et al., 2010). Eschleman et al. (2010) suggested that hardiness positively impacts an individual's feelings of burnout because he/she perceives fewer stressors in the work place and proactively addresses negative conditions as they arise.

Core Self-Evaluation

Core self-evaluation (CSE) has been described as a broad personality trait and higher order construct, and has been linked to job satisfaction and job performance (Judge & Bono, 2001; Judge, Erez, Bono, & Thoresen, 2003). CSE has been defined as "basic conclusions or bottom-line evaluations that individuals hold about themselves" (Judge & Bono, 2001, p. 80). It can be conceptualized as a four construct personality trait representing self-esteem, generalized

self-efficacy, neuroticism, and locus of control. Taking all four dimensions into account, CSE can be viewed as the "fundamental appraisal of one's worthiness, effectiveness, and capability as a person" (Judge et al., 2003, p. 305).

Self-esteem is believed to be the most fundamental component of CSE, because it represents the overall sense of self-worth that one believes he/she has. Generalized self-efficacy represents the belief one has in his/her personal "ability to cope, perform, and be successful" (Judge & Bono, 2001, p. 80). Emotional stability (the opposite of neuroticism) represents one's tendency to be confident, secure, and steady. Finally, those with an internal locus of control believe that they have control of their lives and are responsible for the things that happen to them (Judge & Bono, 2001). Judge et al. (2003) created a scale measuring all four traits which demonstrated incremental validity above and beyond that of the Big Five factor model when predicting job satisfaction, job performance, and life satisfaction.

Recently, researchers have attempted to determine if there is a relationship between core self-evaluations and burnout in the workplace (Best, Stapleton, & Downy, 2005; Laschinger & Finegan, 2008). In a time-lagged study over a one year period, Laschinger and Finegan (2008) found that nurse managers who scored themselves low on Judge et al.'s (2003) core self-evaluation at time one, were more likely to report emotional exhaustion at time two (one year later). Best et al. (2005) found that those who scored low on core self-evaluations and who perceived the workplace as constraining were at a higher risk for burnout and job dissatisfaction.

Big Five Personality Traits

Through decades of research, five specific personality traits have continually been found: Extraversion (E), Agreeableness (A), Conscientiousness (C), Neuroticism (N), and Openness (O)

(McCrae & Costa, 2010). Generally called the "Big Five", these personality traits are "deeper psychological entities that can only be inferred from behavior and experience" (McCrae & Costa, 2010, p. 163). In a review of multiple meta-analyses, Judge, Klinger, Simon, and Yang (2008) reported that over the last 25 years, Big Five personality traits have helped further our understanding of workplace phenomena by demonstrating relationships with job performance, work motivation, job satisfaction and commitment, stress, coping, and adaptability, and team effectiveness.

Some researchers have tried to establish a relationship between these personality traits and burnout. Buhler and Land (2004) conducted a study to determine whether a wide range of certain personality traits, as indicated by differing personality scales, would be related to burnout among a group of German nurses across ten German hospitals. They found a positive relationship between neuroticism and the emotional exhaustion and depersonalization aspects of burnout, and posited that "neuroticism accelerates the burnout process through a disproportionally pronounced feeling of stress" (Buhler & Land, 2004, p. 39). They also found a positive relationship between extraversion and the emotional exhaustion and depersonalization aspects of burnout. Buhler and Land make note that this finding was most likely the result of individuals high in extraversion being highly motivated and ambitious, and more likely to give more of themselves then is actually possible and leave themselves drained of emotional strength.

In a similar study, Zellars et al., (2004) examined the relationship between burnout, as measured by Maslach et al. (2001) and Extraversion and Neuroticism as indicated by the NEO-FFI (Costa & McCrae, 1992). They found that nurses who reported being high in neuroticism scored higher on the exhaustion and depersonalization components of the Maslach Burnout Inventory, and nurses who scored higher in extraversion are less likely to be susceptible to

feelings of diminished personal accomplishment (Zellars et al., 2004). Zellars et al. posited that the observed, inverse relationship between extraversion and diminished feelings of personal accomplishment was due to extraverts' need to be social and to seek out those who reaffirm their beliefs about themselves.

Despite these findings about how individual differences in hardiness, core self-evaluation, and Big Five personality traits relate to burnout, there is an inherent problem with how these relationships have been assessed. These investigations invariably utilized self-report measures and have neglected to account for the common method variance (CMV) that may affect relationships among self-report personality measures. Without measuring and controlling for CMV there is no way to know whether these relationships are as strong as they are reported, or if they even exist at all (Biderman, Nguyen, Cunningham, & Ghorbani, 2011; Johnson, Rosen, & Djurdjevic, 2011). In the next section, the concept of common method variance will be reviewed, and the M-Factor (M) will be introduced as a way common method variance can be measured and controlled for.

Common Method Variance (CMV) and the method-factor M

Recently, the impact of CMV within self-report measures has become of interest to many researchers worried that contamination of CMV can bias relationships observed through self-report research (Biderman, Nguyen, Cunningham, & Ghorbani, 2011; Johnson et al., 2011; Richardson, Simmering, & Sturman, 2009). CMV has been described as "systematic error variance shared among variables measured with and introduced as a function of the same method and/or source" (Richardson et al., 2009, p. 763). Simply, CMV is variance that is caused by a common method bias associated with self-report questionnaires (Biderman, Nguyen,

Cunningham, & Ghorbani, 2011; Chang, Connelly, & Geeza, 2011; Johnson et al., 2011). In trying to control the contamination of CMV, researchers and practitioners aim to obtain more accurate estimates of relationships between predictors and criterion (Johnson et al., 2011). As more and more organizational research and practice uses self-report measures of employees' personality, attitudes, satisfaction levels, and other areas of affect to determine relationships, find predictors, and enact large scale change efforts, there is a greater need to identify and control for the contamination of CMV (Biderman, Nguyen, Cunningham, & Ghorbani, 2011).

In an attempt to assess the extent of variance among Big Five items due to method bias, Biderman, Nguyen, Cunningham, & Ghorbani (2011) identified a single method factor, M, that they defined as an "unmeasured method factor in that it has no unique indicators, but rather is estimated from indicators of the Big Five factors" (p. 418). M does not represent a higher order factor, but instead a first order factor whose indicators are items of the Big Five. M is estimable separately from the influences of the Big Five factors because the source of covariance – M – is the same across all items, while Big Five factors influence only subsets of the items. It has been suggested that M is a measure of how we evaluate ourselves that impacts how we respond to personality survey items (Biderman, Nguyen, & Cunningham, 2011). A conceptual representation of M is provided in Figure 1, with the black portion representing each personality factor's impact on each item and the gray portion representing the contamination of M on each item.

Recently, M has been assessed to see if it could represent a type of self-concept construct, specifically that M represents a continuum of negative self-concept to positive self-concept (Biderman, Nguyen, & Cunningham, 2011). In order to test this, M was correlated to scores on Costello and Comrey's (1967) Depression scale and Rosenberg's (1965) Self-Esteem scale.

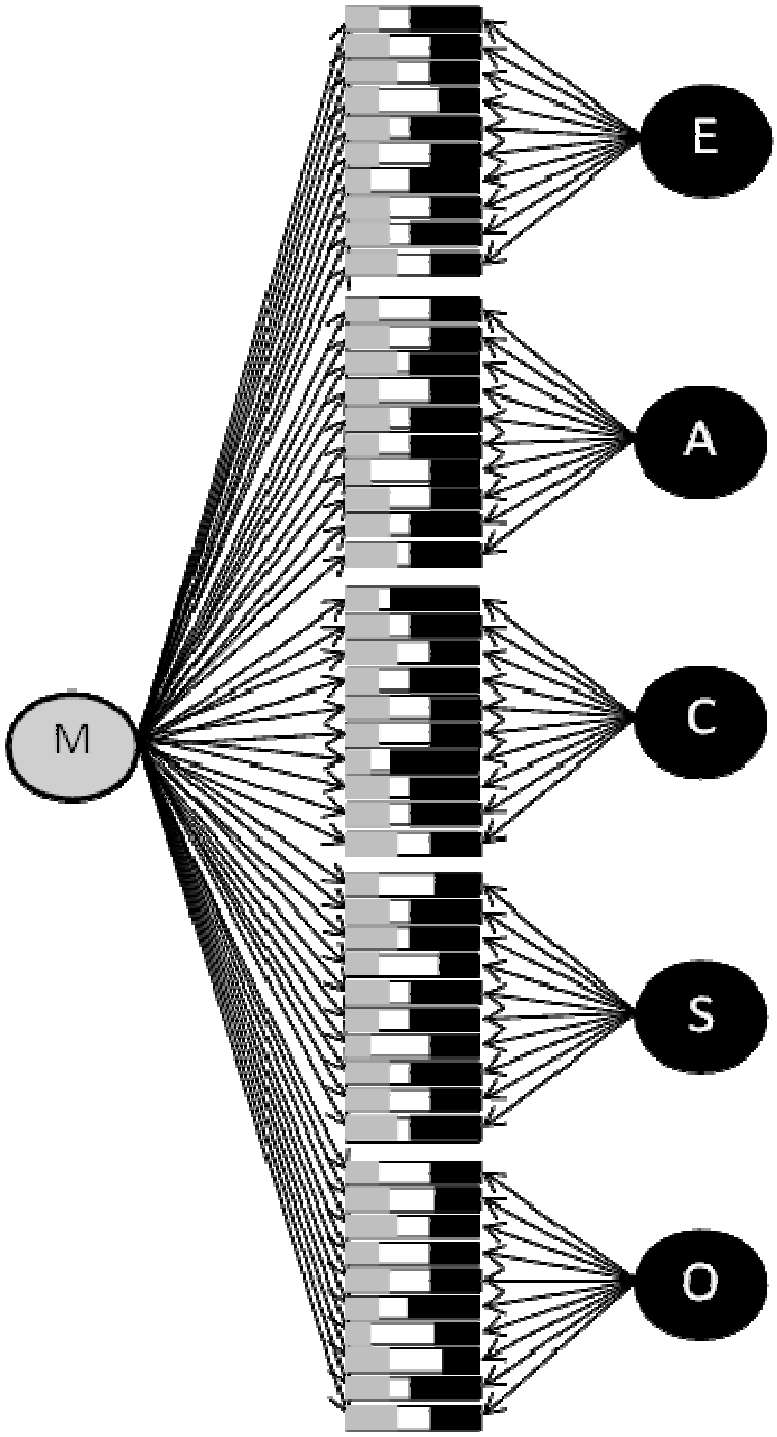

Figure 1 Conceptual Model of Impact of M on Big Five

Supporting their hypotheses, M scores were significantly and negatively correlated with depression scores and positively correlated with self-esteem scores. Furthermore, after partialing out the influence of M, the relationships between all Big Five personality scale scores with both depression and self-esteem were weakened, indicating that M impacts observed relationships between the Big Five factors and different types of criterion (Biderman, Nguyen, & Cunningham, 2011).

Hypotheses

In an attempt to determine the impact of common method variance on established relationships between burnout and different personality factors, my first three hypotheses are confirmatory in nature. Previous research has indicated that hardiness represents an individual's resistance to the harmful effects of stress (Eschleman et al., 2010) and that CSE represents an individual's appraisal of their worthiness, effectiveness, and capability as a person (Judge et al., 2003). Based on this, the first two hypotheses are:

H1: Without controlling for M, burnout is negatively related to hardiness, and

H2: Without controlling for M, burnout is negatively related to core self-evaluation.

Previous personality research with regards to burnout has argued that those who are high in extraversion are more social, and therefore surround themselves with a reaffirming social network of people that protects them from diminished feelings of personal accomplishments (Zellars et al., 2004). Also, extraverts tend to put themselves in situations that continually demand more and more of themselves (Freudenberger, 1974) making them more susceptible emotional exhaustion and depersonalization (Buhler & Land, 2004). Neuroticism has also been shown to positively relate to emotional exhaustion and depersonalization (Buhler & Land, 2004;

Zellars et al., 2004). The IPIP Big Five questionnaire reversed the neuroticism scale to measure stability. These two dimensions, neuroticism and stability, can be thought of as polar opposites. Based on these findings the third hypothesis is:

H3A: Without controlling for M, the diminished feelings of personal accomplishment component of burnout is negatively related to extraversion,

H3B: Without controlling for M, the emotional exhaustion and depersonalization components of burnout are positively related to extraversion, and

H3C: Without controlling for M, the emotional exhaustion and depersonalization components of burnout are negatively related to stability.

The final hypotheses are all concerned with the method factor – M. If M represents self-concept and positively correlates with self-esteem (Biderman, Nguyen, & Cunningham, 2011) and hardiness positively correlates with self-concept and self-esteem while negatively correlating with burnout (Eschleman et al., 2010), then it should be expected:

H4A: Burnout is negatively related to M, and

H4B: Hardiness and core self-evaluation are both positively related to M.

In Biderman, Nguyen, and Cunningham's (2011) study, it was found that once M was calculated and controlled for, initial correlations between personality traits and self-esteem and depression decreased, indicating that one's self-concept, measured by M, impacts how survey items are answered. If common method variance impacts the MBI as it does other self-report questionnaires, and it should, then the final hypothesis is:

H5: When controlling for M, the relationships between burnout and hardiness, core self-evaluation, and the Big Five are weakened.

CHAPTER II

METHOD

Participants

Data were collected from registered nurses from three hospitals in the southeastern United States, as well as through the professional social networking site LinkedIn (N = 274). Hospitals were contacted to participate; IRB forms were filled out, submitted, and approved. After IRB approval, nurses working at participating hospitals were made aware of the survey and the web address and were asked to voluntarily participate. Additional data were collected from students who were currently enrolled in a B.S.N. program at a southeastern university (N = 68). 15 participants opted out of participation after having completed just a few items of the questionnaire and were therefore removed from analysis. 327 participants were analyzed to determine factor scores of the Big Five Personality traits. An additional nine participants were removed from any further analysis for not completing the rest of the questionnaire beyond the personality items leaving a total of 318 participants.

Participants included 250 (78.6%) working professional RNs and 68 (21.4%) student nurses; 284 (89.3%) were women and 34 (10.7%) were men. Ages of participants ranged from 20 to 69 years old, and the mean age was 39.7 (SD = 14.2) with a median age of 37 years old. Student nurse participants were given a modified demographics section that did not include any questions on tenure. The mean tenure of the professional RNs was 18.7 years (SD = 13.3) with a

median tenure of 17 years. A complete table (Table 1) of descriptive statistics can be found below.

Table 1 Demographics

	Number of Participants		Percentage (%)	
Gender	RN's	Student Nurses	RN's	Student Nurses
Male	24	10	9.6	14.7
Female	226	58	90.4	85.3
Age Group				
20-30	52	62	21.1	92.5
31-40	51	4	20.8	6.0
41-50	47	1	19.1	1.5
51-60	78	0	31.7	0
61+	18	0	7.3	0
Years in Nursing Field				
1-3	41	0	16.7	0
4-6	25	0	10.2	0
7-10	24	0	9.8	0
11-15	24	0	9.8	0
16-20	29	0	11.7	0
21-25	17	0	7.1	0
26-30	24	0	9.8	0
31+	61	0	24.9	0

Materials

Six self-report scales were used to assess participants on a multitude of different dimensions. Personality, burnout, core self-evaluation (CSE), hardiness, optimism, and stress were measured. Participants were asked to report their gender, age, current job title, place of employment, tenure at current organization and current position, and total time spent in nursing profession. Cronbach's alphas (α) were computed and are reported for each of the scales.

Burnout

Burnout was measured using the 22-item Maslach Burnout Inventory – Human Services Survey (MBI-HSS) (Maslach et al., 1996). Participants were given the instructions to, "Read each item carefully, and choose the response that represents how accurately the statement describes you at work or your feelings about work." Responses to each item were on a scale of 0 for "Never" to 6 for "Every Day".

The MBI-HSS measures the three dimensions of burnout: 1. Emotional exhaustion (EE) (nine items, $\alpha = .90$), 2. Depersonalization (DP) (five items, $\alpha = .73$), and 3. Diminished feelings of personal accomplishment (PA) (eight items, $\alpha = .75$). Each of the three dimensions ranges in scores from low to high. In the original scoring instructions, the sub-scales for EE and DP were summed with higher scores indicating elevated feelings of burnout. Scores for the PA sub-scale were also summed; however, lower scores on this sub-scale indicated higher levels of burnout (Maslach et al., 1996).

One goal of the present study was to examine someone's overall burnout score and how it related to other personality measures. To determine an overall burnout score for participants, the items of the PA sub-scale were reversed scored so that higher scores on the sub-scale indicated higher levels of burnout (low = 0-8, moderate = 9-15, high = 16-48), and those scores could be added to the EE (low = 0-16, moderate = 17-26, high = 27-54) and DP (low = 0-6, moderate = 7-12, high = 13-30) sub-scales to come up with an overall burnout score (low = 0-32, moderate = 33-55, high = 56-132) (22 items, $\alpha = .87$). This method was adopted from Kee, Johnson, and Hunt (2002) and their study of burnout in rural mental health counselors in which an overall burnout score was needed.

Hardiness

Participants' hardiness was measured using a 15-item brief resilience scale (Bartone, 1995). Participants were given the instructions, "Below are statements about life that people often feel differently about. Please indicate how much you agree or disagree with each of the statements. There are no right or wrong answers, so please give your own honest opinion." Responses to each item were on a scale of 1 for "Strongly Disagree" to 7 for "Strongly Agree". Hardiness is made up of three dimensions: 1. Commitment (five items, $\alpha = .77$), 2. Control (five item, $\alpha = .67$), and 3. Challenge (five items, $\alpha = .77$). Scores for each of the dimensions were computed by summing the items in each sub-scale, with higher scores representing higher levels of hardiness within each dimension. An overall hardiness score (15 items, $\alpha = .79$) was determined by summing all items or the three sub-scales, with higher scores relating to higher levels of overall hardiness (Bartone, 1995).

Core Self-Evaluation

Participants' core self-evaluation was measured using the 12-item Core Self-Evaluation Scale (CSES; 12 items, $\alpha = .85$) (Judge et al., 2003). Participants were given the instructions, "Below are several statements about you which you may agree or disagree. Choose the response that represents how accurately the statement describes you." Responses to item were on a scale of 1 for "Strongly Disagree" to 7 for "Strongly Agree". The CSES measures the four dimensions that make up core self-evaluation: 1. Self-esteem, 2. Self-efficacy, 3. Emotional stability, and 4. Internal locus of control. An overall score was computed to determine one's level of core self-evaluation, with higher scores representing higher self-evaluation (Judge et al., 2003).

The Big Five

The Big Five Personality traits were measured using the 50-item IPIP Big Five Sample Scale (Goldberg et al., 2006; www.ipip.ori.org). Participants were given the instructions to, "Read each item carefully, and choose the response that represents how accurately the statement describes you." Responses to each item were on a scale of 1 for "Completely Inaccurate" to 7 for "Completely Accurate". Overall scores for each of the five dimensions, extraversion (α = .88), agreeableness (α = .80), conscientiousness (α = .81), stability (α = .88), and openness to new experience (α = .83), were calculated by averaging each of the item scores for each sub-scale.

Indirect Measure of Self-Concept (M)

The method factor, M, was assessed by applying a bifactor CFA model to the data, with positive M scores reflecting an overall positive self-concept (Biderman, Nguyen, & Cunningham, 2011). Factor indicators in the model were individual items, whereby negatively worded items were reverse scored. The model was estimated using M*plus* V7.0 (Muthén & Muthén, 1998-2012) using the method of maximum likelihood. The factor scores were generated using the regression method (Muthén, 1998-2004) and were imported into SPSS.

Optimism and Stress

Optimism and stress were both included for exploratory purposes to test their relationship with hardiness and burnout. Optimism was measured using the 10-item Revised Life-Orientation Test (six items, α = .86) (Scheier et al., 1994). Participants were given the instructions, "Below are statements about life that people often feel differently about. Please

indicate how much you agree or disagree with each of the statements. There are no right or wrong answers, so please give your own honest opinion." Responses to each item were on a scale of 1 for "Strongly Disagree" to 7 for "Strongly Agree". Scale scores for this measure were calculated by summing items 1, 3, 4, 7, 9, and 10 after reverse scoring appropriate items, with higher scale scores representing higher levels of overall optimism. Items 2, 5, 6, and 8 are used as filler items and were not scored (Scheier et al., 1994).

Stress was measured using the eight-item Stress in General survey (eight items, $\alpha = .77$) (Stanton, Balzer, Smith, Parra, & Ironson, 2001) which was updated in 2009 (Brodke et al., 2009). Participants were given the instructions, "Do you find your job stressful? For each of the following words or phrases, choose: 'Yes' if it describes your job, 'No' if it does not describe it, or '?' if you cannot decide." Scale scores for this measure were calculated by summing the scores of each item, with higher scores representing higher levels of work related stress (Stanton et al., 2001).

Procedure

A complete questionnaire was created and distributed using SurveyMonkey.com, and incorporated all six self-report scales and demographic questions. The questionnaire was put online; participants had to read and electronically sign an informed consent form before they could proceed to the items. This study was completely voluntary and confidential by nature, and there was no penalty for withdrawing participation at any time. Additional participants were also solicited via the professional social networking site LinkedIn.com. Posts with the survey information were posted on multiple professional group sites for registered nurses, such as the

AORN (Association of periOperative Registered Nurses). Finally, data were collected from student nurses to supplement the professional data that had been collected.

Analysis

Before analyses were conducted, missing data points were replaced with a participant's predicted score for the particular scale or subscale the missing item was a part of based on its relationship to the other items in the scale. To test the hypotheses, simple correlations and partial correlations were conducted. Hypotheses one through three were all replication hypotheses, and support could be found through simple correlations of burnout or dimensions of burnout to hardiness (H1), core self-evaluation (H2), extraversion (H3A, B), and stability (H3C). Hypotheses four and five required factor scores for M to be computed using the CFA method described above; once scores for M were calculated, simple correlation analysis was used to determine M's relationship to burnout (H4A) as well as hardiness and core self-evaluation (H4B). Partial correlations and regression were required to remove the contamination of M to determine the true relationship between burnout, hardiness, core self-evaluation, and the Big Five (H5).

CHAPTER III

RESULTS

Frequencies were run on participant's total burnout, hardiness, CSE, and the Big Five scores. There was no indication of marked skewness or nonnormality in the distribution of variables. Independent sample t-tests were conducted to determine whether there was a significant difference between RNs and student nurses with regard to key study variables. The only variable that RNs and student nurses significantly differed on was their overall burnout score, $t(316) = 2.76$, $p=.006$; RNs ($M = 40.58$, $SD = 17.93$) were significantly more burned out than student nurses ($M = 33.96$, $SD = 15.89$). This finding provides support for both the use of student nurses as a part of the sample and the use of the MBI-HSS to measure burnout. Students have not had the opportunity to burnout like RNs have had, and the MBI-HSS was able to pick up those differences.

The first three hypotheses were replication based, and only required simple correlations to reestablish relationships that had been reported in the past (Best et al., 2005; Buhler & Land, 2004; Eschleman et al., 2010; Zellars et al., 2004). Correlations were run on all study variables and are provided in Table 2. A significant negative relationship between one's total burnout score and both hardiness ($r = -.616$, $p<.01$) and one's core self-evaluation (CSE) ($r = -.646$, $p<.01$)) was found, supporting both H1 and H2. Furthermore, all three dimensions of burnout, emotional exhaustion (EE), depersonalization (DP), and diminished feelings of personal accomplishment (PA), negatively related to both hardiness ($r = -.478$, -.428, and -.565

Table 2 Descriptive Statistics and Correlations for all study variables

Variables	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Gender	n/a	n/a																				
2. Employment Status	n/a	n/a	-.068																			
3. Age	39.7	14.2	.11	-.584**																		
4. Tenure in Profession	18.7	13.3	.191**	C	.873**																	
5. Extraversion	4.44	0.93	-.030	.082	-.056	-.052																
6. Agreeableness	5.69	0.68	.112*	.112*	.107	-.009	.258**															
7. Conscientiousness	5.29	0.74	.095	-.054	.091	.120	.076	.336**														
8. Stability	4.69	0.92	-.194**	.077	.066	.152*	.246**	.237**	.240**													
9. Openness	4.95	0.77	-.119*	.057	.027	.109	.277**	.261**	.242**	.175**												
10. Burnout Total	39.17	17.7	-.049	-.154**	.010	-.127*	-.265**	-.346**	-.288**	-.485**	-.186**											
11. Emotional Exhaustion	21.57	10.45	.021	-.134*	.021	-.100	-.211**	.146**	-.222**	-.446**	-.121*	.885**										
12. Depersonalization	7.12	5.51	-.130*	-.103	-.055	-.181**	-.120*	-.333**	-.187**	-.297**	-.020	.776**	.570**									
13. Diminished Feelings of Personal Accomplishment	10.48	6.3	-.059	-.120*	.041	-.033	-.289**	-.440**	-.277**	-.365**	-.304**	.663**	.331**	.360**								
14. Core Self-Evaluation	63.98	10.6	-.002	-.032	.028	.042	.259**	.335**	.329**	.521**	.137*	-.646**	-.540**	-.447**	-.529**							
15. Hardiness Total	79.18	9.69	.100	-.042	.148**	.184**	.267**	.393**	.227**	.483**	.295**	-.616**	-.478**	-.428**	-.565**	.665**						
16. Commitment	28.49	4.47	.122*	.094	.034	.163*	.195**	.402**	.282**	.380*	.166**	-.684**	-.553**	-.470**	-.595**	.691**	.789**					
17. Control	28.32	3.51	.082	-.126*	.087	.029	.179**	.345**	.385**	.281**	.226**	-.450**	-.289**	-.266**	-.553**	.615**	.716**	.625**				
18. Challenge	22.38	5.37	.026	-.072	.181**	.182**	.204**	.150**	-.076	.373**	.247**	-.249**	-.241**	-.207**	-.163**	.223**	.682**	.184**	.119*			
19. LOT-Revised (Optimism)	32.56	6.39	-.013	.029	.091	.126*	.266**	.348**	.201**	.440**	.155**	-.531**	-.406**	-.381**	-.485**	.747**	.637**	.655**	.516**	.267**		
20. Stress in General	15.05	6.24	.003	-.144*	.049	-.139*	-.025	-.034	-.106	-.262**	-.045	.526**	.570**	.418**	.168**	-.368**	-.286**	-.335**	-.169**	-.127*	-.271**	
21. M (method factor)	.0034	0.91	.057	.062	.006	.056	.606**	.705**	.333**	.397**	.430**	-.414**	-.277**	-.218**	-.515**	.457**	.490**	.426**	.408**	.263**	.435**	-.100

Note: N = 318; * = $p < .05$, ** = $p < .01$; Gender Coded 1 = Male, 2 = Female; Employment Status Coded 1 = Professional RN, 2 = Student Nurse; C = Cannot be computed because at least one of the variables is constant

respectively; all significant at $p<.01$) and CSE ($r = -.540, -.447, -.529$ respectively; all significant at $p<.01$).

The third hypothesis had three parts, all of which pertained to how different dimensions of burnout related to both extraversion and stability. PA showed a significant, negative relationship to extraversion ($r = -.289$, $p<.01$) giving support to H3A. However, for H3B, a positive relationship between extraversion and EE and DP was expected, but instead a significant negative relationship ($r = -.211$, $p<.01$ and $-.120$, $p<.05$ respectively) was found. Lastly, stability also showed a significant, negative relationship with both EE ($r = -.446$, $p<.01$) and DP ($r = -.297$, $p<.01$) showing support for H3C. Overall Hypothesis 3 was partially supported, with support being found for 3A and 3C, but not for 3B.

The rest of the hypotheses required factor scores to be computed from the items of the IPIP Big Five. Once factor scores for the personality factors and M were calculated, simple correlations were conducted to establish M's relationship to burnout, hardiness, core self-evaluation, and the Big Five factors. M significantly, negatively related to one's total burnout score ($r = -.414$, $p<.01$) and all three dimensions of burnout, EE ($r = -.277$, $p<.01$), DP ($r = -.218$, $p<.01$), and PA ($r = -.515$, $p<.01$) confirming H4A. M was also found to have a significant, positive relationship with hardiness ($r = .490$, $p<.01$) and CSE ($r = .457$, $p<.01$), providing full support for H4B. Because of M's influence on the Big Five, a significant, positive relationship with the Big Five should be expected, and is what was found. All five factors of the Big Five significantly, positively related to M: extraversion ($r = .606$, $p<.01$), agreeableness ($r = .705$, $p<.01$), conscientiousness ($r = .333$, $p<.01$), stability ($r = .397$, $p<.01$), and openness ($r = .430$, $p<.01$).

Lastly, it was predicted that once controlling for M, the relationship of burnout to hardiness, CSE, and the Big Five would be weakened. See Table 3 for a complete list of original correlations, correlations controlling for M, and the overall change. It was found that once controlling for M, the relationship between burnout and all other variables was in fact weakened. The relationship of the three dimensions of burnout to hardiness, CSE, and the Big Five was also weakened. These findings provided support for hypothesis five.

To provide additional support for hypothesis five the change in correlations when controlling for M was tested for significance. A procedure for comparing two dependent correlations presented in Steiger (1980) was used to compare the simple correlations of variables with the correlations between the two variables partialing out M factor scores. Use of this procedure was based on the fact that partial correlation between two variables is equal to the simple correlation between regression residuals of each of the two variables when predicted by the controlling variable (Cohen & Cohen, 1983). Thus it is appropriate to compare them using a procedure for comparing two dependent simple correlations. The comparisons were made using an SPSS syntax program (Biderman, 2013). In comparing the correlations, it was found that all but one relationship, depersonalization with agreeableness ($Z = -1.88$, $p = .06$), was significantly weakened once controlling for M. The fact that the observed relationships not only weakened, but were significantly weakened provides additional support for H5. Z scores and corresponding *p*-values for the correlation comparisons are also provided in Table 3.

Exploratory analysis was conducted with regard to two of the measured variables, optimism and stress in general, and how M impacted their observed relationships. Optimism related significantly and positively with hardiness ($r = .637$, $p<.01$), CSE ($r = .747$, $p<.01$), and M ($r = .435$, $p<.01$). Once M was controlled for, the relationship of optimism to hardiness ($r =$

Table 3 Comparison of correlations after controlling for M

Scale	Original Correlations with Burnout (Total)	Partial Correlations Controlling for M	Change	Change Z-Score	Change p-value
Hardiness	-.616**	-.521**	.095	-4.67	.001
CSE	-.646**	-.564**	.082	-4.57	.001
Extraversion	-.265**	-.019	.246	-6.33	.001
Agreeableness	-.346**	-.084	.262	-6.17	.001
Conscientiousness	-.288**	-.175**	.113	-4.37	.001
Stability	-.485**	-.384**	.101	-4.52	.001
Openness	-.186**	-.010	.176	-5.52	.001
Scale	Original Correlations with EE	Partial Correlations Controlling for M	Change	Change Z-Score	Change p-value
Hardiness	-.478**	-.409**	.069	-2.99	.010
CSE	-.540**	-.484**	.056	-2.83	.010
Extraversion	-.211**	-.057	.154	-4.20	.001
Agreeableness	-.146**	.072	.218	-4.92	.001
Conscientiousness	-.222**	-.143*	.079	-3.62	.001
Stability	-.446**	-.381**	.065	-3.30	.001
Openness	-.121*	-.003	.118	-4.20	.001
Scale	Original Correlations with DP	Partial Correlations Controlling for M	Change	Change Z-Score	Change p-value
Hardiness	-.428**	-.377**	.051	-2.13	.030
CSE	-.447**	-.400**	.047	-2.15	.030
Extraversion	-.120*	.015	.135	-3.64	.001
Agreeableness	-.333**	-.259**	.074	-1.88	.060
Conscientiousness	-.187**	-.124*	.063	-4.21	.001
Stability	-.297**	-.235**	.062	-2.82	.010
Openness	-.020	-.083	.103	-3.71	.001
Scale	Original Correlations with PA	Partial Correlations Controlling for M	Change	Change Z-Score	Change p-value
Hardiness	-.565**	-.418**	.147	-5.73	.001
CSE	-.529**	-.385**	.144	-5.49	.001
Extraversion	-.289**	.034	.323	-7.73	.001
Agreeableness	-.440**	-.127*	.313	-7.49	.001
Conscientiousness	-.277**	-.131*	.146	-4.69	.001
Stability	-.365**	-.204**	.161	-5.29	.001
Openness	-.304**	-.107	.197	-5.90	.001

Note: * = $p<.05$, ** = $p<.01$; EE = Emotional Exhaustion, DP = Depersonalization, PA = Diminished Feelings of Personal Accomplishment

.540, $p<.01$) and CSE ($r = .684$, $p<.01$) was weakened. Stress in general showed a significant, positive relationship with burnout ($r = .526$, $p<.01$), a significant, negative relationship with optimism ($r = -.271$, $p<.01$), hardiness ($r = -.286$, $p<.01$), and CSE ($r = -.368$, $p<.01$), and a negative, non-significant relationship with M ($r = -.100$, $p=.075$). Once M was controlled for, the relationship of stress in general to burnout ($r = .535$, $p<.01$) slightly improved, while the stress in general's relationship to optimism ($r = -.254$, $p<.01$), hardiness ($r = -.273$, $p<.01$), and CSE ($r = -.364$, $p<.01$) was slightly weakened.

While there have been some studies that have investigated burnout with regards to personality, generally the entire Big Five is not given, only subsections for extraversion and stability/neuroticism are given based on their confirmed relationship with burnout (Maslach et al., 2001). Because participants filled out the entire Big Five so M could be calculate, there was no reason not to investigate the other personality factors' relationship with burnout as well. One's total burnout score significantly, negatively related to both agreeableness ($r = -.346$, $p<.01$) and conscientiousness ($r = -.288$, $p<.01$) at a stronger level than extraversion ($r = -.265$, $p<.01$). Burnout also significantly, negatively related to openness ($r = -.186$, $p<.01$), but at a weaker level. When controlling for M, the observed relationships of burnout to both agreeableness ($r = -.133$, $p<.05$) and conscientiousness ($r = -.198$, $p<.01$) were weakened, but not to the point that makes either dimension not significant, as was the case with both extraversion ($r = -.060$, $p=.28$) and openness ($r = -.060$, $p=.29$).

CHAPTER IV

DISCUSSION

The purpose of this study was to examine the relationship between burnout among nurses and hardiness, CSE, Big Five personality factors, and the method factor, M. A main interest in this study was testing M as an indirect measure of an individual's self-concept and the impact of controlling M on burnout's relationship to hardiness, CSE and the Big Five. Overall, it was found that personality factors were significantly related to one's level of burnout. Past findings that burnout negatively relates to both hardiness and CSE were confirmed (Best et al., 2005; Eschleman et al., 2010; Laschinger & Finegan, 2008). Support was also found for extraversion and stability's relationship with different dimensions of burnout when not partialing out the effect of common method variance. However, H3B stated that extraversion would positively relate to both emotional exhaustion and depersonalization (Buhler & Land, 2004) based on the idea that extraverts tend to put themselves in situations that continually demand more and more of themselves (Freudenberger, 1974). Support for this hypothesis was not found, in fact, instead of positively relating to emotional exhaustion and depersonalization, extraversion showed a significant, negative relationship with both burnout dimensions. McCrae and Costa (2010) describe extraversion as a psycho-protective trait, and the findings of extraversion having a negative relationship with all three dimensions of burnout and burnout as a whole seem to verify McCrae and Costa's assertion.

Support was also shown for M as an indirect measure of self-concept, or as a continuum with positive feelings about one's self on one end and negative feelings about one's self on the other (Biderman, Nguyen, & Cunningham, 2011). M showed a significant, negative relationship with an individual's overall burnout, as well as all three dimensions of burnout. M also showed a positive relationship with hardiness, CSE, and all five factors of the Big Five. Also, support for the importance of calculating M and controlling for common method variance (Biderman, Nguyen, & Cunningham, 2011; Biderman, Nguyen, Cunningham, & Ghorbani, 2011; Johnson et al., 2011; Richardson et al., 2009) was shown; when M was controlled for, the relationship between burnout and each of the variables was weakened. Through a comparison of correlations, it was found that all but one relationship was significantly different once M was controlled for.

Implications for Healthcare

Burnout and burnout related turnover are still issues facing nurses in the field and the hospitals that employ them (Cimiotti et al., 2012; Espeland, 2006; Juraschek et al., 2012). Burnout costs hospitals millions of dollars each year from decreased quality in patient care (Cimiotti et al., 2012) to the expensive impact of turnover (Jones, 2008). Nurses suffer from PTSD type symptoms like depression and nightmares (Mealer et al., 2009), as well as career setbacks (Espeland, 2006) due to burnout and burnout related turnover. When assessing their employees for burnout levels and the personality traits that could be related to burnout, hospitals need to be mindful of the impact of common method variance. By not calculating and controlling for the contamination of this type of variance, many of the relationships between personality variables and burnout can be deceptive. This could lead hospitals in spending more money to

assess their employees for early predictors of burnout that do not actually relate to burnout, or to implement preventive interventions that could be focused on the wrong traits, and therefore the wrong nurses.

Recently, burnout literature has been examining coping strategies as a way to mitigate the negative effects of burnout (Fearon & Nicol, 2011; Garrosa et al. 2010). Samaha, Lal, Samaha, and Wyndham (2007) found that negative coping styles significantly related to feelings of chronic fatigue. Developing interventions aimed at helping nurses develop more positive coping styles could help reduce some of the negative consequences of burnout such as exhaustion, depression, cynicism, and inefficacy.

Implications for Personality Research

The results of this study have broad implications for personality researchers. Based on the findings that correlations between variables were significantly weakened when controlling for the method factor M, personality researchers must make better efforts to assess the impact of CMV in their research. These results support the fact that method biases that cause CMV can substantially change the estimated relationships of personality dimensions with other variables. M had such an impact that the relationships that were significant between extraversion and burnout variables disappeared once M was controlled for; for all other variables correlations were significantly smaller once M was controlled for. This finding adds to current literature (Biderman, Nguyen, & Cunningham, 2011; Biderman, Nguyen, Cunningham, & Ghorbani, 2011; Johnson et al., 2011; Richardson et al., 2009) by further establishing the impact that CMV has on a number of different self-report personality scales and highlights the importance of assessing self-report data for CMV.

Despite most scores being significantly weakened, it is important to note that the relationships that have been found in the past between burnout and hardiness (Eschleman et al., 2010), burnout and CSE (Best et al., 2005), and emotional exhaustion and depersonalization with stability (Buhler & Land, 2004; Zellars et al., 2004) were all still significant once M was calculated and controlled for. Only extraversion (Buhler & Land, 2004; Zellars et al., 2004) as a construct no longer significantly related to burnout or any of its dimensions once partialing out the influence of M. This is an important finding because it provides a stronger basis for the established relationship of burnout to hardiness, CSE, and stability. Researchers can go forward with the confidence that despite CMV, these relationships are real and deserve more research.

Similar to the findings of Biderman, Nguyen, and Cunningham (2011), M once again proved its validity as an indirect measure of self-concept. Instead of depression and self-esteem, this study established a positive relationship of M to hardiness, CSE, and optimism and a negative relationship with burnout and stress. As an indirect measure of self-concept, M could potentially be useful when self-concept is a critical predictor of job performance or satisfaction, and additional scales beyond personality cannot be used for some reason. M essentially acts a bonus predictor for researchers who only have access to Big Five data for a group of employees or participants.

Limitations

The current study had a number of limitations. First, there was a lack of information concerning the impact of the working environment or of a participant's individual coping skills or strategies. While it cannot be denied that differences among individuals is related to one's reported level of burnout, without taking in the whole picture, including working environment

and coping skills, we can only understand part of the problem. Second, responses to survey items were only assessed at one point of time. By engaging in a longitudinal study, researchers have a better chance at understanding the progression of burnout and how different factors contribute at different times. Lastly, participants were homogenous with regards to both gender and occupation. Almost 90% of the sample was women, and all participants were either registered nurses or student nurses.

Directions for Future Research

Future research with regard to burnout should continue investigating personality constructs as potential predictors of burnout; however, future research should also focus on the impact of coping strategies as mediators. Also, organizational factors that have been shown to relate to burnout should also continue to be investigated in congruence with personality constructs as to paint a more detailed picture of how all of these antecedents work together to influence stress and eventually burnout. More longitudinal research is also needed to see how the process of burnout evolves over time and which organizational and personal factors may act as early warning signs of burnout. Lastly, more individuals in occupations that are susceptible to burnout need to be investigated so as to determine how burnout differs across multiple occupations.

With regard to personality research, researchers need to continue to investigate the impact of CMV on relationships between personality constructs. M deserves more research into its applicability as an indirect measure of self-concept and its overall impact on self-report, affective measures. All relationships were weakened when controlling for the method factor M (except for stress in general with burnout), implying that researchers who are trying to establish

relationships between personality constructs need to be aware of the impact of common method variance, as well as how to calculate and control for it.

Conclusion

In conclusion, burnout among nurses was related to a host of personality constructs, and those relationships were significantly impacted by the presence of common method variance. Furthermore, support was provided for the concept of M as a measure of common method variance and as an indirect measure of self-concept. Researchers and practitioners need to be aware of the impact of method bias and how to appropriately remove its contamination before trying to establish relationships between variables.

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APPENDIX A

UTC IRB APPROVAL LETTER

MEMORANDUM

TO: Matthew Ecie **IRB # 12- 139**
Dr. Michael Biderman

FROM: Lindsay Pardue, Director of Research Integrity
Dr. Bart Weathington, IRB Committee Chair

DATE: August 17, 2012

SUBJECT: IRB # 12-139: Relationships among nursing burnout, Big Five Personality Factors, and Overall Self-Concept: The Impact of Assessing Common Method Variance

The Institutional Review Board has reviewed and approved your application and assigned you the IRB number listed above. You must include the following approval statement on research materials seen by participants and used in research reports:

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #12-139.

Please remember that you must complete a Certification for Changes, Annual Review, or Project Termination/Completion Form when the project is completed or provide an annual report if the project takes over one year to complete. The IRB Committee will make every effort to remind you prior to your anniversary date; however, it is your responsibility to ensure that this additional step is satisfied.

Please remember to contact the IRB Committee immediately and submit a new project proposal for review if significant changes occur in your research design or in any instruments used in conducting the study. You should also contact the IRB Committee immediately if you encounter any adverse effects during your project that pose a risk to your subjects.

For any additional information, please consult our web page http://www.utc.edu/irb or email instrb@utc.edu

Best wishes for a successful research project.

VITA

Matthew Ecie was born in Detroit, MI, and moved to north Georgia with his family when he was in middle school. Matthew graduated with a B.S. in Psychology from Kennesaw State University in December, 2010. In May of 2013, he earned his M.S. in Industrial-Organizational Psychology from the University of Tennessee at Chattanooga. Currently, he is living in Atlanta, GA with his fiancée, Katie Bittinger, and is looking forward to practically applying the skills and knowledge gained during his graduate course work.