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“Psychologists Working with Trauma Victims: Do Coping Responses and Low Burnout Mediate the Relationship between Personality Traits and Job Satisfaction.”

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PSYCHOLOGISTS WORKING WITH TRAUMA VICTIMS: DO COPING  
RESPONSES AND LOW BURNOUT MEDIATE THE RELATIONSHIP BETWEEN  
PERSONALITY TRAITS AND JOB SATISFACTION?

by

Mardi Michele Smith

A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the

Doctor of Philosophy

Major: Counseling Psychology

The University of Memphis

August, 2010

## **ABSTRACT**

Smith, Mardi Michele. Ph.D. The University of Memphis. 08/2010. Psychologists Working with Trauma Victims: Do Coping Responses and Low Burnout Mediate the Relationship between Personality Traits and Job Satisfaction? Major Professor: Douglas C. Strohmer, Ph.D.

There is increased need for medical and rehabilitation psychologists in the United States (United States Department of Veterans Affairs, 2008; U.S. Department of Labor, 2006). In order to meet the demands of all medical and rehabilitation settings, recruitment and retention of psychologists within these settings is important. Recruitment and retention efforts can be enhanced with knowledge about the kind of individual that is likely to be satisfied in these jobs, and by knowledge of particular strategies that target job satisfaction. General job satisfaction literature to date has suggested a strong relationship between personality traits and job satisfaction (Connolly & Viswesvaran, 2000; Iles & Judge, 2003; Judge, Heller, & Mount, 2002; Lent, Brown & Hackett, 1994). However, Lent (2008) has indicated that a direct link between personality traits and job satisfaction is likely too simplistic and the relationship is probably mediated by other variables. Extending upon Lent's line of questioning, the major premise of this research was that the relationship between personality characteristics and job satisfaction for psychologists treating trauma victims in medical settings is likely mediated by two important variables, coping style and low burnout. Specifically, this study tested two models of mediated relationships linking personality traits with job satisfaction through coping responses and burnout.

A national sample of 141 randomly selected psychologists belonging to the American Psychological Association (APA) who identified as having a doctoral degree,

being in direct patient care, and working in Veterans Administration, general acute care, or rehabilitation hospitals served as the sample population, completing questionnaires regarding personality, coping, burnout and job satisfaction. Results indicated that overall, the sample of psychologists were largely satisfied in their jobs, exhibited low burnout, and were high in traits of Conscientiousness and low in traits of Neuroticism. The use of support coping was moderate. Statistical support was demonstrated for a model that suggests that the relationship linking personality traits with job satisfaction is mediated by low burnout but not coping responses. A fully mediated model linking personality traits with job satisfaction through low burnout with no direct relationship for personality traits best represented the results found from this sample of psychologists working in medical institutions with trauma clients.

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## DEFINITION OF TERMS

The following are operational definitions of terms relevant to this study:

1. Psychologists: Clinicians with doctoral degrees in Clinical, Counseling or School Psychology who self-identify as presently working within an acute care, Veteran's Administration, or rehabilitation hospital with victims of psychological or physical trauma on an inpatient or outpatient basis, have direct client contact with victims of trauma, have had at least one year of experience in the same job status and identify as full-time.
2. Direct contact – Face to face treatment time with client or client's family members; does not include assessment time.
3. Physical Trauma – serious and body altering physical injury resulting from blunt force or penetrating external factors.
4. Psychological Trauma – emotional or psychological injury, resulting from an extremely stressful or life-threatening situation.
5. Job Satisfaction: Average score of 6 or above on Job Satisfaction Index (Appendix E) is considered overall job satisfaction.
6. Burnout: Average score of two subscales of Copenhagen Burnout Inventory. Positive burnout is considered a score of 50 or above (Appendix D).
7. Personality Traits: Mean score obtained on each scale of Extraversion, Conscientiousness, or Neuroticism. Scores above the mean (3) indicate a positive finding of that particular trait.
8. Coping Responses: Score of 2 or above on each subscale used in this study

from the BRIEF COPE or COPE Inventory will indicate that the respondent *does* engage in that particular coping response (Appendix C).

Psychologists working with trauma victims: Do coping responses and low burnout mediate the relationship between personality traits and job satisfaction?

## CHAPTER 1: Statement of the Problem

### *Introduction*

There is increased need for psychologists that work in medical and rehabilitation settings in the United States (United States Department of Veterans Affairs, 2008; U.S. Department of Labor, 2006). According to the U.S. Department of Labor (2006), the need for psychologists employed in health care will increase by over 26% over the next 10 years. Similarly, the need for psychologists employed in general medical and surgical hospitals will increase by over 10% by the year 2016. Even more striking is the projection that psychologists employed to provide services for the elderly or persons with disabilities could increase by more than 57% by 2016. The head of the VA hospital system, which is the largest single employer of psychologists in the U.S. (American Psychological Association Practice Organization, 2008), has stated that mental health care is presently a “top priority” (Editorial, 2007). The Department of Veterans Affairs added \$5 Million to their budget to expand the training of more psychologists (United States Department of Veterans Affairs, 2008) subsequent to an ongoing VA initiative to improve recruitment and retention of psychologists (<http://APApractice.org>, 2008). In order to meet the demands of all medical and rehabilitation settings, recruitment and retention of psychologists in these specialty areas of practice and/or within these specific settings will be important.

Recruitment efforts can be enhanced with knowledge about the kind of individual that is most likely to be satisfied in these jobs. Retention efforts can be enhanced by

knowledge of particular strategies that are likely to increase job satisfaction. Current literature examining psychologists has identified person-specific characteristics (Connolly & Viswesvaran, 2000; Iles & Judge, 2003; Judge, Heller, & Mount, 2002; Lent, Brown & Hackett, 1994), client-specific characteristics (Maslach, 1982; Shinn, Rosario, Morch, & Chestnut, 1984), and work-specific characteristics (Spector, 1997) that predict job satisfaction but the focus has been on the contributions of client characteristics and work-related factors across settings (Lent, 2008). Little research has focused on person-specific traits of psychologists within specifically defined work environments, such as medical or rehabilitation hospitals. General job satisfaction literature to date has suggested a strong relationship between personality traits and job satisfaction (Connolly & Viswesvaran, 2000; Iles & Judge, 2003; Judge et al., 2002; Lent et al., 1994); however, Lent (2008) has indicated that a direct link is likely too simplistic and the relationship is probably mediated by other variables. Extending upon Lent's line of questioning, the major premise of this research is that the relationship between personality characteristics and job satisfaction for psychologists in institutional settings is likely mediated by two important variables, coping style and low burnout.

Literature to date indicates that work within institutional settings (Nakagawa, 1993; Rupert & Morgan, 2005) and direct contact with victims of trauma (James & Gilliland, 2005) are two factors that independently contribute to job stress and job dissatisfaction due to the high risk of job burnout these factors introduce. Thus, in a population of psychologists who face these job conditions, factors that decrease the risk of burnout are likely to increase job satisfaction. For example, the extant literature on burnout suggests that certain coping responses lead to a decreased risk of burnout.

Additionally, current research indicates that certain personality traits contribute to lowering the risk of burnout directly. Consequently, this study hypothesizes that coping responses and low burnout mediate the relationship between personality traits and job satisfaction in a population of psychologists who work with trauma victims in hospital settings. Specifically, this study will test two models; one model in which personality traits and job satisfaction are mediated by both coping responses and low burnout, and a second model in which the relationship is only partially mediated (see Figure 1). The first model suggests a fully mediated relationship linking personality traits with job satisfaction through both coping responses and burnout. The second model suggests a partially mediated relationship where personality traits also have a direct effect on job satisfaction.

#### *Personality Predictors of Job Satisfaction*

A review of the job satisfaction literature reveals that many variables have been linked to job satisfaction. Major categories include work conditions (Spector, 1997); person-environment fit variables (Dawis, 2005; Holland, 1997); overall life satisfaction (Heller, Judge, & Watson, 2002; Heller, Watson, & Iles, 2004); and variables of personality and affective traits (Connolly & Viswesvaran, 2000; Iles & Judge, 2003; Judge et al., 2002; Lent et al., 1994).

A number of recent models of work satisfaction attempt to integrate both person and situation perspectives on job satisfaction. These models focus to different degrees on the role of personality in job satisfaction, both as a direct effect and as a mediator to job satisfaction (Lent, 2008). The link from personality traits to job satisfaction was first demonstrated by Staw, Bell, and Clausen (1986) showing that the dispositional traits of

teenagers correlated significantly ( $r = 0.35$ ;  $p < .01$ ) to job satisfaction indices of these same teenagers when they were surveyed nearly 40 years later. These findings indicated that personality traits, which are considered to be essentially stable over time, are predictive of job satisfaction throughout one's career. The Big Five, a structural model of personality, has been used throughout the literature to predict significant life outcomes, including job performance and satisfaction (John & Srivastava, 1999). Meta-analytic estimates of the relationships of the 5-factor model of personality (McCrae & John, 1992) to overall job satisfaction, using 445 correlations from 163 independent samples estimated that true score correlations with job satisfaction were  $-.29$  for Neuroticism,  $.25$  for Extraversion,  $.26$  for Conscientiousness,  $.17$  for Agreeableness, and  $.02$  for Openness. However, when using regression techniques to regress job satisfaction onto each of the Big Five traits, only the three most strongly meta-analytic correlated traits, Neuroticism, Extraversion and Conscientiousness, were found to be significant predictors of job satisfaction.

Brief and Weiss (2002) attempt to explain the trait-job satisfaction relationship and stipulated that Neuroticism and Extraversion are reflective of negative affectivity and positive affectivity, respectively. Therefore, these traits correlate to job satisfaction because those people with negative affect are prone to a variety of negative mood states, such as anxiety, depression, hostility and guilt, and will experience negative events as more impactful. Conversely, those with positive affect are prone to describe themselves and their situations as happy, cheerful, and enthusiastic and will experience positive events as more impactful. However, a direct relationship between personality traits and job satisfaction is unlikely given that situational and cognitive variables have been found



to predict job satisfaction independently of traits (Weiss, Nicholas, & Daus, 1999). Specific variables which mediate the relationship between job satisfaction and personal traits needs to be explored (Lent, 2008) and it is likely that trait-satisfaction relationships operate through “multiple channels” (Brief & Weiss, 2002, p. 286). Within populations of helping professionals that work with trauma victims in institutional settings, such as rehabilitation or medical hospitals, the current literature indicates that the high risk of burnout is a significant factor that negatively affects job satisfaction. Therefore, it is likely that burnout itself, as well as factors that effect burnout, mediate the relationship between personality and job satisfaction.

*Burnout.* Helping professionals are prime candidates for experiencing burnout (James & Gilliland, 2005). Many studies have investigated the relationship between human service workers working with trauma victims and burnout symptoms experienced by the helper (Clanton, Rude & Taylor, 1992; Elliott, Shewchuk, Hagglund, Rybarczyk, & Harkins, 1996; Maslach, Schaufeli, & Leiter, 2001; Ogus, 1990; Piedmont, 1993; Pines & Maslach, 1978; Shinn, Rosario, Morch & Chestnut, 1984; Stav, Florian, & Shurka, 1986).

Burnout is defined as “a syndrome of physical and emotional exhaustion, involving the development of negative self-concept, negative job attitudes, and loss of concern and feelings for clients” (Pines & Maslach, 1978, p. 233). Vicarious traumatization is a transformation that occurs when the helper begins to change in a manner that mimics a client’s trauma-related symptoms, and compassion fatigue can occur when human service workers have prolonged exposure to traumatized clients who are in crisis. This traumatization and fatigue leads to the experience of burnout (James &

Gilliland, 2005). Common reasons cited for the high incidence of burnout in helping professions include historically low success rates within the human services outcomes, high workloads, and, as previously noted, working with people with severe psychological and physical traumatic problems who tend to call for tremendous amounts of the helpers' energy, resilience and hardiness (James & Gilliland, 2005).

Although no studies were found that focus specifically on sample populations of psychologists working with trauma victims, large scale burnout studies using national samples of psychologists do indicate that approximately one-third of psychologists self-identify as high in emotional exhaustion (Ackerly, Burnell, Holder, & Kurdeck, 1988; Rupert & Kent, 2007). Working with trauma patients is highly associated with burnout (James & Gilliland, 2004). Yet, within studies of psychologists, institutional settings, such as hospitals, independent of clientele, is also associated with high burnout (Rupert & Morgan, 2005; Vredenburg, Carlozzi, & Stein, 1999). A study of 748 clinical psychologists who worked at medical institutions tested the relationship of job satisfaction to job difficulty and worthiness (Nakagawa, 1993). This research suggested that reasons for dissatisfaction within a medical setting included incongruity between institutional climate and psychological work, feeling less valued by other professionals, decreased ability to function fully as a practicing psychologist, and role ambiguity in a hospital setting (Nakagawa, 1993). Earlier studies are consistent with the findings that institutional work settings may be associated with job dissatisfaction and job stress in psychologists due to factors such as ambiguity of roles, poor communication, lack of organization, and inefficiency in the work-place (Farber, 1985; Farber & Heifetz, 1981).

Therefore, psychologists who work with trauma victims within hospitals settings are at high risk for encountering both client and work-setting job stressors that contribute to the experience of burnout. Since burnout has been empirically associated with decreased job satisfaction (Best, Downey, & Stapleton, 2005; Maslach et al., 2001), mitigation of burnout seems essential for resultant job satisfaction. Factors that mitigate burnout in such circumstances, such as coping responses, are likely to contribute to the recruitment and retention of psychologists in such circumstances.

#### *Coping Responses and Burnout*

Burnout “occurs when the stress becomes unmediated and the person has no support systems or other buffers to ease the unrelenting pressure” (Farber, 1983, p. 14). Higher use of coping in general has been empirically correlated to lower stress (Decker & Borgen, 1993), thereby, mitigating the symptoms of burnout. Specific coping responses that have been empirically correlated to decreased burnout include acceptance (Ogus, 1990) perceived tolerance (Elliott et al., 1996), restraint coping such as delayed gratification and regulation of internal processes (Clanton et al., 1992); cognitive reinterpretation (Jenaro, Flores, & Arias, 2007), psychological distancing during time off work (Clanton et al., 1992; Sonnentag & Ute-Vera, 2005), and the use of planning (Jenaro et al., 2007; Ogus, 1990). It is important to note that the use of some of these same coping responses have been linked to certain personality traits.

#### *Personality Traits and Coping Responses*

Significant correlations have been shown to exist between personality traits and coping indicating that personality often influences the way in which one copes with life’s challenges (Connor-Smith & Flachsbart, 2007; Deneve & Cooper, 1998; Pearlin &

Schooler, 1978; Sheier & Carver, 1987). A meta-analysis using 2,653 effect sizes drawn from 165 samples and 33,094 participants (Connor-Smith & Flachsbart, 2007) assessed relationships between Big Five personality traits and coping. All 5 traits predicted specific strategies. Examining traits that predict job satisfaction, Extraversion significantly and positively predicted problem-solving (mean  $r = .20$ ), cognitive restructuring (mean  $r = .22$ ), mixed social support (mean  $r = .24$ ), emotion regulation (mean  $r = .03$ ), distraction (mean  $r = .09$ ), and acceptance (mean  $r = .02$ ). Conscientiousness also significantly ( $p < .001$ ) and positively predicted problem-solving (mean  $r = .30$ ), cognitive restructuring (mean  $r = .20$ ), acceptance (mean  $r = .07$ ) and mixed social support (mean  $r = .09$ ). These same coping responses, except distraction, were found to be significantly and negatively correlated to Neuroticism. Distraction, as a coping response, was found to be significantly and positively correlated to both Neuroticism and Extraversion and may need to be considered contextually versus predicted by core traits.

In summary, personality traits that are known to predict job satisfaction may also predict certain coping responses. Specifically, those coping responses are acceptance, cognitive restructuring, active problem solving, use of social support, and restraint coping (such as emotional regulation or delayed gratification). Interestingly, these same personality traits have also shown to have an empirically supported direct relationship with burnout.

#### *Personality Traits and Burnout*

There is evidence to support a strong negative relationship between certain personality traits and burnout. Zellars, Perrewe, Hochwarter, and Anderson (2006)

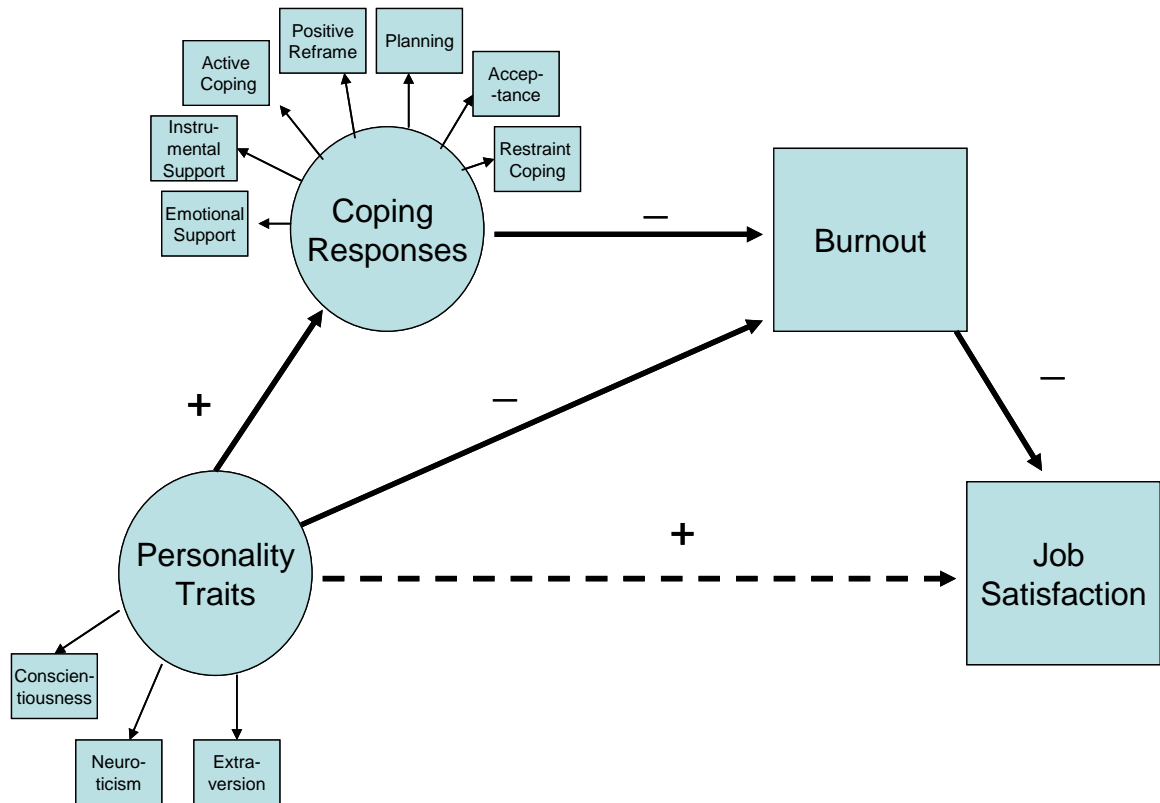
surveyed 188 nurses from a large metropolitan hospital. Their findings indicate that positive affect and emotional exhaustion are negatively correlated ( $r = -.38; p < .01$ ). Interestingly, a multiple regression analysis indicated that a significant interaction between the personality traits, conscientiousness and positive affect, was found on emotional exhaustion, explaining 2% of the variance. Specifically, as conscientiousness increased, the negative relationship between positive affect and emotional exhaustion strengthened. Conversely, as conscientiousness decreased, the relationship between positive affect and emotional exhaustion weakened. The authors suggest that the perseverance that accompanies conscientiousness may strengthen the optimism that accompanies positive affect thereby, protecting from job stress and emotional exhaustion. This relationship may also explain the combination of personality traits that predict job satisfaction, particularly in those who encounter significant job stressors. The authors speculate whether the interaction of the two traits influence coping skills in response to stress. This study hypothesizes that coping responses mediate the relationship between personality traits and burnout.

### *Research Hypothesis*

Although personality traits have been shown to predict job satisfaction (Heller et al., 2004; Judge et al., 2002), less is known about the mediators through which they are linked to job satisfaction (Lent, 2008). Research has shown that personality traits predict coping responses, burnout and job satisfaction. Additionally, it has been demonstrated that in a population of health providers that work with victims of trauma, particularly in hospital settings, the risk of burnout is significant, which in turn, decreases job satisfaction. However, there have been no studies to date that have empirically assessed a

mediator role for coping responses and burnout in the specific population of psychologists working with victims of trauma within hospital settings. Thus, the purpose of this study was to examine a mediated role of coping responses and burnout in the relationship linking personality traits with job satisfaction.

Specifically, the following hypothesis was tested: A fully mediated model linking personality traits with job satisfaction through both coping responses and burnout will provide a significantly better fit to the data than a model asserting only a partially mediated relationship between personality traits and job satisfaction (see Figure 1).



*Figure 1.* Conceptual Model illustrating the hypothesized mediated relationship linking Personality Traits with Job Satisfaction through both Coping Responses and Burnout (Model 1). The dotted line indicates a direct effect of Personality Traits on Job Satisfaction and suggests a partially mediated relationship (Model 2).

## CHAPTER 2: Review of the Literature

### *Introduction*

There is a growing recognition, both within psychology and medicine in general, that psychological services are essential in the treatment of the whole person. The clinical effectiveness of the use of psychological principles within medical settings is, in part, based upon the strengths of the scientist-practitioner tradition (Walker, 1981). With the success of psychology in medical and health settings, health psychology has become an emerging specialty (Sheridan et al, 1988). These developments have led to an increase in the number of psychologists employed in medical settings; particularly due to their expertise in diagnosis and treatment of cognitive impairments and Post Traumatic Stress Disorder symptoms. Presently, approximately 21%, or 35,000, psychologists work in health care (U.S. Department of Labor, 2007) and nearly 20% of 2001 graduates from doctoral psychology programs work in hospitals (APA Online, 2003). However, the need for psychologists in medical settings is growing, particularly in settings that treat patients who have experienced traumatic injuries (United States Department of Veterans Affairs, 2008; U.S. Department of Labor, 2006). Additionally, according to military mental health experts, over 75% of active soldiers in Iraq could be seriously injured or killed (Veterans for America, 2007). As a result, it is hypothesized that approximately 30 to 49% of veterans in high combat situations will develop mental health problems prompting the head of the VA, James Nicholson, to declare that mental health care of veterans a “top priority” (Editorial, 2007). This priority has led to increased demand for psychologists in rehabilitation and medical settings and a need for improved efforts in recruitment and retention of psychologists these settings. Career theory (Parsons, 1909) generally informs



us that recruitment and retention may be enhanced by focusing efforts on potential and present employees that are most likely to attain satisfaction in a job or career.

### *Job Satisfaction*

Vocational psychology and industrial-organizational psychology have long studied job satisfaction. Organizational research has focused on work-related aspects of job satisfaction that promotes productivity and role engagement (Fritzsche & Parrish, 2005). By contrast, vocational psychology has tended to focus on person-focused aspects (Lofquist & Dawis, 1984). Yet, these foci can be viewed as more complementary than competing since job satisfaction and retention are often shared interests of both vocational and occupational psychology fields. However, research has been focused more on what drives career choice, versus how one feels or fares afterwards. Still, reviews of job satisfaction after time on the job and associated factors have appeared in the extant literature over the years (Dawis, 2005; Holland, 1997, Lofquist & Dawis; Walsh & Eggert, 2005).

Job satisfaction has been described as an attitudinal construct (Brief, 1998), or an emotional state resulting from a subjective appraisal (Locke, 1976) or simply the extent to which people like their jobs (Spector, 1997). Most measures of job satisfaction are self-report measures that ask people to report on how they feel about their jobs, indicating both a cognitive and affective component to job satisfaction (Brief & Weiss, 2002). Job satisfaction can be measured as an overall construct or as a measure of subdimensions of job satisfaction. The Job Descriptive Index (JDI; Smith, Kendall, & Hulin, 1969), one of the most commonly used measures of job satisfaction (Rain, Lane, & Steiner, 1991), was designed to measure five subdivisions of work satisfaction: satisfaction with work,

supervision, coworkers, pay and promotion. A meta-analysis review of the construct validity of the JDI concludes that the JDI is appropriate when subdimension measures are desired but is may not be an appropriate measure when overall job satisfaction is sought (Kinicki, McKee-Ryan, Schriesheim, & Carson, 2002). More recent literature involving measures of job satisfaction, and those most relevant to this study, have used a modified version of the Brayfield-Rothe (1951) scale of Job Satisfaction (Judge, Locke, Durham, & Kluger, 1998) to capture the overall construct of job satisfaction. This scale has demonstrated high convergent validity with a composite measures of the JDI (.87; Smith et al., 1969) and was designed to measure overall job satisfaction versus specific subdimensions of satisfaction.

Factors associated with job satisfaction are numerous. Job satisfaction as a construct itself is often viewed as an element of subjective well-being, which may be defined as life satisfaction plus the presence of positive affect plus the absence of negative affect (Lent & Brown, 2006). Therefore, life satisfaction and job satisfaction are often found to covary significantly. In a meta-analytic review of 34 studies ( $n = 19,811$ ), Tait, Padgett, & Baldwin (1989) report a correlation of .44 between life satisfaction and job satisfaction, supporting notions that work and life boundaries are often permeable. Social ties and moods at work have also been shown to carry over into non-work hours (Judge & Iles, 2004; Rain et al., 1991). Causal paths between life and job satisfaction have been hypothesized to be bi-directional (Heller et al., 2004), however, the idea that they mutually influence one another is an accepted notion (Rain et al., 1991). It is likely that the causal path may depend on the importance of one's job in one's overall life.

There are multiple other variables that have been linked to job satisfaction. Work conditions, social cognitive variables (such as goals and self-efficacy), and personality and affective traits are the most common factors linked to job satisfaction. Work conditions that can influence job satisfaction include employee perceptions, leadership practices and decision-making processes, working relationships among employees, appraisal and recognition processes, and work roles (Carr et al., 2003). A meta-analysis of 51 empirical studies and 70 samples conducted by Carr, Schmidt, Ford, and Deshon (2003) found that there was an overall correlation of .46 between social climate and job satisfaction.

Social cognitive variables include a number of cognitive, behavioral and environmental variables that have been encompassed by Bandura's social cognitive theory (Bandura, 1986). These variables are goals and goal-directed behavior, self-efficacy, outcome expectations, and environmental supports and barriers. The majority of social cognitive research has focused on self-efficacy as a predictor of job satisfaction. Judge and Bono (2001) performed a meta-analysis of 135 studies, using studies that reported a relationship between four dispositional traits to job satisfaction. Those four traits were self-esteem, generalized self-efficacy, locus of control and emotional stability. Correlations ranged from  $p = .24$  (emotional stability and self esteem) to  $p = .45$  (generalized self-efficacy). Individual studies have found similar relationships between self-efficacy and job satisfaction (Caprara, Barbaranelli, Borgogni, & Steca, 2003; Chen, Goddard, & Casper, 2004).

However, one of the more stable set of traits associated with job satisfaction is personality traits (Staw et al., 1986). Personality traits that have been found to be

significant predictors of job satisfaction include extraversion, neuroticism, and conscientiousness (Judge et al., 2002), and positive and negative affectivity (George, 1992).

### *Personality Traits as Predictors of Job Satisfaction*

The first documented empirical link between job satisfaction and personality traits was first published by Staw et al.(1986), in a longitudinal study investigating the lives of 248 individuals who were followed for over 50 years, in which measures of affective disposition from as early as adolescence were used to predict job satisfaction in later years. Results indicated that overall, dispositional traits of teenagers correlated significantly ( $r = .35$ ;  $p < .01$ ) to job satisfaction after a 50 year time span.

Connolly and Viswesvaran (2000) conducted a meta-analytic study of correlations between positive and negative affect with job satisfaction and reported a correlation of -.33 with negative affect and .49 of positive affect. Positive affectivity generally reflects the propensity to experience positive states, such as enthusiasm, confidence and cheerfulness; Negative affectivity reflects individual tendencies to experience aversive emotional states, such as fear, hostility and anger (Iles & Judge, 2003). Numerous correlational studies have found that job satisfaction is significantly and positively associated with positive affect and/or significantly and negatively associated with negative affect (e.g., Brief, Burke, George, Robinson, & Webster, 1988; Chen & Spector, 1991; George, 1992; Levin & Stokes, 1989). In a longitudinal study, George (1992) reported that negative affect and positive affect predicted job satisfaction two years later.

The Big Five personality dimensions represent personality at a broad level of abstraction and each dimension includes a large number of distinct personality traits.

Conscientiousness measures impulse control that facilitates task and goal-directed behavior. Extraversion measures traits related to activity and energy, dominance, sociability, expressiveness and positive emotion. Neuroticism contrasts stability with anxiety, sadness, irritability, and nervous tension (Goldberg, 1981). Judge, Heller, and Mount's (2002) conducted a meta-analytic study using 334 correlations from 168 independent samples and found that as a set, the Big Five traits had a collective correlation of .41 with job satisfaction. Strongest correlates with job satisfaction were extraversion, neuroticism and conscientiousness with estimated true score correlations (*p*) of .25, -.29, and .26 respectively. However, only results from Neuroticism and Extraversion generalized across studies. In approximately 10% of studies, Conscientiousness was found to be either zero or negative. Extraversion, neuroticism and conscientiousness are part of the five-factor structure of personality traits known as the Big Five (Goldberg, 1981).

Using the meta-analytic estimates of the relationships between the job satisfaction and the Big Five traits (Judge et al., 2002) and the meta-analytic estimates of the relationship between positive affectivity - negative affectivity traits and job satisfaction (Connolly & Viswesvaran, 2000), Iles and Judge (2003) concluded that Big Five personality factors and affectivity together account for 29% of the variance in job satisfaction. Yet, there is evidence that the effect of positive and negative affectivity is essentially captured through the measurement of neuroticism and extraversion. A metaanalysis conducted by DeNeve and Cooper (1998) indicate that affective dispositions can generally be mapped onto the Big Five framework. Neuroticism was the strongest Big Five predictor of negative affect and predicts negative affectivity with an overall of

$r = .27$ . Extraversion and positive affectivity, as reported by DeNeve and Cooper may be correlated to as high as  $.71$ .

In summary, although there are numerous variables that contribute to job satisfaction, enduring and rather stable person-specific traits that significantly correlate to job satisfaction are personality traits as measured by the Big Five dimensions. The three most highly correlated traits to job satisfaction are Neuroticism, Extraversion, and Conscientiousness. However, studies that link these traits to psychologists that are satisfied in their jobs were not found in a literature review. Yet, there were studies available that inform the reader as to general satisfaction experienced by employed psychologists.

#### *Psychologists Job Satisfaction*

A review of the literature maintains that employed psychologists are generally satisfied in their careers (Prochaska & Norcross, 1983; Walfish, Moritz, & Stenmark, 1991; Walfish, Polifka, & Stenmark, 1985). Prochaska and Norcross (1983) completed a national survey of psychotherapists' characteristics, practices, orientations, and attitudes, finding that over 90% of psychologists expressed satisfaction with their career choice. Walfish et al. (1985) surveyed 120 recent graduates of training programs in clinical psychology. The mean age of the subjects was 30.8 and averaged 1.5 years of experience. In this sample, 85% indicated that if they had it to do over again, they would choose psychology as a career. In a follow-up longitudinal study conducted by the same authors (Walfish et al., 1991) with the same sample population (with a 94% return rate) 89.4% indicated that they would still choose psychology as a career.

Fagan, Ax, Liss, Resnick, and Moody (2006) completed a national survey of postdoctoral psychology residents, internship/residency training directors and psychologists, which included collecting data on work-setting. Although their results indicate that between 77 and 80% of 476 respondents would become a psychologist again, the bulk of their sample self-identified as working in independent practices or university settings, with only 13% of respondents in medical centers or VA hospitals. However, note that these studies make no differentiation between respondents in different job settings and the focus was on ‘career’ satisfaction versus ‘present job’ satisfaction.

The results of the few studies that examined satisfaction of psychologists in specific work settings suggest that psychologists that work in particular settings, such as hospitals, or psychologists that work with particular clients, such as trauma victims, may be at risk for experiencing less job satisfaction (Nakagawa, 1993; Rupert & Morgan, 2005) due to job burnout.

### *Job Burnout*

Burnout is defined as “a syndrome of physical and emotional exhaustion, involving the development of negative self-concept, negative job attitudes, and loss of concern and feelings for clients” (Pines & Maslach, 1978, p. 233). Burnout “occurs when the stress becomes unmediated and the person has no support systems or other buffers to ease the unrelenting pressure” (Farber, 1983, p. 14). Burnout is often measured as a triad comprised of depersonalization, a reduction of personal accomplishment and emotional exhaustion (Maslach & Jackson, 1986), with emotional exhaustion being the most severe stage of burnout (James & Gilliland, 2005). Research suggests that a factor common to most workers in human services, that often negatively influences job satisfaction, is the

high incidence of job burnout (Freudenberger & Robbins, 1979; Farber, 1985; James & Gilliland, 2005). Burnout may be a job stress reaction among human service professions that can result from demanding and emotionally infused interactions with clients (Maslach, 1982).

There is evidence to support that health care workers that treat trauma patients, specifically, are at risk for high stress and burnout (Farber, 1983; Jenaro et al., 2007; James & Gilliland, 2005; Elliott et al., 1996; Stav et al., 1986). Jenaro et al. (2007) surveyed 211 Spanish human service practitioners using the Maslach Burnout Inventory to capture measures of emotional exhaustion. An analysis of variance test showed significant differences between those who were satisfied in their jobs and those who were not based on emotional exhaustion scores ( $F = 8.569, p < .004$ ). Best et al. (2005) collected data from 859 health care employees. Using five items taken from the Brayfield-Rothe (1951) scale of job satisfaction and the Maslach Burnout Inventory, covariance matrices were calculated indicating that job burnout and job satisfaction were negatively correlated ( $r = -.60$ ).

There is also evidence to support the idea that psychologists, and other health care providers who work with trauma patients, are at risk for high stress and burnout on the job. A survey of counselors that work with trauma victims in British Columbia indicated that out of 161 respondents, 14% experienced high traumatic stress levels, 16% had developed high levels of intrusive symptoms, and 37% had developed high levels of avoidance symptoms (Arvay & Uhlemann, 1996). Shinn et al. (1984) conducted a survey of 141 psychologists, social workers, psychiatrists, nurses, and pastoral counselors from a statewide professional society for group therapists investigating the effects of job stress.



Eighty-four percent of respondents identified as being involved in direct client care. Respondents indicated that a significant source of stress resulted from relationships with clients who make emotional demands, fail to improve, or are otherwise difficult to work with, characteristics common to victims of trauma.

Clearly, there is evidence to support the idea that working with the subset of patients, trauma victims, can increase the risk of job burnout. There is also evidence to support that certain work settings experienced by employees that treat trauma victims, such as medical settings, can contribute to job burnout as well. Rupert and Morgan (2005) conducted a study of 571 psychologists who responded to a survey about work environment and burnout. Respondents were separated into three groups based on work setting; solo independent practice, group independent practice or agency. The category of agency included hospitals (general or psychiatric), community centers, outpatient clinics and counseling centers. ANCOVA results, controlling for age, were significant,  $F(2, 544) = 6.65, p = .001$ , with solo practitioners reporting lowest levels of emotional exhaustion and agency psychologists reporting the highest levels of emotional exhaustion. In this study, greater emotional exhaustion was associated with less control over work activities, working more hours, spending more time on administrative tasks and paperwork, seeing more managed care clients and fewer direct pay clients, and having to deal with more negative client behaviors.

Ackerly et al. (1988) examined correlates of burnout in a national sample of 562 psychologists employed in hospitals, clinics and private practice. They found that work setting was significantly correlated with burnout, with those in private practice

experiencing less burn out than those in the public sector. The primary work-setting reason cited for burnout was feelings of lack of control in the therapeutic setting.

Earlier literature is consistent with the findings that institutional work settings may be associated with job dissatisfaction in psychologists due to factors such as ambiguity of roles, poor communication, lack of organization or control, and inefficiency in the work-place (Farber, 1985; Farber & Heifetz, 1981). A study conducted by Stav et al. (1986) comparing burnout level of rehabilitation social workers to social workers working in social welfare agencies found that those in rehabilitation settings experienced higher burnout ratings.

Vredenburg et al. (1999) investigated the extent of burnout experienced by counseling psychologists in different work settings. Five hundred and twenty one members of the American Psychological Association responded to their survey, which included the Maslach Burnout Inventory. Results revealed that 43% worked in private practice, 29% in university settings, 10.9% in inpatient hospital settings, 7.3% in community mental health centers, and 9.8% other. Controlling for gender, marital status and age, predictor variables of primary practice setting, hours of client contact, years in present position, type of secondary practice setting, and years in current organization were tested via hierarchical multiple regression analysis. Results indicated that primary practice setting significantly contributed to burnout through both depersonalization of the client ( $\Delta R^2 = .022, p = .01$ ) and personal accomplishment ( $\Delta R^2 = .094, p < .0001$ ). Results indicated that those employed in hospital settings reported the highest levels of burnout.

A study of 748 clinical psychologists who worked at medical institutions tested the relationship of job satisfaction to job difficulty and worthiness (Nakagawa, 1993). This research suggested that reasons for dissatisfaction within a medical setting included incongruity between institutional climate and psychological work, feeling less valued by other professionals, decreased ability to function fully as a practicing psychologist, and role ambiguity in a hospital setting (Nakagawa).

In summary, the extant literature suggests that certain work settings and patient characteristics significantly contribute to job burnout. Furthermore, psychologists employed in medical settings that additionally work with victims of trauma, may have the high levels of burnout and job dissatisfaction due to reasons specific to their work environment and patient characteristics such as institutional climate, role ambiguity, feeling less valued by other professionals, and emotionally demanding clients.

Yet, despite evidence that work as a psychologist within medical settings where trauma patients are treated, may add to job dissatisfaction and burnout, large numbers of psychologists remain employed in similar settings (U.S. Department of Labor, 2007). Since the etiology of burnout can be explained, in part, as an imbalance between job demands and resources available (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), personal resources such as coping responses and personality traits, may help alleviate the effects of high job stress, therein decreasing emotional exhaustion and increasing job satisfaction.

#### *The Role of Coping Responses and Personality Traits in Burnout*

As discussed earlier in this chapter, personality traits may contribute directly to job satisfaction. However, there is also evidence that personality traits affect job

satisfaction through coping responses that, in turn, produce a negative effect on job burnout.

The literature supports a clear relationship between personality traits and coping responses. Connor-Smith and Flachsbart (2007) conducted a meta-analysis of relationships between Big Five personality traits and coping. They used 2,653 effect sizes drawn from 165 samples and 33,094 participants. Mean weighted correlations between personality and specific coping strategies, indicated that the Extraversion personality trait was positively and significantly correlated ( $p < .001$ ) to problem solving (mean  $r = .20$ ), mixed (instrumental and emotional) social support (mean  $r = .24$ ), emotion regulation (mean  $r = .03$ ), distraction (mean  $r = .09$ ), and cognitive restructuring (mean  $r = .22$ ).

Like Extraversion, the Conscientiousness personality trait was significantly and positively correlated ( $p < .001$ ) with problem solving (mean  $r = .30$ ), mixed social support (mean  $r = .09$ ), and cognitive restructuring (mean  $r = .20$ ). However, opposite from the findings with Extraversion and consistent with the findings for Neuroticism, Conscientiousness was *negatively* and significantly correlated with distraction (mean  $r = -.07$ ).

The personality trait of Neuroticism was found to be significantly and positively correlated ( $p < .001$ ) to distraction (mean  $r = .17$ ), avoidance (mean  $r = .13$ ), denial (mean  $r = .18$ ), and wishful thinking ( $r = .35$ ). However, neuroticism was significantly and negatively correlated ( $p < .001$ ) with problem solving (mean  $r = -.13$ ), mixed social support (mean  $r = -.01$ ), cognitive restructuring (mean  $r = -.16$ ), and acceptance (mean  $r = -.10$ ). Neuroticism was also significantly correlated with emotion regulation but the relationship was not negative or positive (mean  $r = .00$ ).

The same coping responses of problem solving (often referred to as active coping when paired with planning responses), acceptance, restraint coping (also referred to as delayed gratification), cognitive reframe, and support that are positively correlated to the personality traits of Extraversion and Conscientiousness have been empirically shown to have a negative effect on job burnout. Therefore, these coping responses are likely to contribute significantly to job satisfaction through its mediating negative effect on job burnout. Numerous studies have found that coping does have a significant relationship with burnout (Clanton et al., 1992; DeRijk, Leblanc, & Schaufeli, 2001; Elliott et al., 1996; Maslach et al., 2001; Ogus, 1992).

Active coping, which involves planning and proactive actions to deal with stressful situations, have been found to be significantly and negatively correlated in to burnout, often in studies involving health care practitioners (Derijk et al., 2001; Jenaro et al., 2007; Ogus, 1990). Derijk et al. (2001), in a study of 367 Dutch intensive care nurses, found active coping to be significantly ( $p < .05$ ) correlated to emotional exhaustion ( $r = -.18$ ). Ogus found similar findings in a study of 128 Canadian nurses. She found that active coping, was significantly ( $p > .001$ ) and negatively ( $r = -.33$ ) correlated to the subscale of emotional exhaustion. Emotional exhaustion was strong correlated to overall burnout scores ( $r = .91, p < .001$ ).

Acceptance is a coping strategy that has also been significantly and negatively correlated with high burnout. Elliott et al. (1996) surveyed 88 nurses, from three different sites, that worked in in-patient rehabilitation units. They found that the ability to use acceptance as a coping strategy was significantly and negatively correlated to high burnout ( $r = -.34; p < .05$ ). Furthermore, acceptance of job stress was significantly

predictive of low burnout, when entered into a multiple regression analysis ( $F_{inc}(1,84) = 9.58, R^2_{inc} = .09, p < .01$ ).

Additional coping responses that have been empirically correlated to burnout include restraint coping such as delayed gratification, ability to use cognitive reframing, and disengagement coping. Clanton et al. (1992) investigated the relationship between self-control skills and burnout among 260 rehabilitation workers. Self-control skills were defined as use of active problem-solving skills, postponement of gratification, belief that he/she can regulate internal processes, and use of disengagement responses such as cognitions to resist emotional and physiological reactions. Together, these coping responses significantly and negatively ( $r = -.42, p < .001$ , one tailed) with a measure of emotional exhaustion. Likewise, Tutton, Seers, and Langstaff (2008) conducted a 2-year ethnographic survey of staff in a trauma unit in the United Kingdom. A common theme that emerged was that nurses working with trauma patients had to “let go”, or disengage, from their feelings at work in order to maintain a positive momentum of care.

In summary, coping responses such as active coping (including problem solving and planning), acceptance, restraint coping and positive reframe are positively correlated with personality traits and negatively correlated with burnout. Disengagement strategies have mixed results in the literature, showing a negatively correlation with burnout; yet the relationship of this coping response to Conscientiousness is also negative. Therefore, although disengagement strategies may be useful ultimately affecting job satisfaction, it will not be addressed in this study. Decker and Borgen (1993) measured job stress in 249 adults in 75 occupations. Correlational analyses shows higher use of coping strategies (in general) was associated with lower job stress and higher job satisfaction. In this study,

hierarchical regression analysis indicated 46-60% of job satisfaction was accounted for by (the lack of) job stress. Shinn et al. (1984), in their survey of 141 group therapists, including psychologists, social workers, psychiatrists, counselors and nurses, found that higher level of coping strategies were reliably associated with reduced levels of job dissatisfaction. Analyses of the coping strategies indicated that social support was large responsibly for the negative relationship, with 65% of the variance in dissatisfaction being accounted for by social support ( $sr^2 = .055$ ).

There is also evidence to support a direct relationship between personality traits and burnout. A recent study conducted by Zellars et al. (2006), who examined a sample of 188 nurses employed in a large metropolitan hospital, found that positive affect and emotional exhaustion are negatively correlated ( $r = -.38; p < .01$ ). In a multiple regression analysis, positive affectivity and conscientiousness were significant for explaining 23% of the variance in job stress ( $F = 9.49, p < .01$ ). Additionally, an interaction between positive affectivity and conscientiousness were found, explaining 2% of the variance in emotional exhaustion. Specifically, as conscientiousness increased, the negative relationship between positive affect and emotional exhaustion strengthened. Conversely, as conscientiousness decreased, the relationship between positive affect and emotional exhaustion weakened.

In summary, recent demand for psychologists in rehabilitation and medical settings indicates a need for improved efforts in recruitment and retention of psychologists to these settings. A study of psychologists presently employed in these areas may help identify person-specific factors that can predict job satisfaction within these settings. Those who are satisfied in the job are likely to remain on the job longer;

therefore, knowledge of factors associated with job satisfaction can assist in the recruitment of psychologists that are more likely to “fit” within these settings, as well as contribute to job longevity. A strong empirical link between the Big Five personality traits and job satisfaction has been documented in the literature (Judge et al., 2002; Staw et al., 1986). Yet, according to Lent (2008), it is likely that the relationship between personality traits and job satisfaction is mediated by other factors.

Although psychologists are generally satisfied in their careers, an identified barrier to job satisfaction for psychologists that work in particular settings, such as medical or rehabilitation hospitals, or psychologists that work with particular clients, such as trauma victims is job burnout (Nakagawa, 1993; Rupert & Morgan, 2005). Therefore, for psychologists faced with these circumstances, coping responses that serve to alleviate the effects of job burnout may be an important mediating factor between personality traits and job satisfaction.

Personality traits have been directly correlated to a decreased risk of job burnout (Zellars et al., 2006). However, a positive correlation between personality traits and coping responses has also been empirically supported (Connor-Smith & Flachsbart, 2007); additionally, these coping responses have shown to have a significant and negative relationship to job burnout (Clanton et al., 1992; Derijk et al., 2001; Elliott et al., 1996; Ogus, 1990). Since burnout has been negatively correlated to job satisfaction (Decker & Borgen, 1993), it seems likely that personality traits may affect job satisfaction not only directly but, in certain circumstances, through its mediating effects of coping responses on job burnout. This study is designed to test these relationships.



## CHAPTER 3: Methodology

### *Experimental Design*

The purpose of this study was to refine and test a mediated model where the relationship between personality traits and job satisfaction is mediated by coping responses and low burnout, in a sample of medical psychologists working with physical and psychological trauma victims. Prior to data collection, the investigation was approved by the University's Institutional Review Board.

### *Procedures*

Participants were recruited with a letter sent to a national sample of 650 randomly selected psychologists belonging to the American Psychological Association (APA) who identified as having a doctoral degree, being in direct patient care, and working in Veterans Administration, general acute care, or rehabilitation hospitals. The initial mailing contained a cover letter (see Appendix F) describing the purpose of the surveys, the questionnaires, and a stamped return envelope. One week after initial mailing, a reminder postcard (see Appendix G) was sent as a follow-up to increase response rates. Consent was implied with return of the survey results. Response rates in prior studies using APA mailing labels to gather data were approximately 33% to 48% (Spengler, Bluestein, & Strohmer, 1990; Spengler, Strohmer, & Prout, 1990). This study yielded a return of 232 surveys resulting in a response rate of 35.7%.

### *Participants*

Of the 232 surveys that were returned, ten were returned after analysis had been completed and 49 did not meet specified inclusion criteria (i.e. worked with children or

worked in settings other than hospitals such as private practice). A sample of 173 respondents was identified as appropriate for the study.

However, because the purpose of the study was to examine the effects of both direct care with trauma clients as well as the effects of working in an institutional setting, questions arose regarding possible differences between practitioners in full- versus part-time status; as well as possible differences between practitioners that reported different numbers of direct patient contact hours. Therefore, the sample of 173 psychologists was examined for differences between those who were identified as full-time versus part-time and those who were in direct care less than 10 hours a week versus those giving direct care over 10 hours a week.

First, to address the question of whether full- and part-time psychologists differed in their responses, a two-group multivariate analysis of variance (MANOVA) was conducted. The independent variable was full/part-time status with 1 = part-time ( $n = 32$ ) and 2 = full-time ( $n = 141$ ). Scores on outcome measures (personality traits, coping responses, burnout, and job satisfaction) represented the dependent variables in the MANOVA. An  $\alpha = .05$  was used for the tests. A Bonferroni adjustment was applied due to multiple comparisons of dependent variables. Pairwise comparisons of these results indicated that a significant difference was found on subscale score of Conscientiousness (see Table 1). As a result, it was decided to drop the sample that was identified as working in a part-time status.

Table 1

*Differences between Participants who identified as Full-Time Status versus Part-Time Status on the Measured Outcome Variables (N = 173)*

Variable	<i>d</i>	$\sigma_x$	$p^a$
Neuroticism	±.24	.15	.12
Conscientiousness	±.27*	.10	.01
Instrumental Coping Support	±.21	.16	.20
Emotional Coping Support	±.17	.16	.29
Burnout	±.03	.09	.72
Job Satisfaction	±.26	.27	.34

\* = mean difference significant at .05 level; <sup>a</sup> = adjusted for multiple comparisons: Bonferroni.

After removing individuals who were part-time workers, the number of psychologists in the sample was 142. To address the question of whether number of hours of direct (under 10 hours per week compared to 10 hours per week or greater) resulted in significantly different survey results, a two-group multivariate analysis of variance (MANOVA) was conducted. The attribute variable of number of hours of work with trauma patients per week was divided into two levels (1 = less than 10 hours, 2 = 10 or more hours). Outcome scores (personality traits, coping responses, burnout, and job satisfaction) represented the dependent variables in the MANOVA. An  $\alpha$  of .05 was used for the tests. A Bonferroni adjustment was applied due to multiple comparisons. Pairwise comparisons of these results indicated that there were no statistically significant differences between the two groups (see Table 2).

Table 2

*Differences between Participants who identified as in Direct Contact with clients < 10 hours week versus > 10 hours week on Measured Outcome Variables (N = 141)*

Variable	<i>d</i>	$\sigma_x$	<i>p</i> <sup>a</sup>
Neuroticism	±.17	.14	.22
Conscientiousness	±.03	.09	.72
Instrumental Coping Support	±.01	.15	.95
Emotional Coping Support	±.11	.15	.47
Burnout	±.06	.09	.52
Job Satisfaction	±.18	.25	.48

<sup>a</sup> = adjusted for multiple comparisons: Bonferroni.

Further analysis revealed one outlier that was subsequently removed from the sample (addressed in detail in Results chapter). Of the 141 resulting participants for this study, there was a fairly equal representation of males (45.4%, *n* = 64) and females (54.6%, *n* = 77). The mean age for the sample was 51, with a standard deviation of 8.9 and a range from age 30 to age 81. One participant did not report age, but was retained in the sample since age was not a factor used to rule in or out participants. A large majority of the participants were Caucasian/White (92.3%, *n* = 131), with other ethnic representation as follows: 2.8% were African American (*n* = 4), .7% Asian/Pacific Islander (*n* = 1), .7% Hispanic/Latino (*n* = 1), and 3.5% other (*n* = 5). The most frequent degree represented was a Ph.D. (85.9%; *n* = 122) with Psy.D. representing 14.1% (*n* = 20). The majority of participants reported their area of training were in the following areas: Clinical (73.2%; *n* = 104), Counseling (22.5%; *n* = 32), School (1.4%; *n* = 2), other (2.8%, *n* = 4). The mean years of working with physical or psychological trauma

victims was 17 with a standard deviation of 8.2 years and a range from 2 years to 37 years. One participant did not report number of years worked, but was retained in the sample. The majority of participants reported their work setting to be VA hospitals (71.1%;  $n = 101$ ), with 26.8% in rehabilitation hospitals ( $n = 38$ ), 14% in general acute hospitals ( $n = 2$ ), and .7% in other ( $n = 1$ ). One hundred and forty participants reported their job status to be full time; two participants did not report their job status but indicated that they saw patients over 30 hours a week and were included in the sample. A large majority of participants reported that they saw their patients in an outpatient status (69%;  $n = 98$ ), 44 indicated they saw their patients in an inpatient capacity (31%). Time in direct contact with patients was reported as 44 seeing their clients face to face under 10 hours a week (31.4%), 45 report direct contact as 10-20 hours a week (32.1%), 36 reported weekly direct contact as 21-30 hours a week (25.7%) and 15 reporting seeing patients directly over 30 hours a week (10.7%). Two participants did not report number of weekly hours in direct contact, but were retained in the sample because they reported work status as full-time. The majority of participants reported that their clients experienced mostly psychological trauma (59.9%;  $n = 85$ ), 54 responded that their clients experienced mostly physical trauma (38.0%) and three participants indicated their clients experienced physical and psychological trauma (2.1%) equally. Table 3 presents a summary of sample demographic characteristics.

Table 3

*Demographic Characteristics of the Sample (N = 141)*

Characteristics	n	%
Gender		
Female	77	54.6
Male	64	45.4
Ethnicity		
Caucasian/White	131	92.3
African-American	4	2.8
Asian/Pacific Islander	1	0.7
Hispanic/Latino	1	0.7
Other	4	3.5
Degree		
Ph.D.	121	85.9
Psy.D.	20	14.1
Area of Training		
Clinical	104	73.2
Counseling	32	22.5
School	2	1.4
Other	3	2.8
Work Setting		
VA Hospital	101	71.1
Rehab Hospital	37	26.8
General Acute Care Hosp	2	1.4
Other	1	0.7
Job Status		
Full	141	100.0
Setting		
Outpatient	98	69.0
Inpatient	44	31.0
Time in Direct Contact		
< 10 hours week	44	31.4
10-20 hours week	45	32.1
20-30 hours week	36	25.7
< 30 hours week	15	10.7
Type of Trauma		
Psychological	85	59.9
Physical	54	38.0
Mixed	3	2.1

### *Sample Size*

Structural equation modeling (SEM) was used for statistical analysis. Kline (2005) suggests that samples with fewer than 100 participants are considered small sample sizes, those with 100 to 200 are medium, and those with more than 200 are large. Kline also states that sample size can be calculated using model complexity and the participant-to-parameter ratio. He cautions that a participant/parameter ratio that is less than 5:1 may have doubtful statistical precision. Therefore, a minimal acceptable participant/parameter ratio would be 5:1 for this study. As initially proposed, the full model in this study would have included 27 estimated parameters; therefore, a minimum of 135 participants would have been needed (Kline, 2005). However, as discussed in the results section more thoroughly, respecification of the model resulted in nine estimated parameters requiring minimum of 45 participants, using Kline's recommendations. The sample size used in this study was 141 participants, exceeding Kline's minimum recommendations.

### *Measures*

Participants were asked to complete the following measures: a demographic questionnaire (Appendix A); the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991; Appendix B); six subscales from the Brief COPE scale (Carver, 1997) and one subscale from the full COPE Inventory (Carver, Scheier, & Weintraub, 1989) combined into one questionnaire (Appendix C); the work and client subscales from the Copenhagen Burnout Inventory (CBI; Borritz & Kristensen, 1999; Appendix D); a 5-item index that Judge et al. (1998) adapted from the Brayfield-Rothe (1951) scale of job satisfaction (Appendix E). Time to complete all of the surveys was approximately 15 minutes.

*Demographic variables.* Demographic information (Appendix A) collected for each participant included age, gender, race/ethnicity, degree, educational background, and number of years working with trauma clients. Participants also reported the setting where they saw the majority of their trauma clients (Veterans Administration, rehabilitation or acute care hospital), functional status (full-time, part-time, hospital privileges), and whether trauma clients seen were typically of inpatient or outpatient status. Lastly, information was collected to determine number of hours per week each participant spent in direct contact with victims of trauma and the type of trauma the majority of victims experienced (psychological, physical, or both).

*Personality traits.* This construct was operationalized as three scales of Extraversion, Conscientiousness and Neuroticism as measured by the Big Five Inventory (BFI; John et al., 1991). The BFI (Appendix B) consists of 44 items that capture the variance in the five-factor structure of personality traits known as the Big Five (Goldberg, 1981).

Evidence for the Big Five Inventory has been obtained across multiple data sources, samples, and instruments (Benet-Martinez & John, 1998; Goldberg, 1993; McCrae & John, 1992; Worrell & Cross, Jr., 2004). The Big Five dimensions represent personality at a broad level of abstraction and each dimension includes a large number of distinct personality traits. The BFI was constructed to maximize efficiency and flexibility in measurement of the five dimensions, with items development via expert ratings and factor analysis (John et al., 1991).

The five subscales of the BFI are Extraversion (8 items), Agreeableness (9 items), Conscientiousness (9 items), Neuroticism (8 items), and Openness (10 items).



Conscientiousness measures impulse control that facilitates task and goal-directed behavior. Extraversion measures traits related to activity and energy, dominance, sociability, expressiveness and positive emotion. Neuroticism contrasts stability with anxiety, sadness, irritability, and nervous tension. Neither Agreeableness nor Openness will be used as part of this study since these subscales have not shown predictive relationships to job satisfaction (Judge et al., 2002). The BFI provides the sentence stem: “I see myself as someone who is....”, and then asks the respondent to rate each sentence ending such as “is talkative” on a 1-5 scale with 1 being disagree strongly and 5 being agree strongly. Sentence endings are based on prototypical trait adjectives related to each construct (John & Srivastava, 1999). Subscale scores were computed by reverse scoring some items, summing the ratings for the items on each subscale, and then dividing by the total number to obtain a mean score. John and Srivastava (1999) reported Chronbach alpha’s from .75 to .80 for subscales and 3 month test-retest reliabilities from .80 to .90. Validity coefficients with the NEO FFI (Costa & McCrae, 1992) averaged .91 for Extraversion and Conscientiousness, and .88 for Neuroticism (John & Srivastava).

Worrell and Cross, Jr. (2004) examined reliability and validity scores of the BFI in a sample of 337 African American college students. Internal consistency estimates for the BFI subscales ranged from .70 to .83 for this population. Structural validity analysis using exploratory factor analysis indicated factor loadings that supported the overall five factor structural model; factor loadings ranged from .65 to .81.

Because of their demonstrated empirical relationships to job satisfaction, the three subscales that were expected to be used in this study were Extraversion, Conscientiousness and Neuroticism (Judge et al., 2002). These three subscales were

expected to be contributors to the latent (unobserved) variable Personality Traits. Individual responses on Neuroticism were reverse scored to reflect the positive relationship of low neuroticism to job satisfaction.

*Coping responses.* The COPE Inventory was developed to assess a broad range of coping responses. Development of the COPE Inventory was based on rational design and factor analysis (Carver et al., 1989). It can be adapted to reflect either trait or dispositional coping responses. The COPE Inventory has 15 subscales, each comprised of 4 items. The 15 subscales were originally associated with three latent (unobserved) factors; emotion-focused coping, problem-focused coping and maladaptive coping. However, latent factor loadings have been shown to differ with different samples (Greer, 2007; Jacobson, 2004; Litman, 2006).

The abbreviated version of the COPE, the Brief COPE (Carver, 1997) was created to meet time constraints or high response burdens. Subscales included in the BRIEF COPE are Self-Distraction/Mental Disengagement, Active Coping, Denial of Substance Use, Use of Emotional Support, Use of Instrumental Support, Behavioral Disengagement, Venting, Positive Reframing, Planning, Humor, Acceptance, Religion, and Self Blame. The BRIEF COPE, adapted from the Cope Inventory, omitted two scales from the COPE inventory, Restraint Coping and Suppression of Competing Activities Scales, and narrowed questions from 4 per scale to 2 for the remaining 14 scales. Each item is answered in Likert-like format, ranging from 1 (I usually don't do this at all) to 4 (I usually do this a lot). Subscale scores are generated by summing across items. Scores of six and above indicate a tendency to engage in a particular strategy.

Initial reliability and validity data for the BRIEF COPE was gathered using a sample of community residents who were participating in a study of recovery after Hurricane Andrew (Carver, 1997). The sample consisted of 168 community residents that had been seriously affected by the hurricane. Approximately 66% of the sample was female, 40% were White, 34% were African American, 17% were Hispanic, and 5% were Asian. An exploratory factor analysis on the item set using oblique rotation yielded nine factors with eigenvalues greater than 1.0, which together accounted for 72.4% of the variance in responding. All primary loadings exceeded .4; 22 of 28 were above .6; only six secondary loadings exceeded .3 and only one of them exceeded .4. Internal consistency analysis indicated that all subscales exceeded the value of .60, except the subscales of Venting, Denial and Acceptance, which exceeded the value of .50. Test-retest reliability over one year was demonstrated in a group of caretakers for loved ones with dementia ranging from .58 to .72 (Cooper, Katona, & Livingston, 2008).

For the current study, six subscales from the BRIEF COPE and the one subscale from the full COPE Inventory (Appendix C) were expected to contribute to the latent variable Coping Responses. These subscales were selected based upon empirical support of their relationships to personality traits and low burnout (Connor-Smith & Flachsbart, 2007). The subscales selected for this study included subscales of active coping (taking active problem solving steps), planning (thinking about the problem), use of emotional support (seeking empathy from others), use of instrumental support (seeking advice from others), acceptance (learning to accept the problem), and positive reframing (reframing the stressor in positive terms); and from the full COPE, restraint coping (waiting for the right moment to act). Although restraint coping was removed from the BRIEF COPE

inventory, it has shown to be significantly related to low burnout in psychotherapists in the literature (Clanton et al., 1992). The final number of individual items that were expected to be used to measure coping responses in this study were 30 (7 subscales). Items were presented in the same order as the full BRIEF COPE; however, the four items from the full COPE were inserted at fixed intervals (every 7<sup>th</sup> place) between subscale items.

*Burnout.* The Copenhagen Burnout Inventory (CBI), developed by Borritz and Kristensen (1999), was initially constructed for use in a Project on Burnout, Motivation and Job Satisfaction (PUMA) examining a national sample of 1,917 Danish human service workers. The CBI consists of three scales that measured personal burnout, work-related burnout, and client-related burnout (see Appendix D). The authors used the theoretical consideration that fatigue and exhaustion are attributed to specific domains or spheres of burnout, and identified three different scales. The personal subscale was designed to compare individuals across occupational domains. The work-related burnout subscale focuses on attribution of work, no matter the type of work it is. The client-related burnout scale focuses on burnout that is specifically attributed to burnout from work with clients.

In the initial Danish sample of 1,917 human service workers, internal consistencies reported for the CBI scales were Chronbach alpha's of .87 for Personal burnout, .87 for Work burnout, and .85 for Patient burnout. Convergent validity correlations to the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986). Exhaustion subscale for personal, work, and patient burnout were .73, .82, and .75 respectively. Follow-up measures were not taken until three years after the first set.

However, despite the extended period of time between measures, test-retest correlations for the work for the personal, work, and patient burnout scales were .54, .51 and .59, respectively.

The CBI captures the emotional and physical exhaustion associated with burnout, without introducing the concepts of Depersonalization and Personal Accomplishment, as captured by the MBI. A study conducted by Winwood and Winefield (2004) comparing the results from the MBI with the CBI in a sample of 312 Australian dentists indicated that both inventories captured essentially the same number of respondents identified with high burnout. On the MBI, overall burnout (15.5%) was essentially equal to the number scoring high on the MBI emotional exhaustion scale (16%); however, significantly fewer scored high on the MBI subscales of depersonalization (5.5%), and personal accomplishment (6.5%). On the CBI subscales, those that score overall as high on burnout (16%), were closer in number to those scoring high on the three subscales of personal, work and patient subscales (16.9%; 13.2%; and 11.7% respectively). The Winwood and Winefield study, as well as a meta-analysis by Schaufeli, Maslach, and Marek (1993) show a consistent pattern of relatively high levels of Depersonalization and reduced Personal Accomplishment associated with high levels of emotional exhaustion in study populations. This relationship may be explained by the progressive phase model of burnout, in which emotional exhaustion is the last phase and most potent indicator of burnout (James & Gilliland, 2005; Lee & Ashforth, 1996). Additionally, there is evidence that emotional exhaustion is predictive of job satisfaction, but depersonalization is not (Jenaro et al., 2007).

The scales for the CBI consist of 6 items for the patient burnout and personal burnout scales, and 7 items for the work burnout scale. Items are responded to using a Likert-like scale with scoring accomplished by assigning 100 (always), 75 (often), 50 (sometimes), 25 (sometimes), 0 (never) to each answer. Total scores are derived by averaging the item scores, where 50 and above is considered a high degree of burnout. In the PUMA project comprised of 1,917 random persons from the community at large (Borritz & Kristensen, 1999) mean scores on the patient and work burnout scales ranged from 30.9 to 35.9. For this study, the items from both scales were combined and the average score was used to represent the manifest (observed) variable Burnout (Milton, Denny, Ameratunga, Robinson, & Merry, 2008).

*Overall job satisfaction.* Overall job satisfaction was measured using a five-item subset of questions that Judge et al. (1998) adapted from the Brayfield-Rothe (1951) scale of job satisfaction. This 5-item scale (Appendix E) includes the following items: “I feel fairly well satisfied with my present job,” “Most days I am enthusiastic about my work,” “Each day of work seems like it will never end” (reverse scored), “I find real enjoyment in my work,” “I consider my job rather unpleasant” (reverse scored). Internal consistency of this five-item measure was measured in a sample of 222 university employees and was .88. Convergent validity with the Job Descriptive Index (JDI; Smith et al., 1969) was reported as .87. Although the JDI is a common scale used in the much of the current job satisfaction literature, the Brayfield-Rothe (1951) scale was chosen for this study for two reasons. First, the Brayfield-Rothe scale captures a single measure of overall job satisfaction versus splintered and more specific facets of job satisfaction, as does the JDI.

Secondly, the Brayfield-Rothe scale has been used in relevant literature related to this study (Judge et al., 1998).

The Brayfield-Rothe scale of job satisfaction asks respondents to respond on a scale ranging from 0 (strongly disagree) to 10 (strongly agree), and in each case, scores for the five items are averaged to produce a single score for overall job satisfaction. Internal consistency reliabilities of .87 for a sample of 164 physicians, .92 for 122 college graduates, and .92 for 122 Israelis have been reported (Judge et al., 1998). Split-half reliability coefficient, corrected by Spearman-Brown formula, for a sample of 231 office employees was reported as .87 (Brayfield & Rothe, 1951).

#### *Reliability Analyses*

Chronbach Alpha internal consistency scores were calculated for all scales used in this study. Results indicated satisfactory internal consistency for all of the scales. The reliability of the subscales for the Impulse Control Scale was .78 for the 9-item Conscientiousness subscale and .86 for the 8-item Neuroticism subscale. The full scale combining all 17 items yielded a Chronbach's alpha of .82. The reliability of the subscales contributing to the Support Coping Scale was .86 for the 2-item Emotional Support Coping subscale and .87 for the 2-item Instrumental Support Coping subscale. Internal consistency for the full combined 4-item Support Coping Scale was .908. Reliability for the 13-item Burnout scale was .86 and for the 5-item Job Satisfaction Scale was .87.

Although all scale reliabilities indicate satisfactory internal consistency of the scales, it must be noted that the Support Coping subscales only are comprised of just two items. Although these two items are clearly highly consistent, the validity, or specifically

the ability of the scale to capture all facets of support coping may be compromised, and may negatively affect model fit, as a result.

### *Statistical Analyses*

*Structural equation modeling (SEM)*. Statistical software AMOS<sup>TM</sup> version 7.0 was used for structural equation modeling in this study. Structural equation modeling refers to a family of related procedures that are often a blend of exploratory and confirmatory analyses (Kline, 2005). Computer programs used for SEM test three basic scenarios. The first is strictly confirmatory, when a model is either accepted or rejected based on the data. The second is testing alternative models, where two models are compared. The third, and most common, is model generation, and occurs when an initial model does not fit the data and is modified, then tested again (Kline). This study is a combination of the second and third SEM scenarios, where initially a basic model is generated, and modified and tested again, with subsequent testing of alternative models that were generated based on the literature review.

Generally, there are five steps in SEM (Kline, 2005). The first step is model specification, which means that the study hypotheses are expressed in the form of a structural equation model, which is a series of equations, which are then expressed in the form of a conceptual drawing. Step one for this study resulted in two models expressing the alternative relationships derived from the literature review. These conceptual models hypothesized relationships between the variables of personality traits, coping responses and burnout to job satisfaction. One model assumed no relationship between personality traits and job satisfaction without the intervention of coping and burnout (a fully mediated model). The second model assumed that the relationship between personality



traits and job satisfaction exists independently, but is enhanced by the presence of coping and burnout (partially mediated model).

The second step is model identification, which means to ensure that it is theoretically possible for the computer program to derive a unique estimate from every model parameter. Models can be just-identified, under-identified, or over-identified. A just identified model means there are an equal number of data points (variances and covariances) and model parameters to be estimated. A just identified model results in a “perfect” fit, no matter the nature of the data because there are no degrees of freedom. An under-identified model, where there are more model parameters than data points, cannot yield a computer solution. The goal is to make sure there are a smaller number of model parameters than data points in the model so that the computer can yield a mathematical solution. The formula for determining the number of data points is  $p(p+1)$  divided by 2, where “p” is the number of observed or manifest) variables. The difference between the data points and the model parameters equals the degrees of freedom. Model identification is carried out with each change in the model.

Step three involves selecting measures (such as scales) to operationalize the variables, then collection, preparation and screening of the data. Preparation and screening of the data involves assessment of sample size, and checking for multicollinearity, outliers, and normality. It is also during this step that the issue of missing data is addressed.

Step four involves computer analysis to conduct the analysis, termed model estimation. Several things occur during this step including evaluation of model fit, interpretation of parameter estimates, and consideration of equivalent models. When the

model contains unobserved (latent) factors (as in this study), the initial model estimation is completed on a 'measurement model', which is performed to ensure that the unobserved variables (the measurement components of the analysis) accurately reflect the hypothesized latent constructs (Kline, 2005). In effect, this first model estimation represents a confirmatory factor analysis on each of the latent variables, within the overall composition of the model. When evaluating the results of the confirmatory factor analysis, there are two main features to consider when assessing the value of the model: 1) the specific parameter values (factor loadings) and, 2) the overall fit of the model. Based on these two features, a decision may be made to change or drop variables with low factor loadings.

Model estimation is completed using maximum likelihood estimation (Hoyle & Panter, 1995). Maximum likelihood estimation yields three types of factor loadings (or effects); direct, indirect, and total effects. All effects are reported as standardized regression weights. The direct effects represent the predicted variance of the independent variables directly on the dependent variable. Indirect effects (referred to as mediating effects) are approximated using the sums of the direct effect products through the intervening (mediating) variables in the model. Total effects are computed by summing the direct and indirect effects (reported as squared multiple correlation).

To assess goodness of fit of each model, the Chi-Square statistic, the Normal Fit Index (NFI), Root Mean Square Error of Approximation (RMSEA), and the Comparative Fit Index (CFI) were evaluated. The Chi-Square statistic, also called discrepancy analysis, compares the expected and observed hypothesis to determine how well predictions fit the data and should not be significant if there is a good model fit. The

Normed Fit Index reflects the proportion by which the proposed model improves fit compared to a null model; NFI values below .9 (or liberally, .8) indicate a need to respecify the model. Root Mean Square Error of Approximation (RMSEA), also called discrepancy per degree of freedom, subtracts the degrees of freedom from the chi-square; adequate fit is represented by a result of .08 or less. The Comparative Fit Index compares the proposed model fit with a null model in which the latent variables are uncorrelated. CFI varies from 0-1 and the closer the result is to one, the greater the fit (Hu & Bentler, 1995).

Step five, is to respecify the model and evaluate the fit (Kline, 2005). In this study, respecification was carried out based on model fit indices and low factor loadings, which resulted in dropping individual variables from the latent factors. These changes yielded a final measurement model comprised solely of manifest variables (Figure 4, Chapter 4).

Finally, the structural models can be updated to reflect the respecified constructs. In this study, the hypothesized relationships remained unchanged, but the constructs were modified based upon results of the measurement model estimation. The resulting fully mediated and partially mediated structural models (Figures 5 and 6, Chapter 4) were then compared for best fit.

*Chi-Square difference test.* In order to determine best fit, the Chi-Square difference test can be used, as long as one model is fully nested within the second (Quintana & Maxwell, 1999). In this study, the fully mediated model was fully nested within the partially mediated model, differing only by the single path between Impulse

Control and Job Satisfaction. Therefore, the Chi-Square difference test was conducted to determine best fit between the two models.

## CHAPTER 4: Results

### *Introduction*

This chapter presents four sections. The first section describes data preparation (missing data) and screening information (normality, linearity, and outlier assessment). Second, an overview of correlation and frequency information is presented. The third section reports steps in model generation, estimation and respecification including testing of the initial (measurement) model, interpretation, subsequent respecification of the model, and then final estimation of the resulting two models. The fourth section, model comparison, is completed using the Chi-Square difference test.

### *Data Preparation and Screening*

*Missing Data.* Because missing data may introduce bias or error into statistical results, and because SEM requires that each participant must have a score for each item to be a “participant” included in the analysis, several options were considered to address the problem of missing data, ranging from deletion of all participants with missing data to inclusion of all participants with substitution of missing data. First, t-test analyses were completed to detect any significant differences that might exist on the four scale scores between those with complete data and those with incomplete data. Results indicated no significant differences between the two groups of subjects on any of the outcome variables (see Table 4).

Table 4

*Differences between Participants with Fully Completed and Partially Completed Data on the Measured Outcome Variables*

Variable	<i>df</i>	<i>t</i>	<i>p</i>
Impulse Control	140	1.55	.12
Support Coping	140	-.51	.61
Burnout	140	-.44	.66
Job Satisfaction	140	.75	.46

Because results of the t-tests support the assumption that the data is missing completely at random, and not related to predictor variables or outcomes, data imputation can be used to replace missing data (Kline, 2005). Therefore, all participants remained as part of the sample population and missing data was substituted by imputation using regression based substitution offered in SPSS™ (version 15.0) referred to as Linear Interpolation.

Essentially, this approach uses non-missing data to predict the values of missing data (Little & Rubin, 1987).

*Data Screening.* Structural Equation Modeling (SEM) requires certain assumptions about the distributional characteristics of the data. SEM assumes multivariate normality, which means that univariate distributions should also be normal. Scatterplots were examined for linearity and homoscedasticity. Examination and elimination of outliers was considered to eliminate any skewness in the data and establish a more normal distribution pattern.

To first assess for univariate normality, frequency histograms and linear regression plots of the standardized residuals were created for each variable, and kurtosis

and skewness were examined. All variables displayed an approximate normal distribution pattern, indicating no violation in assumption of normality. Standardized kurtosis values were found to be below critical values, further supporting a lack of violations in the assumption of normality. Furthermore, bivariate scatterplots representing studentized residuals against predicted values further suggested no violation of the normality assumption.

To assess multivariate normality, Centered Leverage values (*Cook's D*) distance was calculated for each case. The *Cook's D* statistic measures the change in the parameter estimates caused by deleting each observation. One case met significant criteria as a multivariate outlier. Visual inspection of this case revealed answers on the surveys were heavily weighted toward extreme responses (very low use of coping responses, very low burnout, and very high job satisfaction). An examination of the effect of this outlier on standardized coefficients indicated that although variables significantly contributing to the variance were unaffected, standardized coefficients were changed in magnitude of influence on the dependent variables. As a result, this case was removed from the sample population.

Last, because SEM uses covariance matrices to analyze data, multicollinearity is assessed to ascertain that intercorrelations among variables are not above a variance inflation factor (*VIF*) of 10, which may prevent statistical mathematical operations (Kline, 2005). Multicollinearity is one cause of singular covariance matrices, and would possibly lead to misrepresentation of results. To assess for multicollinearity, the *VIF* scores were assessed. The largest variance inflation factor was 2.636 (well below cutoff of 10), indicating there were no serious problems with multicollinearity (Kline).

*Overview of the Data*

*Correlations.* Bivariate correlations were calculated between each outcome variable (Table 5).

Table 5  
*Bivariate Correlations between Subscales and Variables*

	LN	C	ESC	ISC	IC	SC	BO	JS
LN	-							
C	.25**	-						
ESC	-.15	.07	-					
ISC	-.20*	.02	.77**	-				
IC	.86**	.72**	-.07	-.14	-			
SC	-.18*	.04	.94**	.94**	-.11	-		
BO	-.44**	-.23**	.06	.10	-.44**	.08	-	
JS	.28**	.19*	.09	.02	.30**	.05	-.69**	-

*Note.* LN = Low Neuroticism subscale, C = Conscientiousness subscale, ESC = Emotional Support Coping subscale, ISC = Instrumental Support Coping subscale, IC = Impulse Control (combined LN and C) scale, SC = Support Coping (combined ESC and ISC) scale, BO = Burnout scale, JS = Job Satisfaction scale.

\* $p < .05$ ; \*\*  $p < .01$

Significant correlations emerged between impulse control variables and both burnout and job satisfaction; however, there was no significant correlation with any coping variables except between low neuroticism and instrumental support coping subscales. Notably, other than the small correlation between subscales, the coping variables demonstrated no significant correlation with any other variable. Not surprisingly, and congruent with the findings in the literature (Farber, 1985; Freudenberger & Robbins, 1979; James & Gilliland, 2005), the strongest correlation was



found between burnout and job satisfaction. Significant correlations also emerged between both burnout and job satisfaction with impulse control and its related subscales.

Although most of the correlation data emerged as expected (significant correlations between impulse control, burnout and job satisfaction), the scarcity of significant correlations found between coping variables and other variables in the model was a surprise, and diverges from the previous literature. Although the literature suggests correlations between personality traits and burnout with coping responses (Clanton et al., 1992; Connor-Smith & Flachsbart, 2007; DeRijk et al., 2001; Elliott et al., 1996; Maslach et al., 2001; Ogus, 1990), the findings of this study indicate no significant relationships between these variables.

*Frequency of Variables.* Means and standard deviations were calculated for the four variables. Descriptive statistics are shown below in Table 6.

Table 6

*Descriptive Statistics (N = 141)*

Sample	<i>M</i>	<i>SD</i>	*Range	*Min-Max
Age	51.08	8.88	30-81	30-81
Years Working	17.09	8.21	2 - 37	2 - 37
<u>Variables</u>				
Support Coping	2.89	0.76	1 - 4	1.3 - 4.0
Impulse Control	3.95	0.49	1 - 5	2.4 - 4.9
Burnout	35.27	11.80	0 - 100	1.9 – 71.1
Job Satisfaction	7.91	1.38	1 – 10	3.4 – 10.0
<u>Subscales</u>				
Low Neuroticism	3.58	0.75	1 - 5	1.5 – 5.0
Conscientiousness	4.28	0.50	1 - 5	2.7 – 5.0
Emo Support Coping	2.91	0.81	1 - 4	1 - 4
Instr Support Coping	2.87	0.81	1 - 4	1 - 4

*Note.* Emo Support Coping = Emotional Support Coping subscale, Instr Support Coping = Instrumental Support Coping subscale.

\* Range and Min/Max of test scores.

Based on these means, it seems that the sample participants are quite homogenous, exhibiting high job satisfaction, low neuroticism, high conscientiousness, and significant experience. Means on support coping measures coping indicates moderate use of these coping mechanisms within this sample. The mean for burnout falls in the low risk for burnout category, which mirrors the results of the PUMA project comprised of 1,917 persons (Borritz & Kristensen, 1999). The average job satisfaction is high, which is consistent with the literature regarding overall job satisfaction in psychologists in general; notably, even those who fall below 2 S.D. of the mean, in this population, would still rate their job satisfaction above a 5, on a 1-10 scale.

### *Model Generation through Estimation and Respecification*

*Estimation of the Measurement Model and subsequent respecification.* The first step in estimating a model with latent (unobserved) variables is to first estimate a measurement model to ensure that the measurement components of the model (the unobserved variables) accurately reflect the hypothesized latent constructs (Kline, 2005). In effect, this analysis represents a confirmatory factor analyses on each of the latent variables, within the overall composition of the model. In measurement models evaluated by confirmatory factor analysis, the variables are simply assumed to covary with each other and the focus lies on respecification of latent factors, if needed (see Figure 2). While the measurement model is estimated using maximum likelihood estimation, and overall fit measures are evaluated, these fit measures are only part of the evaluation for respecification. In addition, factor loadings of observed variables onto unobserved (latent) variables are evaluated for potential respecification (consideration of changing or dropping variables with low factor loadings).

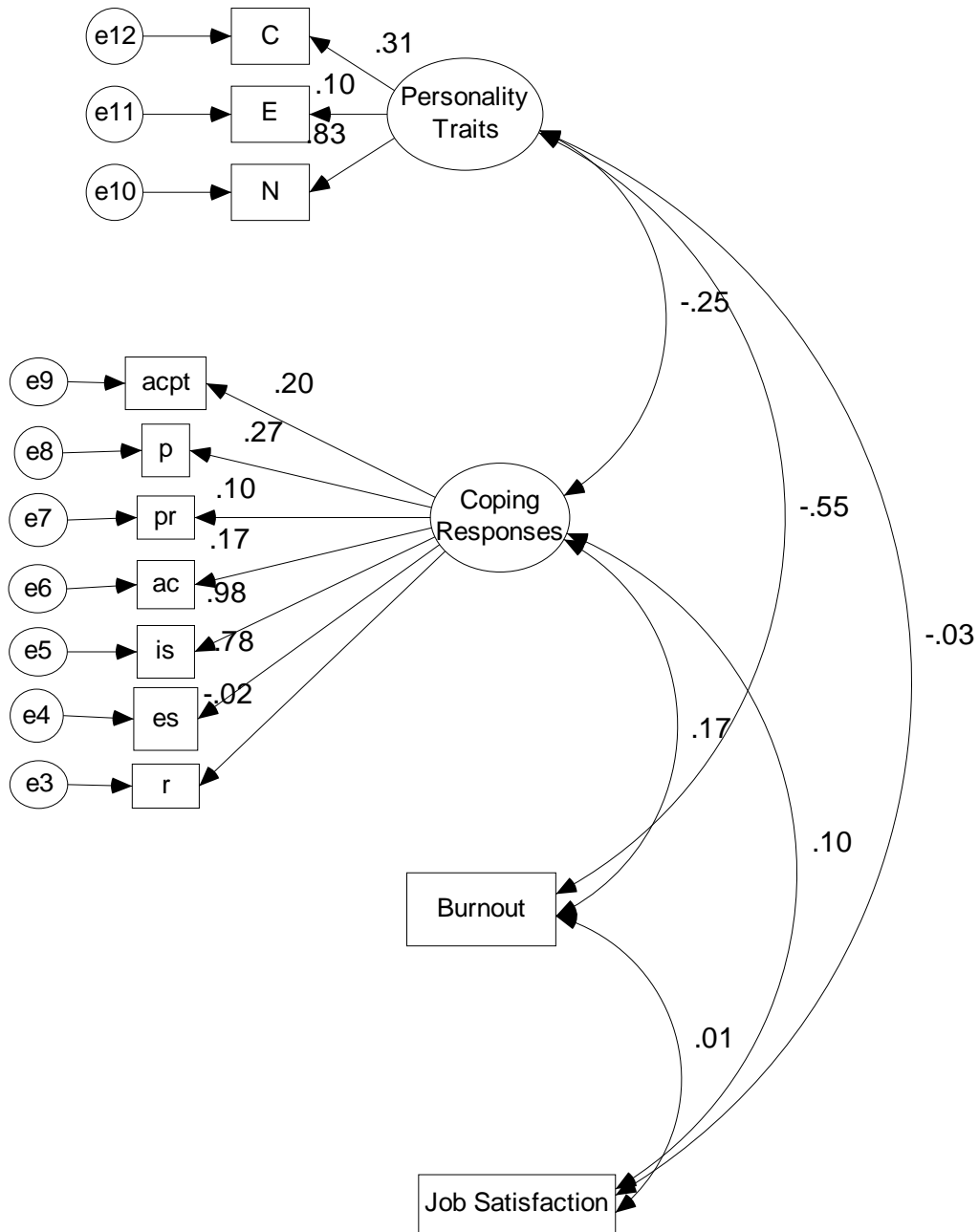


Figure 2. Coefficients for Initial Measurement Model.

Chi-Square (51) = 244.60,  $p < .0005$

Normed Fit Index (NFI) = .44

Comparative Fit Index (CFI) = .48

Root Mean Square Error of Approximation (RMSEA) = .16 (90% CI = .14-.19)

In AMOS™ version 7.0, evaluation of standardized regression weights (correlation coefficients), which are the factor loading weights, and squared multiple

correlations, which are equivalent to  $R^2$  in regression (accounting for variance in dependent, or latent, variable) are helpful in guiding respecification decisions. Although respecification is done after evaluating both model fit and factor loadings, Kline (2005) recommends that indicators that have loadings less than .60 may be changed or deleted altogether.

Estimation of the measurement model was completed using maximum likelihood estimation. For the initial measurement model, the Chi-square statistic was significant  $\chi^2(51) = 244.60, p < .0005$ , indicating a discrepancy between the hypothesis and the data, resulting in a poor model fit. Other fit measures also indicated inadequate fit: the Normed Fit Index (NFI) and Comparative Fit Index (CFI), which should both be above .8 for a good fit, were .44 and .48, respectively. The Root Mean Square Error of Approximation (RMSEA), which should be below .08 to indicate good model fit, was .16 with a 90% Confidence Interval of .14 to .19. Overall, initial fit indices indicated that the model was ill-fitting and a closer examination of latent factors and factor loadings was warranted.

Examination of specific factor loading indicated several weak factor loadings. Standardized regression (beta) weights (factor loadings) from the subscale extraversion (.10) onto the latent factor Personality Traits was noted to be extremely low. This finding was in contrast to the factor loadings of Conscientiousness (.31; considered a moderate loading) and Neuroticism (.83; considered a strong factor loading). Additionally, several factor loadings on the latent variable, Coping Responses were low: acceptance coping (.21), active coping (.17), positive reframing (.11), planning coping (.28), and restraint coping (-.02) were low. Conversely, emotional support coping (.78) and instrumental support coping (.98) reported very high factor loadings. Further examination of the

squared multiple correlation (correlation coefficient) for variables with low factor loadings were as follows: extraversion (.01), acceptance coping (.04), active coping (.03), positive reframing (.01), planning coping (.08), and restraint coping (.00) indicating that the percentage of variance that these variables contributed to the latent variable was quite low. On the other hand, correlation coefficients for the subscales neuroticism (.69), conscientiousness (.10), emotional support coping (.61) and instrumental support coping (.97) were higher, representing more significant contributions to the unobserved latent variables, Personality Traits and Coping Responses. To summarize, the data indicated that the some observed variables were clearly important to the latent factor within the model as a whole, but others were not contributing significantly at all. Thus, certain modifications to the model were made and are described in the next paragraph.

First, the extraversion subscale was removed and the latent variable ‘Personality Traits’ was redefined as ‘Impulse Control’. Conscientiousness and Neuroticism combined have been described as explaining ones style of impulse control by Costa, McCrae, and PAR Staff (2000; Chapter 3). Because the latent factor with only two observed variables did not meet SEM parameter qualifications, this variable was changed from the latent variable, Personality Traits, into an observed variable, Impulse Control, where one score represents the construct of Impulse Control. The subscales of Conscientiousness and Neuroticism were combined and the average score was used for the new scale Impulse Control.

Second, because the contribution of restraint coping to Coping was negligible, and the factor loading was negative, this variable was also removed from the latent factor Coping Responses. The measurement model was then run again (Figure 3).

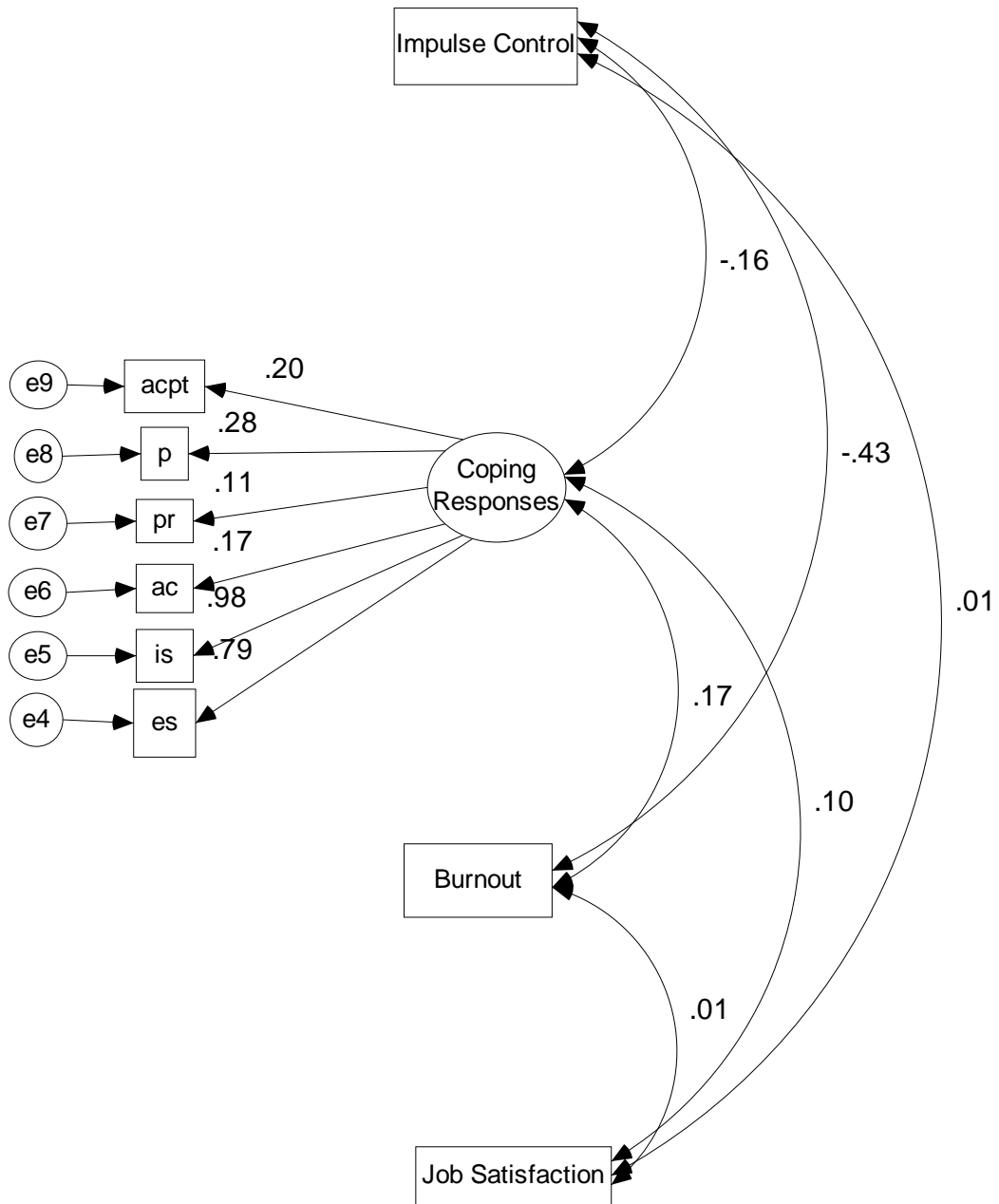


Figure 3. Coefficients for Revised Measurement Model.

Chi-Square (25) = 166.29,  $p < .0005$

Normed Fit Index (NFI) = .52

Comparative Fit Index (CFI) = .55

Root Mean Square Error of Approximation (RMSEA) = .20 (90% CI = .17-.23)

As with the estimation results from the initial measurement model, the Chi-square statistic remained significant  $\chi^2 (25) = 166.29, p < .0005$ . Additionally, the other fit measures continued to indicate an inadequate model fit (although a slight change toward a better fit was noted): NFI = .52 (rising from .44), CFI = .55 (rising from .48), RMSEA = .20 (rising from .16) with 90 % CI of .17 to .23). Although two fit indicators improved slightly due to modifications made (except the RMSEA), they still did not indicate good model fit and further examination of factor loadings was warranted.

Furthermore, examination of factor loadings on the remaining latent (unobserved) variable of Coping Responses continued to be very low. First, the standardized regression weights from the subscales showed very little change. Secondly, the squared multiple correlations (correlation coefficients) for the Coping Responses variables also remained essentially unchanged. Results from the Initial Measurement Model compared to this revised model are detailed in Tables 7 and 8.



Table 7

*Factor loadings on Initial Measurement Model and Revised Measurement Model*

	Initial MM (Figure 2)	Revised MM (Figure 3)
Acceptance coping	.21	.21
Restraint coping	-.02	N/A
Active coping	.18	.17
Positive reframing	.11	.11
Planning coping	.28	.28
Emotional support coping	.78	.79
Instrumental support coping	.98	.98
Extraversion	.10	N/A
Conscientiousness	.31	N/A
Negative Neuroticism	.83	N/A

Table 8

*Squared multiple correlations on Initial Measurement Model and Revised Measurement Model*

	Initial MM (Figure 1)	Revised MM (Figure 2)
Acceptance coping	.04	.04
Restraint coping	.00	N/A
Active coping	.03	.03
Positive reframing	.01	.01
Planning coping	.08	.08
Emotional support coping	.61	.61
Instrumental support coping	.97	.97
Extraversion	.01	N/A
Conscientiousness	.10	N/A
Negative Neuroticism	.69	N/A

Kline (2005) recommends making changes to an SEM model one parameter at a time so that an evaluation of the effects of any changes can be made with each modification. Therefore, modifications were made to drop factors from the Coping Response latent factor starting with the observed variable that had the lowest factor loading. Therefore, positive reframing was dropped first, then active coping, then acceptance coping, then planning coping. With each change, neither factor loadings nor correlation coefficients changed significantly, and with each change, emotional and instrumental support coping showed strong factor loadings and large contributions to the latent variable. Because latent variables with only two contributing variables do not meet parameter requirements in SEM (as required in step two, model identification), the latent variable, Coping Responses (reduced to two contributing or observed variables), was changed into a single score (observed) variable and renamed Support Coping. The remaining construct, Support Coping, consists of combined and averaged scores from the emotional support coping responses and instrumental support coping responses. As a result, the final measurement model consisted of four observed variables; Impulse Control, Support Coping, Burnout and Job Satisfaction (Figure 4).

Final estimation measures for this model indicated improved model fit. The Chi-Square statistic (in which non-significance indicates good model fit) was 14.94 with a  $p$  value of .001. The Normed Fit Index (NFI) which should be above .9 (or liberally .8) was .88. The Comparative Fit Index (CFI) which should be above .8 was .89. The Root Mean Square Error of Approximation (RMSEA), which should be below .08, was .21 with a 90% Confidence Interval of .12 to .32. Because the RMSEA is influenced by the degrees of freedom, the confidence interval has changed to include a greater range, that includes a

lower value of .12 (due to change in degrees of freedom), indicating this to be an improved model (Chen, Curran, Bollen, Kirby, & Paxton, 2008). Therefore, overall, after respecification (modification) of the model, results support the re-specified model as four manifest variables. A summary of fit indices changes from initial measurement model to final measurement model is detailed in Table 9.

Table 9

*Fit indices on Initial Measurement Model, Revised Measurement Model, and Final Measurement Model*

	Initial MM	Revised MM	Final MM
Chi Square	$df = 51;$ 244.60, $p = < .0005$	$df = 25;$ 166.29, $p = < .0005$	$df = 2;$ 14.94, $p = .001$
NFI	.44	.52	.88
CFI	.48	.55	.89
RMSEA	.16 90% CI = .14-.19	.20 90% CI = .17-.23	.21 90% CI = .12-.32

*Note.* NFI = Normed Fit Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation

Although fit measures do not indicate optimal fit, further changes to the model would result in a significantly changed conceptual model. Therefore, no further changes were made. The next step was to estimate the re-specified mediated structural model.

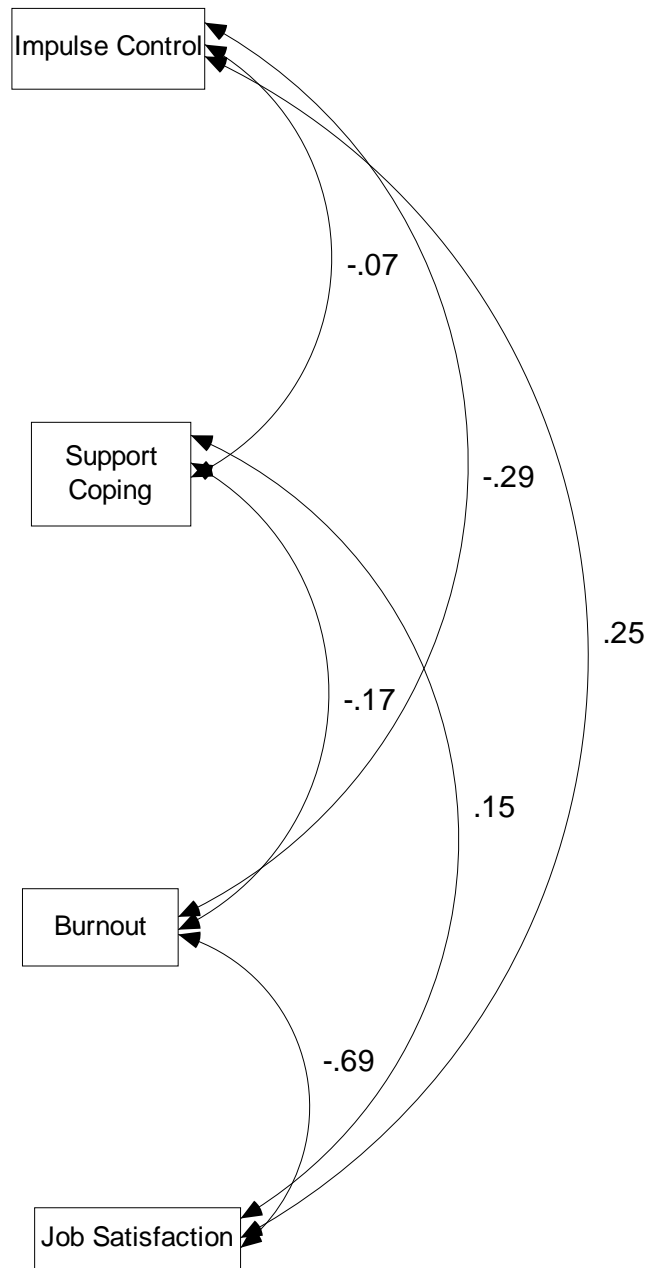


Figure 4. Coefficients for Final Measurement Model.

Chi-Square (2) = 14.94,  $p = .001$

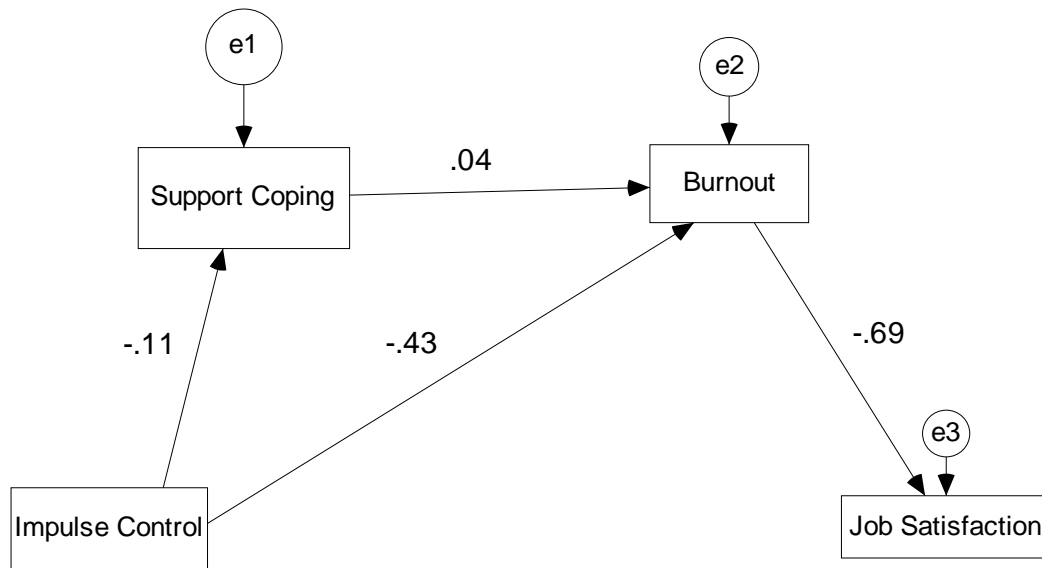
Normed Fit Index (NFI) = .88

Comparative Fit Index (CFI) = .89

Root Mean Square Error of Approximation (RMSEA) = .21 (90% CI = .12-.32)

*Estimation of the Respecified Structural Models.*

The next phase of data analysis involved testing the re-specified model (Figure 5). This model uses four manifest variables (as described above) and represents the fully mediated model. (Note: e1, e2, e3 are error terms associated with endogenous variables only, i.e. arrows pointed at them).



*Figure 5. Coefficients for Fully Mediated Structural Model.*

Chi-Square (2) = 3.53,  $p = .17$

Normed Fit Index (NFI) = .97

Comparative Fit Index (CFI) = .99

Root Mean Square Error of Approximation (RMSEA) = .07 (90% CI = .00 -.20)

Estimation was completed using maximum likelihood. Results reveal that the Chi-Square test for this model was non-significant,  $\chi^2(2) = 3.53, p = .17$ . Other fit indices also supported good model fit: the NFI and CFI were both above .9 (considered indicative of good model fit); with scores of .97 and .99, respectively. The RMSEA (.07) was below .08, which is accepted level for good model fit, with a 90% Confidence Interval of .00 to

.20. The non-significant Chi-Square test indicated good overall fit suggesting there was not a significant difference between the proposed theoretical model and the observed scores of the participants.

An additional aspect of the data analysis is to determine the degree to which the three hypothesized exogenous manifest factors (Impulse Control, Support Coping and Burnout) were associated with the endogenous latent factor Job Satisfaction. To assess these relationships, the standardized regression parameters, or path coefficients, were examined to determine the direct effect of each variable. Each path coefficient from the three factors, Impulse Control, Support Coping and Burnout, to Job Satisfaction was examined. Results indicated that there were two statistically significant associations. The first significant path was between Impulse Control and Burnout ( $\beta = -.43, p < .01$ ) and between Burnout and Job Satisfaction ( $\beta = .69, p < .01$ ). There was not a significant association between Impulse Control and Support Coping ( $\beta = -.11$ ), nor was there a significant association between Support Coping and Burnout ( $\beta = .04$ ).

Next, the partially mediated model was tested for comparison (Figure 6).

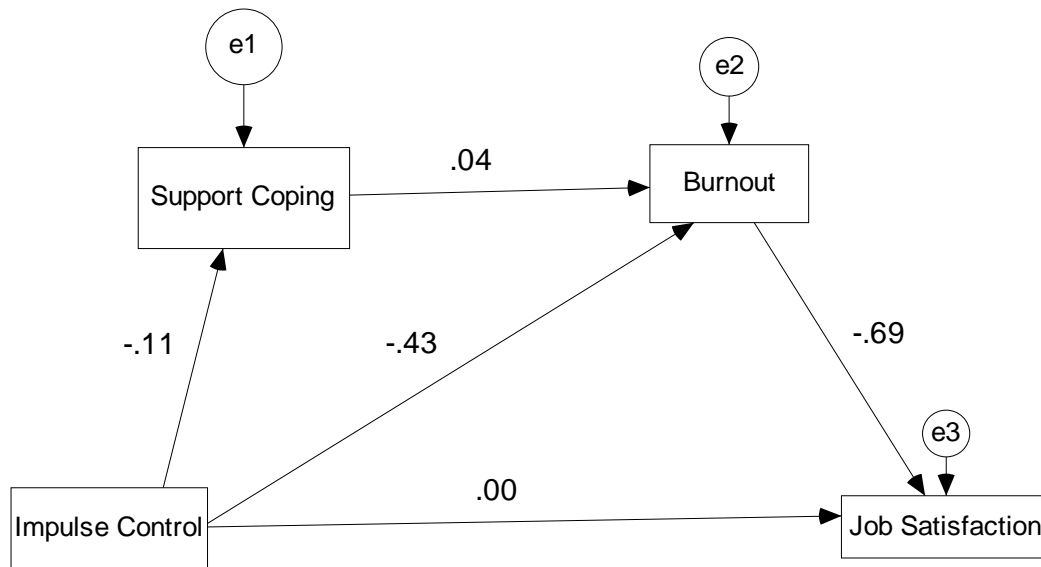


Figure 6. Coefficients for Partially Mediated Structural Model.

Chi-Square (1) = 3.52,  $p = .06$

Normed Fit Index (NFI) = .97

Comparative Fit Index (CFI) = .98

Root Mean Square Error of Approximation (RMSEA) = .13 (90% CI = .00 -.30)

Fit indices for this alternative partially mediated model were quite similar to fit indices for the fully mediated model. The Chi-Square test for this model was also non-significant,  $\chi^2(1) = 3.52, p = .06$ . Other fit indices were also very similar to the fully mediated model: NFI = .97, CFI = .98, RMSEA = .13 (90% CI = .00 - .30). An examination of the standardized regression parameters from the exogenous variables to the endogenous variable Job Satisfaction again indicated that the same parameters were significant (Impulse Control to Burnout,  $\beta = -.43, p < .01$ ; Burnout to Job Satisfaction,  $\beta = .69, p < .01$ ). The added parameter from Impulse Control to Job Satisfaction showed a standardized regression parameter of ( $\beta = .00$ ) and did not reach statistical significance ( $p = .93$ ).

A complete reporting of the data includes an examination of the types of effects (factor loadings interpreted as regression coefficients) yielded from the SEM analysis, including direct, indirect, and total effects. Regression coefficients (reported as standardized regression weights) represent the direct causal effects (predicted variance) of the independent variables on the dependent variable. Indirect effects (mediating effects) were approximated using the sums of the direct effect products through intervening variables in the model. After multiplying the betas of the paths making up each indirect path, total effects are computed by summing the direct and indirect effects. These effects are noted in Table 10. Most notable is the mediating (indirect effect) Impulse Control has on Job Satisfaction via the effect on Burnout.



Table 10

*Standardized Effects Decomposition for Fully-Mediated Path Model of Job Satisfaction*

Causal variables	Endogenous variables		
	Support Coping	Burnout	Job Satisfaction
Impulse Control			
Direct effects	-.11	-.43	.00
Indirect effects	.00	-.00	-.30
Total effects	-.11	-.43	-.30
Support Coping			
Direct effects	.00	.04	.00
Indirect effects	.00	.00	-.03
Total effects	.00	.04	-.03
Burnout			
Direct effects	.00	.00	-.69
Indirect effects	.00	.00	.00
Total effects	.00	.00	-.69

*Model Comparison*

To determine if the fully mediated model provided a better fit to the data than the partially mediated model, a Chi-Square difference test was conducted. The Chi-Square difference test can be used to determine the best fit between two models, as long as one model is fully nested within the second model (Quintana & Maxwell, 1999). When one model is fully nested within another, these models are often referred to as “hierarchical”. In this study, the fully mediated model is fully nested within the partially mediated model, differing only by a single path. The Chi-Square difference tests the null hypothesis of identical fit of the two (hierarchical) models in the population (Kline, 1998, p. 146). A Chi-Square difference test is simply the difference between the Chi-Square

values of two models estimated with the same data, then using the difference in degrees of freedom between the two values; tests the difference for statistical significance. The partially mediated model resulted in a Chi-Square of 3.52 with 1 degree of freedom, while the fully mediated model resulted in a Chi-Square of 3.53 with 2 degrees of freedom. Thus,  $\chi^2\Delta(1) = .01, p < .001$ . This Chi-Square difference result indicates there is no significant difference between the two models. Therefore, because the only difference between the two models is the number of pathways, the most parsimonious model is the model with fewer pathways.

### *Conclusions*

Data preparation and screening yielded a sample size of 141 participants. Correlation and frequency data indicates a sample of psychologists who are largely satisfied in their jobs, exhibit low burnout, and are high in traits of Conscientiousness and low in traits of Neuroticism. The frequency of use of emotional and instrumental support coping responses is moderate but is not significantly correlated with personality traits, burnout or job satisfaction in this sample. Overall, statistical support has been demonstrated for the hypothesized mediated relationship linking personality traits with job satisfaction through burnout but not through coping responses. Therefore, the resulting model that is fully mediated best represents the results found from this sample of psychologists working in institutions with trauma clients. Thus, one would conclude that the fully mediated model is the model with the better fit.

## CHAPTER 5: Discussion

### *Introduction*

The purpose of this study was to determine if coping responses and burnout mediated the relationship between personality traits and job satisfaction. The discussion of this study was divided into four components: a) review of the problem b) discussion of the study results and the relationship to previous research, c) limitations of the study, and d) implications for future training, practice, recruitment, and research.

### *Review of the Problem*

Due to an increased need for psychologists that work in medical and rehabilitation settings in the United States (U.S. Department of Labor, 2006; United States Department of Veterans Affairs, 2008), recruitment and retention of psychologists in these areas of practice and/or within these specific settings is important. Recruitment efforts can be enhanced with knowledge about the characteristics of individuals that are most likely to be satisfied in these jobs. Although current literature examining psychologists has identified person-specific characteristics that predict job satisfaction (Connolly & Viswesvaran, 2000; Iles & Judge, 2003; Judge et al., 2002; Lent et al., 1994), little research has focused on person-specific traits of psychologists within specifically defined work environments, such as medical or rehabilitation hospitals. Although Lent (2008) acknowledges a relationship between person-specific traits and job satisfaction, he has speculated that a direct link is likely too simplistic and the relationship is probably mediated by other variables. Extending upon Lent's line of questioning, the major premise of this research was that the relationship between person-specific characteristics and job satisfaction for psychologists in medical and rehabilitation settings is likely

mediated by two important variables, coping responses and low burnout. Specifically, the following hypothesis was tested: A model in which the relationship between person specific traits and job satisfaction is fully mediated by both coping responses and burnout will provide a significantly better fit to the data than a model in which the relationship is only partially mediated and a direct relationship exists between person-specific traits and job satisfaction.

### *Study Results*

*Model Fit and Comparison.* The purpose of this study was to compare two models, each a four-factor model including personality, coping, and burnout, which were developed to predict job satisfaction in a sample population of national psychologists that work with trauma patients in rehabilitation or medical settings. Specifically, it was hypothesized that the model where the relationship between person specific traits and job satisfaction is fully mediated by both coping responses and burnout would provide a significantly better fit to the data than the model where this relationship was only partially mediated and that a direct relationship exists between person-specific traits and job satisfaction. Prior to model comparison, individual model fit was assessed and maximized through respecification to the models. Essentially, model fit was improved by making changes to of the factors within the model. First, the initially proposed latent construct of personality traits was changed to a manifest variable, “Impulse Control”, since the contributing factor of Extraversion did not lend significantly to the personality trait construct within the overall model fit. Secondly, the latent construct coping responses was changed to a manifest variable, “Support Coping”, since only two of the contributing factors, Emotional Support Coping and Instrumental Support Coping,

contributed significantly to the support construct within the overall model fit. Despite specific construct changes, the initial hypothesis remained intact: that the fully mediated model would provide a significantly better fit to the data than the partially mediated model.

After respecification, model fit was found to be good for both the fully mediated and partially mediated models suggesting there was not a significant difference between the proposed theoretical models and the observed scores of the participants in either model. For this study, “fit” can be translated to mean that the overall hypothesis, asserting that there is a mediated role of support coping and burnout in the relationship linking impulse control with job satisfaction, has been supported.

Then, a test of difference between the two models indicated there was no significant difference between the two models. Therefore, because the only difference between the two models was the number of pathways, the most parsimonious model was the model with fewer pathways. This finding supported the hypothesis that the fully mediated model provided a better fit to the data than the partially mediated model.

*Examination of the Model.* Fit indexes in SEM do have limitations. Specifically, values of fit indexes only indicate the overall fit of a model and do not address each factor or path within the model. Therefore, it is possible that some parts of the model may not fit the data as well, despite an overall favorable fit index (Kline, 2005). For instance, in this study, the fully mediated final (preferred) model, while producing favorable overall fit indices, incorporated two paths that were statistically insignificant; the path from Impulse Control to Support Coping, and the path from Support Coping to Burnout. Overall, this indicated that the factor Support Coping could be considered a “poor” fit

within the model. In other words, Impulse Control within this sample population does not significantly predict Support Coping, nor does Support Coping significantly predict Burnout. It might be posited that the significant relationships between Impulse Control, Burnout, and Job Satisfaction are so strong, that the addition of Support Coping simply failed to make a unique contribution. It may also be considered that although the paths to and from Support Coping were not statistically significant, the link was still contributory within the model but lacks the strength of statistical significance. Further research is required to clarify the role (or non-role) of Support Coping within this model.

The only significant relationship found between Impulse Control and Job Satisfaction was the relationship that was mediated by Burnout. This finding supports Lent's assertion that it is unlikely that there is a direct relationship between personality traits and job satisfaction (Lent, 2008) and it is more likely that the trait-satisfaction relationships operate through "multiple channels" (Weiss & Brief, 2002, p. 286). Particularly within populations of helping professionals that work with trauma victims in institutional settings, such as rehabilitation or medical hospitals, the current literature indicates that the high risk of burnout is a significant factor that negatively affects job satisfaction. Therefore, it is not surprisingly that burnout is a significant mediator between personality traits and job satisfaction in this population. Personality traits themselves do not predict job satisfaction in this population. Level of burnout mediates this relationship. Although personality correlates have been shown to be predictive of job satisfaction (Connolly & Viswesvaran, 2000; Iles & Judge, 2003; Judge et al., 2002; Staw et al., 1986), this appears to be true within this population only with the addition of

burnout as a mediator. This finding has important implications for future research and training, which is discussed in later paragraphs.

*Examination of factors within the model.* The proposed (initial) model included a hypothetical construct consisting of three personality traits that would predict job satisfaction (Extraversion, Conscientiousness, and Low Neuroticism). However, the measurement model (confirmatory factor analysis) results indicated that Extraversion did not significantly contribute to the construct Personality Traits within the overall model. Removal of the variable, Extraversion, resulted in the creation of the construct, Impulse Control (combining Conscientiousness with Low Neuroticism) which is a construct from The Revised NEO Personality Inventory™ (Costa, McCrae, & PAR Staff, 2000). Interestingly, the resulting construct, Impulse Control, could be construed as a near contrast to the trait, Extraversion, that didn't fit within the model. Those who are high on both Extraversion and Conscientiousness may be viewed as “pushy” and aggressive (The Revised NEO Personality Inventory™; Costa et al., 2000), which could be considered inconsistent with someone high in impulse control. It is possible, that within a sample population of psychologists who express job satisfaction in institutional settings, the personality trait Extraversion, while not predictive of malcontent on the job, may not be predictive of job satisfaction, either. It makes sense that within an institutional setting, with hierarchical competing demands, characteristics associated with Extraversion, such as dominance, out-going behaviors, and expressiveness, may not be traits that are valued as much as impulse control. Therefore, the change to this variable from Personality Traits to Impulse Control (by removing the contributor of Extraversion) makes some intuitive sense given the setting of this sample population.

Significant changes were also made to the variable Coping Responses. Several coping variables were found to be not significant in their contribution to the latent variable Coping Responses within the hypothesized overall model. The following variables were found to be non significant contributors to Coping Responses: acceptance coping, restraint coping, planning coping, active coping and positive reframe coping. There are a few reasons to consider when trying to understanding why these coping responses did not fit within this overall model. First, reliabilities on these coping subscales were relatively low (.65 or below), thus possibly negatively affected their fit within the overall model. For example, acceptance coping, which might seem consistent with impulse control and effective in institutional settings, had a relatively low internal consistency of .50. It is possible that another measure of this coping mechanism, with better reliability, might indicate some important contribution in the model. Secondly, since the contribution of emotional support coping and instrumental support coping were so highly correlated (.77;  $p < .01$ ) and contributed so significantly to the model (.94 each;  $p < .01$ ), it may be that the other scales were simply insignificant within the overall model. Third, a breakdown of the individual coping responses that did not fit may also provide some additional insight. For example, active coping may be less congruent than support coping given that the personality variables that contributed to the model were distinctive for impulse control versus more outgoing characteristics. Likewise, planning coping may be less of a coping strategy used in institutional settings due to the ever-changing demands and need for flexibility within hierarchical institutions. This may be particularly true in institutions where psychologists in direct care are not in management or leadership positions. On the other hand, (emotional and instrumental) support coping



might be considered more of a passive coping response than a proactive coping response, such as active coping and planning coping. Passive coping may be better tolerated in institutional settings.

Additionally, restraint coping, positive reframe coping, and acceptance coping are more cognitive and individual types of coping, whereas support coping clearly makes use of others as a supportive network. It may be that within institutions, use of others as supportive allies is more predictive of lower burnout and job satisfaction than use of coping responses that utilize self only. Although it is unknown exactly why support coping stood out as the significant contributors within this model, there are numerous hypothesis that should be considered.

*Characteristics of the sample population.* The demographic results indicated that compared to demographics of psychologists who belong to the American Psychological Association (58% women, 42% men; a median age of 50, standard deviation of 10.1; 94% Caucasian, 3% Hispanic and 2% Black) this sample is quite analogous.

Demographics for this sample were 55% women, 45% men, with a median age of 51 and a standard deviation of 8.9 years. Ethnicity mix of this sample was 92% Caucasian, 3% Black, less than 1% Asian/Pacific Islander, less than 1% Hispanic and 3.5% other.

A review of the mean scores on each of the variables used in the study indicates that the sample population as a whole was relatively high on the measure of Impulse Control (mean 3.95; range 1-5); used Coping Support more often than not (mean 2.89; range 1-4); reported very low Burnout (mean 35.27; range 0-100) and expressed high Job Satisfaction (mean 7.91; range 1-10). Subscale scores indicate that this population used Emotional and Instrumental coping proportionally approximately the same (Emotional

Support mean 2.91 and Instrumental Support mean 2.87; range for both 1-4). Subscale scores for Impulse control indicates the sample as a whole is very high in Conscientiousness (mean 4.28; range 1-5) and moderately high in Low Neuroticism (mean 3.58; range 1-5).

Overall job satisfaction scores are congruent with the literature indicating that psychologists are generally satisfied in their career choice (Fagan et al., 2006; Walfish et al., 1991). However, scores on the burnout measure indicate a relatively low level of burnout in this sample, despite identified risk factors outlined in this study, such as institutional demands and direct care with clients who have experienced trauma. Because the literature supported a prediction that psychologists who worked in institutional settings providing direct care to clients who had experienced trauma would at an increased risk for burnout, it was expected that mean burnout scores might be higher. It should be noted that individuals just one standard deviation above the mean do fall into the “high burnout” score of 50 and above. It might be speculated that because only one-third of the psychologists that were sent surveys responded, psychologists who did not complete and return the surveys might have higher burnout scores. It would make sense that if one is experiencing emotional exhaustion, that person might be less likely to take the time to complete and return an anonymous survey. However, one can only speculate regarding the differences between those who returned the survey versus those who did not.

To test for and eliminate significant differences within the population, analyses were conducted to test for possible differences between respondents who had identified as full- versus part-time status. Results indicated a significant difference in the

personality trait of Conscientiousness between respondents who identified as working in full- versus part-time status. Psychologists who were in full-time positions responded significantly higher on items indicating Conscientiousness than those in part-time positions. As a result, respondents who reported part-time status were removed from the final sample. Since Conscientiousness has been found to be a significant predictor of job satisfaction (John & Srivastava, 1999; McCrae & John, 1992), it is possible that scores on job satisfaction might be affected by the removal of this group from the final sample. However, no significant difference was found in any outcome variable (impulse control, support coping, burnout or job satisfaction) between the two groups. Nevertheless, it is interesting that respondents in full-time positions were significantly higher on Conscientiousness than those in part-time positions. It might be hypothesized that because workers high in Conscientiousness are often found to be highly responsible, dependable, persistent, and achievement-oriented (Byrne, Stoner, Thompson, & Hochwarter, 2005), those higher in Conscientiousness may gravitate toward full time positions in order to capitalize upon the expanded time at work to persist toward achievement-oriented organizational goals. However, without further data, this is purely speculative.

An analysis was also completed to identify differences between those who were engaged in less than ten hours direct client care time per week compared to those engaged in 10 hours or more per week direct client care. No difference was noted between these two groups, and so both groups of participants were retained in the study. This lack of a significant difference in outcome measures (impulse control, coping, burnout, and job satisfaction) between groups is interesting in and of itself. Because more

hours in direct contact with clients who have experienced trauma did not significantly impact either burnout or coping means, it might be assumed that this population is less affected than other health care providers studied in the literature who do show increased burnout when interacting with clients who have experienced trauma (James & Gilliland, 2005). This finding was anecdotally supported in written responses on numerous surveys. For example, at least ten surveys that were returned indicated in written addendums that the “stress” of the job that they experienced came from institutional demands much more so than client demands. For example, one respondent wrote, “feelings of frustration and burnout are nearly always a result of dealing with administrative problems/demands, not from working with clients”. A lack of significant differences between groups with varying hours of direct client care would support a suggestion that psychologists may be less negatively impacted by contact with clients who have experienced trauma than other (less trained) populations. However, institutional demands may still place significant stressors upon this population.

*Correlations between individual variables.* Significant correlations emerged between impulse control and burnout. This is an interesting finding that was not found in the literature review. It may be that this finding is limited to this particular sample population; however, it may be speculated that this may also be the case for many employees within large hierarchical institutional settings. It seems reasonable that the ability to act in a rational, well-considered manner (control of impulsive behaviors) is likely to predict less burnout and therefore more success within institutional settings than actions driven by more impulsive, spur-of-the-moment inclinations.

Burnout and job satisfaction were significantly negatively correlated. This is congruent with current literature (Farber, 1985; Freudenberger & Robbins, 1979; James & Gilliland, 2005) that suggests that a factor common to workers in human services, that often negatively influences job satisfaction, is job burnout. This study supports the perception that job satisfaction is attainable when low burnout is experienced.

An overall lack of correlations between Support Coping and other variables (personality traits, burnout, and job satisfaction) was an unexpected finding. Even after removing lesser contributing coping responses from the initial construct, the two subscales that remained, Emotional Support Coping and Instrumental Support Coping, did not demonstrate correlations to the other variables as expected. There was a significant correlation (\*  $p < .05$ ) between the subscale Instrumental Support Coping, and the variable it contributed to, Support Coping, with Low Neuroticism (subscale of Impulse Control). However, this correlation did not generalize to the variable Impulse Control. The reliability for the overall Support Coping scale was good (.91), indicating that reliability is not a likely reason that this did not correlate with the other variables as expected. So, although use of support coping was endorsed by a large number of psychologists in this sample, use of coping was not correlated with personality traits or burnout or job satisfaction. Further research is needed to further understand this relationship.

#### *Limitations of the Study*

While these findings have important implications for future training, practice, recruitment and research, they must be considered in light of the limitations of this study. First, there is a limitation to using a single method of collecting data, specifically through

self-report. Not only are the participants, as licensed psychologists, likely to be familiar with questions on the instruments, they may also be aware of the construct being measured. Therefore, participant bias resulting in a skewing of the data was possible. However, responses were anonymous and could not be traced to individual participants; therefore, participants may have been more likely to answer in a non-guarded, non-biased manner. Future studies might consider multi-method data collection to reduce any possible response bias.

Another limitation was that this study did not measure all predictors of job satisfaction. For example, occupational interests have been shown to have a predictive relationship to job satisfaction (Holland, 1997; Sharf, 2006); however, this study did not measure this construct. Rather, an assumption was made that medical and rehabilitation psychologists as a whole share common interests. This assumption was based upon the knowledge that there are numerous areas of work that a psychologist may choose to practice (academia, private practice, consulting, industrial/organization, research, etc.). As discussed, medical and rehabilitation psychology does not have a reputation for being ‘the best work environment’, and often, practice in this area requires additional study in understanding medical standards of care as well as psychological standards of care. Therefore, the assumption was made that psychologists in this area have chosen to work in this area based, at least partially, on their interest in medical or rehabilitation psychology in particular.

Another predictor of job satisfaction, work setting factors, has not been assessed in this study. Since survey respondents who identified as working with trauma victims within Veterans Administration, acute care, or rehabilitation hospitals, were used in this

research project, it was assumed that the participants share certain common work factors that have been identified as contributing to job dissatisfaction (such as ambiguity of roles, hierarchical organization, poor communication, lack of organization, and inefficiency in the work-place).

Last, a limitation lies in the naturalistic study design. Because the study is not experimental in nature, causal relations between variables of interest cannot be inferred. Rather, only correlational relationships have been established. Implications for future training, practice, recruitment, and research

#### *Implications for the Future*

*Training.* Impulse control is predictive of job satisfaction in the presence of low burnout. This is important information because it is known that people often view their work environment as satisfying when their personality traits match the environment in which they work (Holland, 1997). In other words, congruence between people and environment leads to job satisfaction. If a student is aware of their impulse control tendencies on a continuum between high and low, that information may be used as a factor in deciding potential future career paths. Training programs should consider giving students the information that will help them make informed decisions as they move forward with career and job decisions.

*Practice.* The VA hospital system is the largest single employer of psychologists in the U.S. (American Psychological Association Practice Organization, 2008). With the addition of psychologists in acute care hospitals and rehabilitation hospitals, and other similar settings, one can assume that a significant percentage of employed psychologists are working in institutional settings with clients who have experienced trauma. For

psychologists already in practice in these settings, awareness that Impulse Control, moderated by low burnout, may lead to job satisfaction is an important piece of information. This information can drive daily decision-making. Processes that encourage steps of evaluation before action might lead to less impulsive responses and improved impulse control. Processes, both personal and institutional, can encourage step-by-step evaluative behavior which may lead to lower burnout and therefore, greater job satisfaction. Additionally, work sites can institute measures to decrease the risk of burnout (i.e., limiting working hours to 40 hours per week, encouraging social and peer support within the work environment), to promote job satisfaction.

*Recruitment.* Career theory suggests that recruitment and retention can be complemented by focusing efforts on potential employees that are most likely to attain satisfaction in that job or career (Parsons, 1909). Employers and interviewers in institutional settings, where clients have experienced trauma, can likely structure interviews to enhance their knowledge of impulse control and behaviors that contribute to burnout in their potential employees. This is not to discourage the hiring of those with less impulse control; but rather, to identify those at risk and structure future employment support so that impulsive actions, and behaviors leading to burnout, are discouraged and monitored. Often identification of impulsiveness can be attained through simple interviewing, with particular emphasis on impulsiveness in previous work settings. Identification of particular ways to decrease burnout can also be identified particular to each employee upon hire, and support mechanisms can be identified at the outset of employment.



*Research.* No other study was located that studied job satisfaction in this particular sample population. Because the results of this study have added to the current research by identifying a mediator in the pathway between personality traits and job satisfaction, a replication of this study is important to support this data. Additionally, if burnout is a mediator between personality traits and job satisfaction, further research needs to be done to find out what actions, specific to this population, decrease the risk of burnout? Are there particular work setting factors that play an important role in the relationship between impulse control, burnout and job satisfaction? Future research might assess the effect of different work setting factors on this relationship.

Future studies could also study the differences between those who work part-time versus full-time in similar environments. Because the present study eliminated participants who worked part-time, due to difference in personality traits, it is possible that the relationship between personality traits, burnout and job satisfaction would be affected in this group.

In order to reduce response bias, a multi-method approach to collecting data should also be considered. The present study measures self-reported job satisfaction only. However, measures of organizational commitment and turnover intention might also provide additional information. These measures might also be useful to employers interested in utilizing study outcome results and making hiring decisions. Finally, co-worker and manager impressions of employee effectiveness would add a dimension of institutional integration that has not been measured in this study.

### *Conclusion*

The results of this study indicate that personality traits that encompass Impulse Control are instrumental in job satisfaction in psychologists who work with trauma clients in institutional settings. However, this is only true in the presence of low burnout. Without low burnout, there is no significant relationship between personality traits and job satisfaction in this population. Therefore, creation of environment that decreases the risk of burnout is an important key to job satisfaction in this sample population.

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Appendix A  
Demographic Questionnaire

Please complete the following questions about yourself. This information is private and will remain confidential. If you have any comments, you are welcome to write them on the back of this sheet. They will be taken into consideration. Please circle your answer or fill in the blank for the questions below:

1. I am:           MALE   FEMALE.

2. My age is:                   \_\_\_\_\_.

3. I am (Circle those that apply): Caucasian/White   African American   Asian /Pacific Islander  
Hispanic/Latino(a) Native American/Alaskan Native   Other \_\_\_\_\_

4. I hold the following degree (circle one please):

Ph.D. Psy. D. Ed.D. Other \_\_\_\_\_ (please specify)

5. My degree was attained in the following area (circle one please):

Counseling   Clinical   Rehabilitation   School   Other  
\_\_\_\_\_ (please specify)

6. I have been working with physical or psychological trauma\* victims in the same capacity for \_\_\_\_\_ # of years. (Please round to the closest whole number)

7. My work with physical or psychological trauma\* victims takes presently place in a (circle one please):

VA hospital   General acute care hospital   Rehab hospital   Other \_\_\_\_\_ (please specify)

8. My present job/functional status when I work with victims of physical or psychological trauma\* is (circle one please):

Full time   Part time   Hospital Privileges   Other \_\_\_\_\_ (please explain)

9. Most of my work with physical or psychological trauma\* patients are is in the:

Outpatient / Inpatient arena (circle one please).

10. Time I spend in direct contact with trauma\* patients is (circle one please): **Direct contact includes face to face treatment time with patient or patient's family – please DO NOT include assessment time as direct contact).**

< 10 hours/week      10-20 hours/week      21-30 hours/week      > 30 hours/week

**11.** Please indicate whether the type of trauma experienced by your clients has been *mostly* physical or psychological (circle one, please):

Mostly physical trauma\*  
trauma\*

Mostly psychological

**\*Physical Trauma** = serious and body altering physical injury resulting from blunt force or penetrating external factors

**\*Psychological Trauma** = emotional or psychological injury, resulting from an extremely stressful or life-threatening situation

## Appendix B

### The Big Five Inventory (BFI)



Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Disagree Strongly 1	Disagree a little 2	Neither agree nor disagree 3	Agree a little 4	Agree strongly 5
---------------------------	---------------------------	------------------------------------	------------------------	------------------------

**I see Myself as Someone Who...**

- |  |  |
|--|--|
| ___ 1. Is talkative.                         | ___ 23. Tends to be lazy.                        |
| ___ 2. Tends to find fault with others.      | ___ 24. Is emotionally stable not easily upset   |
| ___ 3. Does a thorough job.                  | ___ 25. Is inventive.                            |
| ___ 4. Is depressed, blue.                   | ___ 26. Has an assertive personality.            |
| ___ 5. Is original, comes up with new ideas. | ___ 27. Can be cold and aloof.                   |
| ___ 6. Is reserved.                          | ___ 28. Perseveres until the task is finished.   |
| ___ 7. Is helpful and unselfish with others. | ___ 29. Can be moody.                            |
| ___ 8. Can be somewhat careless              | ___ 30. Values artistic, aesthetic experiences.  |
| ___ 9. Is relaxed, handles stress well.      | ___ 31. Is sometimes shy, inhibited.             |
| ___ 10. Is curious about many things         | ___ 32. Considerate & kind to most everyone      |
| ___ 11. Is full of energy.                   | ___ 33. Does things efficiently.                 |
| ___ 12. Starts quarrels with others.         | ___ 34. Remains calm in tense situations.        |
| ___ 13. Is a reliable worker.                | ___ 35. Prefers work that is routine.            |
| ___ 14. Can be tense.                        | ___ 36. Is outgoing, sociable.                   |
| ___ 15. Is ingenious, a deep thinker.        | ___ 37. Is sometimes rude to others.             |
| ___ 16. Generates a lot of enthusiasm.       | ___ 38. Makes plans & follows through            |
| ___ 17. Has a forgiving nature.              | ___ 39. Gets nervous easily.                     |
| ___ 18. Tends to be disorganized.            | ___ 40. Likes to reflect, play with ideas.       |
| ___ 19. Worries a lot.                       | ___ 41. Has few artistic interests.              |
| ___ 20. Has an active imagination.           | ___ 42. Likes to cooperate with others.          |
| ___ 21. Tends to be quiet.                   | ___ 43. Is easily distracted.                    |
| ___ 22. Is generally trusting                | ___ 44. Sophisticated in art, music, literature. |

Please check: Did you write a number in front of each statement?

## Appendix C

Six subscales from the BRIEF COPE and one subscale from the COPE Inventory

We are interested in how people respond when they confront difficult or stressful events in their lives. There are many ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events **AT WORK**. Obviously, different events bring out somewhat different response, but think about what you usually do when you are under a lot of stress **AT WORK**.

Then respond to each of the following items by writing one number on the sheet for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no “right” or “wrong” answers, so choose the most accurate answer for YOU.

- 1 = I usually don't do this at all.
- 2 = I usually do this a little bit.
- 3 = I usually do this a medium amount.
- 4 = I usually do this a lot.

- \_\_\_ 1. I restrain myself from doing anything too quickly.
- \_\_\_ 2. I've been concentrating my efforts on doing something about the situation I'm in.
- \_\_\_ 3. I've been saying to myself "this isn't real."
- \_\_\_ 4. I've been using alcohol or other drugs to make myself feel better.
- \_\_\_ 5. I've been getting emotional support from others.
- \_\_\_ 6. I've been giving up trying to deal with it.
- \_\_\_ 7. I hold off doing anything about it until the situation permits.
- \_\_\_ 8. I've been taking action to try to make the situation better.
- \_\_\_ 9. I've been refusing to believe that it has happened.
- \_\_\_ 10. I've been saying things to let my unpleasant feelings escape.
- \_\_\_ 11. I've been getting help and advice from other people.
- \_\_\_ 12. I've been using alcohol or other drugs to help me get through it.
- \_\_\_ 13. I've been trying to see it in a different light, to make it seem more positive.
- \_\_\_ 14. I make sure not to make matters worse by acting too soon.
- \_\_\_ 15. I've been criticizing myself.
- \_\_\_ 16. I've been trying to come up with a strategy about what to do.
- \_\_\_ 17. I've been getting comfort and understanding from someone.
- \_\_\_ 18. I've been giving up the attempt to cope.
- \_\_\_ 19. I've been looking for something good in what is happening.
- \_\_\_ 20. I've been making jokes about it.

- \_\_\_ 21. I force myself to wait for the right time to do something.
- \_\_\_ 22. I've been accepting the reality of the fact that it has happened.
- \_\_\_ 23. I've been expressing my negative feelings.
- \_\_\_ 24. I've been trying to find comfort in my religion or spiritual beliefs.
- \_\_\_ 25. I've been trying to get advice or help from other people about what to do.
- \_\_\_ 26. I've been learning to live with it.
- \_\_\_ 27. I've been thinking hard about what steps to take.
- \_\_\_ 28. I've been blaming myself for things that happened.
- \_\_\_ 29. I've been praying or meditating.
- \_\_\_ 30. I've been making fun of the situation.

## Appendix D

Work-related and Client-related Burnout scales from the  
Copenhagen Burnout Inventory (CBI)

Please circle the answer to each individual item that best reflects your personal experience.

1. Do you feel worn out at the end of the working day?  
Always   Often   Sometimes   Seldom   Never
2. Do you find it hard to work with clients?  
Always   Often   Sometimes   Seldom   Never
3. Are you exhausted in the morning at the thought of another day at work?  
Always   Often   Sometimes   Seldom   Never
4. Does it drain your energy to work with clients?  
Always   Often   Sometimes   Seldom   Never
5. Do you feel that every working hour is tiring for you?  
Always   Often   Sometimes   Seldom   Never
6. Do you find it frustrating to work with clients?  
Always   Often   Sometimes   Seldom   Never
7. \*Do you have enough energy for family and friends during leisure time?  
Always   Often   Sometimes   Seldom   Never
8. Do you feel that you give more than you get back when you work with clients?  
Always   Often   Sometimes   Seldom   Never
9. Is your work emotionally exhausting?  
Always   Often   Sometimes   Seldom   Never
10. Are you tired of working with clients?  
Always   Often   Sometimes   Seldom   Never
11. Does your work frustrate you?  
Always   Often   Sometimes   Seldom   Never
12. Do you sometimes wonder how long you will be able to continue working with clients?  
Always   Often   Sometimes   Seldom   Never
13. Do you feel burnt out because of your work?  
Always   Often   Sometimes   Seldom   Never

NOTE: \* Starred items are reverse scored.

Appendix E  
Job Satisfaction Index

Please *circle one number* on the continuum indicating your answer with **0** meaning that you **strongly disagree** and **10** meaning that you **strongly agree**.

Please circle the answer the corresponding.

1. I feel fairly well satisfied with my present job.

0 1 2 3 4 5 6 7 8 9 10

**Strongly  
disagree**

**Strongly  
agree**

2. Most days I am enthusiastic about my work.

0 1 2 3 4 5 6 7 8 9 10

**Strongly  
disagree**

**Strongly  
agree**

3. Each day of work seems like it will never end.

0 1 2 3 4 5 6 7 8 9 10

**Strongly  
disagree**

**Strongly  
agree**

4. I find real enjoyment in my work.

0 1 2 3 4 5 6 7 8 9 10

**Strongly  
disagree**

**Strongly  
agree**

5. I consider my job rather unpleasant.

0 1 2 3 4 5 6 7 8 9 10

**Strongly  
disagree**

**Strongly  
agree**

**THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY.**



Appendix F  
Cover Letter

(exact date mailed)

Dear Recipient,

We are requesting your participation in a project designed to help us understand personal or coping resources that may contribute to job satisfaction when working with victims of psychological or physical trauma. The information under consideration has potentially important implications for the recruitment and retention of psychologists into this particular field of work.

In order that the results truly represent psychologists who presently work with victims of trauma, it is important the survey be completed and returned. Your responses will remain strictly confidential. Only group data will be used in the analysis. To ensure anonymity, the questionnaire does not request any personally identifying information.

We would be very happy to answer any questions you might have. Please feel free to email the Principal Investigator, doctoral candidate Mardi Smith, at [msmith9@memphis.edu](mailto:msmith9@memphis.edu) for any questions or concerns.

Thank you very much for your anticipated assistance.

Respectfully,

Mardi M. Smith, M.S.  
Douglas, C. Strohmer, Dissertation Chair

Appendix G  
Follow-up Postcard

April 10, 2009

Approximately one week ago, a survey seeking information about yourself and your work was mailed to you. If you have already completed and returned the survey, please accept our sincere thanks. If not, may we request that you please consider doing so as soon as is possible. Your input is very valuable to the completion of this research project.

If by some chance you did not receive the survey, or if it got misplaced, please feel free to email the Principal Investigator at [msmith9@memphis.edu](mailto:msmith9@memphis.edu) and one will be mailed to you right away. Thank you very much.

Respectfully,

Mardi Smith, M.S., Principal Investigator  
Douglas C. Strohmer, Dissertation Chair