

**University of Alberta**

Attachment, Supervisor Support, and Burnout In Professors

by

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## Abstract

Burnout is a chronic syndrome characterized by emotional exhaustion, cynicism, and reduced efficacy that has long-term ill effects for individuals, organizations, families, and health-care systems. Job engagement is considered to be the positive opposite of the burnout experience, and it is conceptualized by energy, involvement with work, and efficacy. The presence of supervisor support has been shown to mitigate against the development of burnout more than collegial and non-work forms of social support across occupations, and it is believed to do this as a result of the supervisor's influence over work-related demands and resources. Using a sample of 213 university professors, this study proposed that individual differences in attachment orientations would predict burnout and job engagement, and that supervisor support would moderate these relationships. Regression analyses identified anxious attachment and supervisor support as predictors of burnout and job engagement in this study. However, collegial support was a stronger predictor of these outcomes. The hypothesis that supervisor support would moderate the relationship between attachment and burnout was not supported.

## Acknowledgement

Having the opportunity to initiate this PhD degree is something that I consider to be an uncommon opportunity. I know of friends and family who would also enjoy the chance to pursue advanced education in an area of their interest, and who have considerable contributions to offer in this regard, but for various circumstances were unable to, or have not yet done so. It is with this knowledge that I sincerely offer my appreciation to them for their guidance, unconditional support (both emotional and instrumental ;-), and their tolerance. It is my hope that in return there may be some positive meaning for them in the completion of my studies, which they've supported, or that at least they find pride in sharing this accomplishment with me. Specific thanks to: my wife Sandra, for the unconditional love that helped me to complete this endeavour; to my son Isaiah for giving me motivation; and to my parents and brothers for encouraging me and being there for me when I needed a boost. Similarly, thank you to my dear friends for their kind support.

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## CHAPTER 1: INTRODUCTION

Burnout is a prime topic in the area of research that seeks to improve individual and organizational health conditions (Schaufeli & Enzmann, 1998). Health prevention studies have identified job engagement as the direct opposite of burnout, and therefore researchers from this area have focused on discovering how increasing employee job engagement can boost health and quality of life, thereby preventing burnout. The effects of burnout are chronic, costly, and can last for years (Halbesleben & Demerouti, 2005; Kristensen et al., 2005; Shirom, 2005; Taris et al., 2005). It affects individuals and organizations (Halbesleben & Buckley, 2004; Shirom, 2003), public health (Institute of Health Economics, 2010; Watson, Wyatt, Worldwide, 2011), and often spills over into family life. This multi-component syndrome directly affects employees' emotional energy reserves, sense of involvement with work and relationships, and their personal sense of accomplishment (Maslach, 1982; Maslach & Jackson, 1981). Alternately, job engagement enhances energy, involvement, and efficacy (Maslach & Leiter, 2008).

In addition to job engagement, social support is important in the prevention of burnout, due to its buffering effects on the development of this condition. In particular, supervisor support has been found to be the form of support that is most influential on the development of burnout, when compared to other forms of support from work and home (Ellis & Miller, 1994; Greenglass et al., 1996). Researchers postulate that the supervisor's direct ability to decrease workload demands is the major explanation for this effect.

Although attachment theory has only been preliminarily studied in relation to burnout and not at all in relation to job engagement, attachment is already known to influence perceptions of supervisor support (Schirmer & Lopez, 2001). Due to the practical and organizational authority inherent in the supervisory role, supervisors can represent significant attachment figures for the employee in relation to the workplace (Hazan & Shaver, 1990). Also, the role of attachment in stress and coping is well documented (Mikulincer & Florian, 1993, 1995, 1998; Shaver & Hazan, 1994, Simpson & Rholes, 1998). Therefore, associations between attachment and supervisor support and between attachment and stress have already been studied. Since the burnout syndrome is defined as the effects of cumulative organizational stress, it appears to be a natural extension of the literature to imply that attachment orientations [i.e. secure, and insecure (anxious and avoidant)], are likely predictive of the development of burnout, and increased job engagement through their interaction with supervisor support. Adult attachment orientations may offer an alternate yet supplemental explanation for the strong association between supervisor support and burnout.

#### *General Description of the Study*

The purpose of this present study was to extend the research on burnout and job engagement by testing the hypotheses that insecure attachment is directly predictive of burnout and inversely predictive of job engagement. Confirmation of such predictive relationships would further explain why supervisor support is a better defence against burnout than other forms of social support such as collegial, friend, family and significant partner supports.

Burnout has been extensively studied within the teaching field (Burke & Greenglass, 1988; Friedman, 1995; Gold, 1985; Maslach & Pines, 1977; McIntyre, 1984; Morgan & Krehbiel, 1985; Schwab & Iwanicki, 1982b; Stevens & O'Neill, 1983). However, empirical investigations specific to the population of university-level positions have been less common, and have also focused on burnout in the context of the teaching relationships only (Blix et al., 1994; Hogan & McKnight, 2007; Tumkaya, 2007). Findings that burnout is less affected by the type of position that a person holds than by the characteristics that are common across occupations, such as the balance between work demands and available resources, are robust (Halbesleben, 2006; Schaufeli & Enzmann, 1998). As such, burnout was studied in university professors within the broader context of their relationships to their work, rather than just examining their teaching relationships which is only one aspect of their roles. This broader perspective is consistent with the more common definition of burnout across other occupations.

Data collection was conducted by distributing 1000 packages of self-report measures to a random sample of academics working fulltime at a major western Canadian University. Steps were taken to ensure anonymity of the participants' responses. Data analyses employed both univariate and multivariate techniques.

#### *Rationale for the Research*

Burnout and job engagement have become burgeoning topics of research within the larger area of stress since the 1970's. Burnout has been recognized as a health problem with chronic effects that can last for years (Taris et al., 2005; Kristensen et al., 2005; Halbesleben & Demerouti, 2005; Shirom, 2005). It not

only impacts individuals and organizations (Halbesleben & Buckley, 2004; Shirom, 2003), but also influences public health (Institute of Health Economics, 2010; Watson, Wyatt, Worldwide, 2011). Characterized as a psycho-affective response to work-related stress, several conceptualizations of burnout have been tabled to better define this syndrome and its prevention (Buunk, Schaufeli, & Ybema, 1994; Fischer, 1983; Freudenberger, 1980; Garden, 1989; Schaufeli et al., 1996; Van Yperen et al., 1992). Leading researchers in the field commonly regard this construct as a multi-component syndrome affecting one's emotional energy reserves, approach to work and work relationships, and personal sense of accomplishment (Maslach, 1982; Maslach & Jackson, 1981). Job engagement is the positive opposite of burnout, and a state in which energy, involvement, and efficacy are experienced such that risks for ill health and burnout are reduced (Maslach & Leiter, 2008).

Recently, research has led to well-documented findings concerning the protective benefits of social support (e.g., Cobb, 1976), against burnout's deleterious effects (Ellis & Miller, 1994; Greenglass et al., 1996; Himle et al., 1991; Statistics Canada, 2004). Various aspects of social support have been investigated, from its functions and types (Ellis & Miller 1994, Pines 1983), to the importance and availability of this resource (Pines & Aronson, 1988; Pines, et al., 2002). Contrary to what was expected by some researchers, studies have usually found that supervisor support is the social support resource most strongly associated with burnout (Halbesleben, 2006; Rhoades & Eisenberger, 2002). For instance, a meta-analytic review of 122 studies comprised of over 40,000

participants found that supervisor support, rather than non-work support was most related to all three dimensions of burnout (Halbesleben, 2006). The author of the review suggested that the magnitude of positive effects from supervisory support comes from the supervisor's potential to decrease the external workload demands on the individual, though this explanation remains untested.

Attachment research may provide an alternate explanation.

Specifically, it has been found that supervisors can represent significant attachment figures in the employee's relationship with the workplace (Hazan & Shaver, 1990). If an employer plays the role of a significant attachment figure it stands to reason that their support would be of considerable emotional significance, perhaps especially for the insecurely attached. However, research which empirically links attachment to burnout is very limited. One preliminary investigation (Pines, 2004) identified a relationship between attachment and burnout in five separate studies of students, nurses, and the general population, and found that attachment was most related to the emotional exhaustion factor of burnout. The author called for additional research to confirm and further explain this link. This study was designed with the purpose of addressing this important gap in the literature, and extending this link to the demographic of university professors.

Therefore, the purpose of this present study was to confirm preliminary research showing that attachment is associated with burnout and expand this finding to a new demographic. This study also extends the literature in this area by proposing that attachment is predictive of job engagement, because

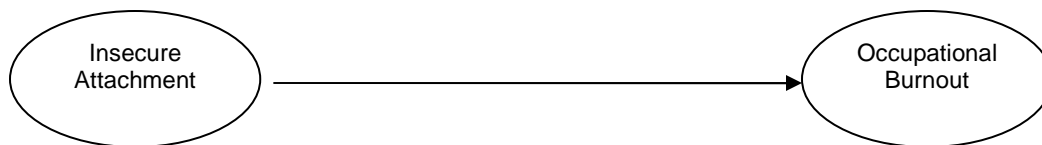
attachment has not yet been studied in relation to job engagement. An additional element of this study was the proposal that attachment would explain why supervisor support is more strongly associated than other forms of social support to burnout and job engagement. The influence of authority inherent in a supervisor role may activate the attachment mechanism for those insecurely attached, thereby tempering the development of burnout and engagement more than other forms of social support. Consequently, supervisor support is expected to moderate the relationship between attachment and these criterion variables. To date, no studies have addressed the link between attachment and job engagement, or investigated the influence that attachment may have in the relationships between supervisor support with both burnout and engagement.

#### *Hypotheses for the Present Study*

Hypothesis 1: Attachment and Burnout. Insecure attachment directly predicts the occurrence of burnout. Refer to Figure 1 for a diagram of this hypothesis.

Figure Caption

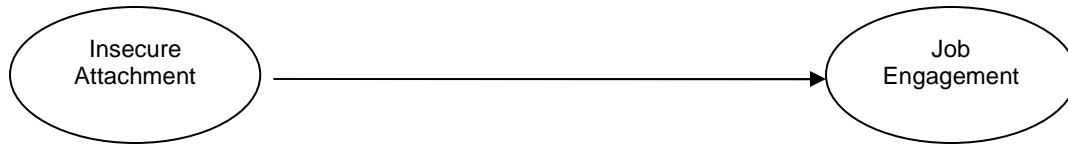
Figure 1. Insecure Attachment Predicts Burnout



Hypothesis 2: Attachment and Job Engagement. Insecure attachment inversely predicts job engagement. Refer to Figure 2 for a diagram of this hypothesis.

## Figure Caption

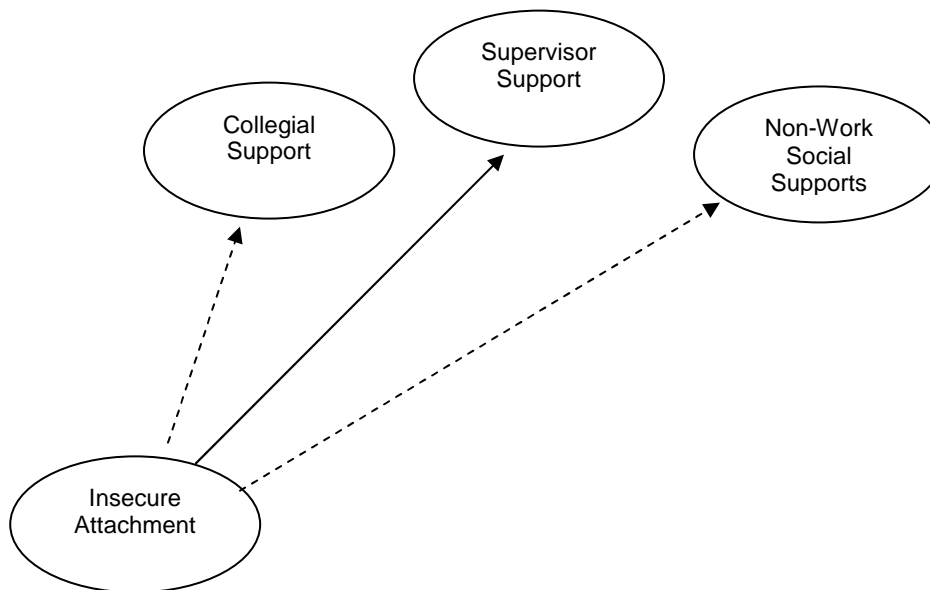
Figure 2. Insecure Attachment Predicts Job Engagement



Hypothesis 3: Attachment and Social Support. Insecure attachment inversely predicts perceptions of social support, and more variance in supervisor support than coworker and non-work social support. Refer to Figure 3 for a diagram of this hypothesis.

## Figure Caption

Figure 3. Insecure Attachment Predicts Social Support

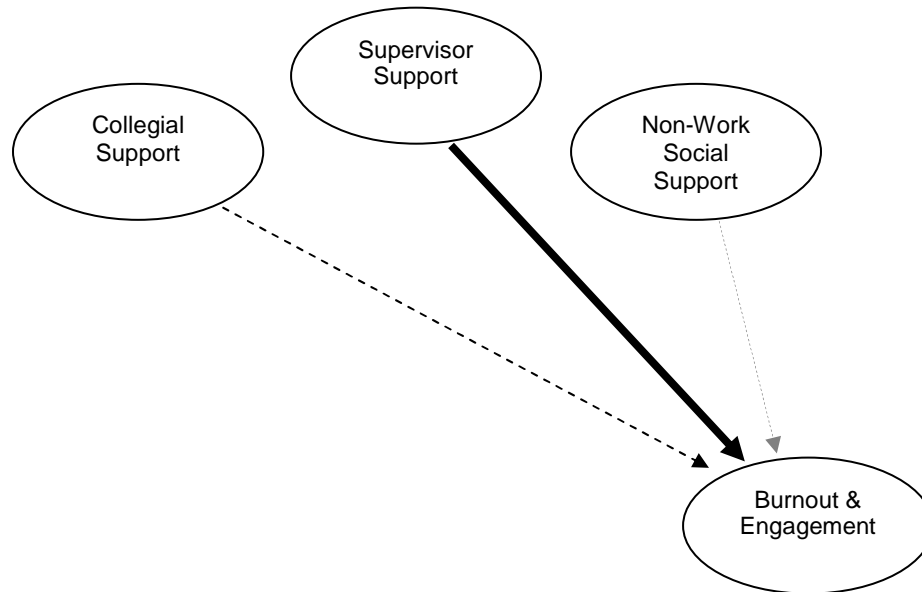




Hypothesis 4: Social Support and Burnout. Supervisor support predicts burnout more than collegial or non-work social supports. Refer to Figure 4 for a diagram of this hypothesis.

Figure Caption

Figure 4. Social Support's Prediction of Burnout and Job Engagement

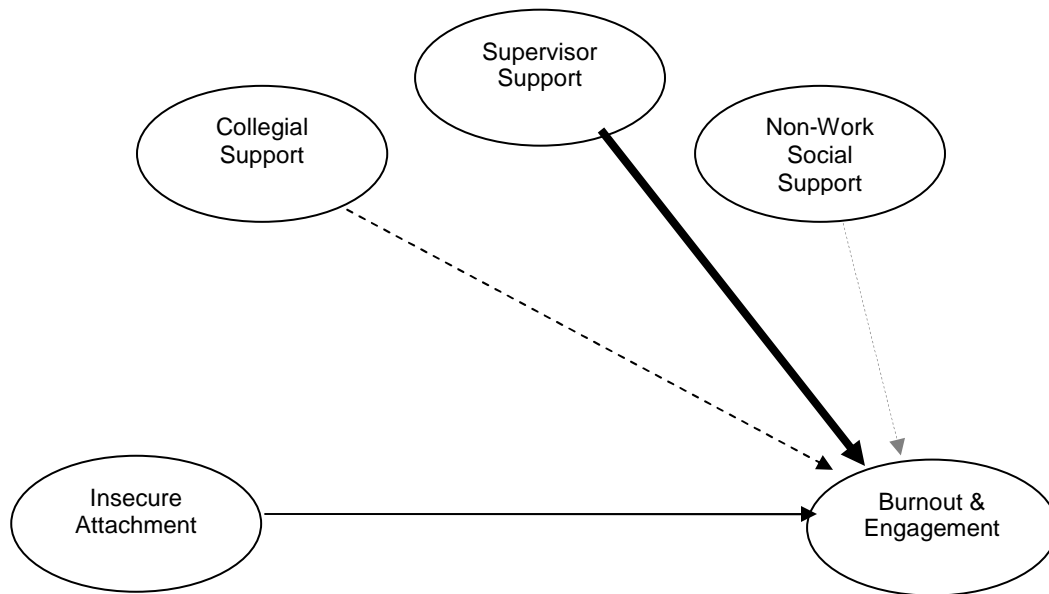


Hypothesis 5: Social Support and Job Engagement. Supervisor support predicts job engagement more than collegial or non-work social supports. Refer to Figure 4 for a diagram of this hypothesis.

Hypothesis 6: The Order of Predictor Variables. Insecure attachment predicts greater variance in burnout and job engagement than all forms of social support except supervisory support. Refer to Figure 5 for a diagram of this hypothesis.

## Figure Caption

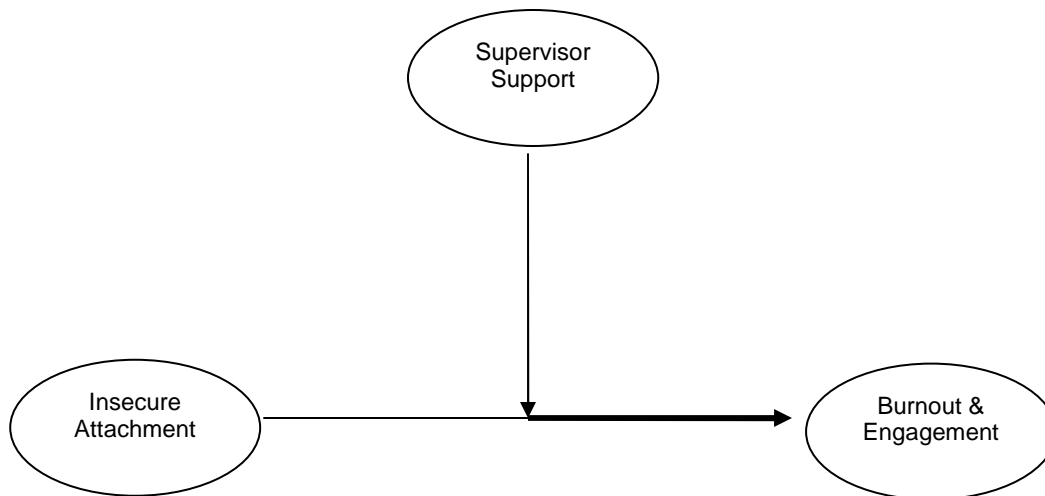
Figure 5. Variance in Burnout and Job Engagement Predicted by Insecure Attachment and Social Support



Hypothesis 7: Attachment, Supervisor Support, and Burnout. The relationship between insecure attachment orientations and burnout is moderated by the perception of supervisor support, such that supervisor support increases the magnitude of the direct relationship between insecure attachment and burnout. Refer to Figure 6 for a diagram of this hypothesis.

## Figure Caption

Figure 6. Moderation of the Relationships Between Insecure Attachment and Burnout and Job Engagement by Supervisor Support



Hypothesis 8: Attachment, Supervisor Support, and Job Engagement.

Supervisor support moderates the relationship between insecure attachment and job engagement, such that supervisor support increases the magnitude of the negative relationship between insecure attachment dimensions and job engagement. Refer to Figure 6 for a diagram of this hypothesis.

## CHAPTER 2: LITERATURE REVIEW

This literature review provides an analysis of current knowledge in four different areas of research: burnout, job engagement, social support, and attachment theory. The review of the burnout literature will provide an operational definition that distinguishes it from stress and focuses on the workplace setting. Theoretical models of this construct are presented, including the most commonly regarded single and multi-component perspective identified by Maslach and her colleagues (Maslach, 1982; Maslach & Jackson, 1981). The factors known to be associated with burnout are also reviewed.

In keeping with the recent focus on positive psychology, this review also examines the concept of job engagement and the latest development in the burnout literature which describes this positive work-related state as burnout's opposite. An account of the issues regarding the definition and measurement of engagement is provided, and research that distinguishes it from related constructs is summarized to further an understanding of how this outcome variable contributes to workplace health.

One widely regarded protective factor for a myriad of health problems is social support (Constable & Russell, 1986; Davis, Morris, & Kraus, 1998; Ganster, Fusilier, & Mayes, 1986; House, 1981; Ross, et. al, 1989; Russell, Altmaier, & Van Velzen, 1987). The review of this body of literature emphasizes explanations for its beneficial effects, and differentiates between its many forms and their purported benefits. Specifically, the role and effects of supervisors'

support to employees is contrasted with non-work social supports as a buffer against burnout.

Concluding this literature review is a description of attachment theory, and its influence on the development of self-worth and habits of engagement with others as adults. An account of leading theorists' research on one's attachment to organizations extends this construct to the workplace. The adaptive behaviours associated with attachment orientations are described with a specific focus on interpersonal and organizational relationships.

### *Burnout*

The concept of burnout was first constructed in the early 1970s by Freudenberger (1974), who identified it as a phenomenon which culminates in a person "becoming inoperative for all intents and purposes" (p. 73), from excessive demands on energy, strength, or resources. He noted that burnout occurs in a multitude of occupations, and he provided a number of possible explanations for its origins. He suggested that the motivations impelling people to work in front-line occupations with the disenfranchised could contribute as causes to burnout. Self-sacrifice, self-aggrandizement, and the denial of personal problems are examples of these motivations. The aspect of personality that he pointed to as possibly contributing to burnout involves one's quest to satisfy an inner need, such that "Those of us who work to help those in the community are there because we see ourselves as dedicated people in some ways . . . we are looking for some further personal identity or for a shift of our own personal

lifestyle” (p. 74). Given such a model of the self, the cynicism aspect of burnout would be experienced as particularly surprising and distressing.

Since this initial definition, interest in the term has swelled and researchers have focused on various descriptions of its characteristics, causes, correlates, and outcomes as classifications for burnout. It has been considered to be an attitude of disbelief in one’s ability to adapt to specific stressors (Knowles, 1981), a temporary state of emotional energy depletion caused by unmet personal needs (Jayaratne, Himle, & Chess, 1991; Scherer, Cox, Key, Stickne, & Spangler, 1992; Sassali, 1979), a personality predisposition (Freudenberger, 1974; Garden, 1989), a display of physical, emotional, and mental exhaustion from chronic emotional strain (Perlman & Hartman, 1982; Pines & Aronson, 1981), as due to occupational stress (Justice, Gold, & Klein, 1981), the result of work-related environmental characteristics (Shirom, 2005), or the expression of a person’s familial environmental factors (Bekker, Croon, & Bressers, 2005; Middeldorp, Stubbe, Cath, & Boomsma, 2005). This multitude of classifications has made it a challenge to define burnout clearly (Corrigan, Holmes, & Luchins, 1995).

#### *Definition*

A systematic review of 35 years of the burnout literature has led researchers to identify five common elements of this construct: 1) the predominance of cognitive and emotional fatigue symptoms; 2) physical distress symptoms; 3) that burnout-symptoms are work-related; 4) the symptoms occur in people without a previous history of psychopathology; and, 5) decreased effectiveness and the

diminution of work performance results from negative attitudes and behaviours (Maslach & Schaufeli, 1993; Schaufeli, et. al, 2001). The definition resulting from these five elements is the predominant one used by the area's leading researchers. It delineates burnout as the end result of a process of emotional attrition resulting from a person's interaction with the work setting (Freudenberger, 1980; Maslach, 1982; Maslach, Schaufeli, & Leiter, 2001; Niehouse, 1981; Pines, 2004; Pines & Aronson, 1988). The relational emphasis between the individual and the workplace that is inherent in this definition led to the development of a multidimensional transactional model of burnout and consensus on three core dimensions of the construct (Belcastro, Gold, & Hays, 1983; Fimian & Blanton, 1987; Green & Walkey, 1988; Lee & Ashforth, 1990; Maslach, 1982, 1998; Maslach & Jackson, 1981; Pierce & Molloy, 1989; Schaufeli, et al., 2001). This three factor model, which has been used in over 1000 studies to date, is considered superior to two-factor models and is the gold standard for measuring the construct (Breso, Salanova, & Schaufeli, 2007; Gold, Bachelor, & Michael, 1989; Leiter & Durup, 1994; Schaufeli, et al., 2001; Schaufeli & Enzmann, 1998).

According to this model the first and central component of burnout is *emotional exhaustion*. It is an experience of being depleted of emotional resources in relation to the workload and is the factor that represents the experience of stress for this construct (Breso, Salanova, & Schaufeli, 2007). However, emotional exhaustion is considered to extend beyond simply being an aspect of the stress experience because of its motivational component, which

prompts a person to distance oneself both cognitively and emotionally from the demands of work (Maslach, 1981; Maslach, Schaufeli, & Leiter, 2001). Cynicism, (also sometimes referred to as disengagement or depersonalization), is the second factor representing the interpersonal component of burnout. It refers to the negative, distrustful, and detached attitudes towards others at work which are believed to evoke the evolutionary self-protective response of seeking distance from a stressor (Maslach, Schaufeli, & Leiter, 2001). The final factor is labeled reduced professional efficacy, and represents the self-evaluation component of burnout. This factor characterizes the lowered sense of competence, efficacy, and a decline in productivity present during burnout. Inefficacy is nominally correlated to the other two factors, an issue which initially may seem to detract from the internal validity of the composite scale. However, when factor analysis has been employed it has still emerged as an integral part of the model, hypothesized to reflect individual personality characteristics (Maslach, 1993). Regarding the divergent validity of all three burnout factors, each is differentially related to alternate health issues and outcomes (Lee & Ashforth, 1990, 1996; Schaufeli et. al, 2001), including headaches, gastrointestinal disorders, sleep problems, immune deficiencies, high blood pressure, and muscle tension (Leiter & Maslach, 2000a; Maslach & Leiter, 2008).

#### *Distinction from Stress*

The most similar health issue to burnout is occupational stress, but it is important to note that research has identified several distinctions between these problems (Beehr, 1986; Kahn, 1987; Penn, Romano, & Foat, 1988). A multitude



of definitions for occupational stress exist in the literature which initially conceptualized stress as both the stimulus that impacts an individual (Anderson, 1978; Matheny et al., 1986), and as the physiological stress response originally described by Canon in 1929 as the “fight or flight” response (cited in Schuler, 1980). The predominant view that has evolved from these early conceptualizations now demarcates a transactional model of organizational stress as the interaction between the specific work setting demands and the strain present in a person’s attempt to adapt (Lazarus, 1990, 1999; Pines, 1993; Potter & Fiedler, 1981; Selye, 1974). As described above within the transactional model of burnout, when stress is repetitive or unrelenting, the occurrence of burnout is just one possible outcome (Paine, 1982; Penn, Romano, & Foat, 1988; Pines, Aronson, & Kafry, 1981). Also, the occurrence of stress is considered to be context-free, occurring in any environment whenever a threat is perceived (Koeske & Koeske, 1993; Schuler, 1980). Conversely, the presence of burnout has been limited to the occupational environment only (Bakker et al., 2000; Schaufeli et al., 2001), and subsequently impacts other areas of life, such as one’s personal relationships or general life satisfaction, usually only during its advanced stages (Demerouti et al., 2000; Freudenberger, 1983; Jackson & Maslach, 1982; Zedeck, Maslach, Mosier, & Skitka, 1988).

#### *Distinction from Depression*

The research finding that burnout emerges first from occupational settings has helped to clarify its relationships with other mental health issues, namely depression. Kahill's (1988) empirical review of the burnout literature associated

this construct most with the negative affect found in depression, specifically irritability, anger, anxiety, and helplessness. Despite an obvious overlap between burnout and depression (15-20% shared variance), meta-analytic reviews have found depression and burnout to be separate syndromes (Glass & McKnight, 1996; Schaufeli & Enzmann, 1998). With respect to its causal relationship with depression, use of structural equation modeling depicts depressive symptomatology to be an outcome of burnout, rather than the reverse (Glass et al., 1993). These findings strengthen the portrayal of burnout as a distinct health issue emerging from a person's interactions with the work setting, and that it is not merely an indicator of another mental health issue which exhibits similar symptoms.

#### *Distinctions from Other Health Outcomes*

Further distinction of burnout from other mental health conditions has been supported by the identification of specific diagnostic criteria for this syndrome (Maslach, Schaufeli, & Leiter, 2001; Schaufeli et al., 2001). The five common elements used by Maslach & Schaufeli (1993), to develop their three factor model correspond to the diagnostic criteria for F48.0 Job-Related Neurasthenia found in the International Classification of Diseases (ICD-10) (WHO, 1992). Neurasthenia is defined as persistent and chronic mental and/or physical fatigue, which can not be diagnosed in the presence of other mood or anxiety disorders. This three-factor model of burnout has distinguished Job-Related Neurasthenia from other forms of mental disorders in psychiatric outpatients, and therefore it is

the diagnostic label which some researchers view to be the clinical equivalent of burnout (Maslach & Leiter, 2008; Maslach, Schaufeli, & Leiter, 2001).

### *Transactional Theory*

As stated previously, research has offered many causes for burnout, yet the focus of the debate has been between organizational versus individual factors. The predominant transactional models used in both the stress and burnout research claim that an exclusive focus on either environmental stimuli or individual differences is inadequate because both genetic and environmental factors are involved (Bakker & Schaufeli, 2008; Glasberg, et al., 2007; Lazarus 1999; Langelaan, et al., 2006; Rupert & Morgan, 2005; Schaufeli & Bakker, 2004). Similar to the widely-used Conservation of Resources Model for conceptualizing stress (Hobfoll, 1989), the Job Demands-Resources (JD-R), model of burnout offers an empirically tested conceptualization of how job characteristics interact with interpersonal elements using two factors, job demands and job resources (Demerouti, et al., 2001).

According to the JD-R model, job demands are considered to be those physical, psychological, social, and environmental aspects of the job that require sustained mental or physical effort. Examples of these include work pressures, workload, environmental conditions, and workplace restructuring issues, all of which are considered to have physical or psychological costs over time. Job resources are considered to be those physical, psychological, social, or organizational aspects of work that help people to achieve work goals, reduce job demands and/or their associated costs, or stimulate personal growth and

development. Resources can be further categorized into four levels: those on the organizational level, the interpersonal level (such as supervisor or co-worker support), the organization of work level (i.e., role clarity, and one's involvement in decision-making), and at the task level (such as performance feedback, and level of autonomous work) (Demerouti, et al., 2001; Schaufeli, & Bakker, 2004; Xanthopoulou, et al., 2007).

Findings using this JD-R model are consistent with many researchers' conclusions about the relationships between specific job demands, resources, and the components of burnout as measured by Maslach's 3-factor construct (Bakker, et al., 2003; Burke & Greenglass, 1995; Cordes & Dougherty, 1993; Lee & Ashforth, 1996; Leiter, 1989; Maslach & Leiter, 2008; Schaufeli & Bakker, 2004). For example, when job demands are high, exhaustion increases but not necessarily cynicism. When job resources are scarce, cynicism increases, yet exhaustion may remain unaffected. High demands and scarce resources may elicit exhaustion and cynicism simultaneously, creating a state which is characterized by the burnout syndrome (Demerouti, et al., 2001). The job elements identified within the JD-R model (workload, time pressures, role conflicts, social support, etc.), are present across occupational fields in both industrial and human-service settings thus strengthening the claim that burnout is experienced in a wide variety of employment settings (Demerouti, et al., 2001; Maslach & Leiter, 2008; Xanthopoulou, et al., 2007), including within the teaching field (Burke & Greenglass, 1988; Friedman, 1995; Gold, 1985; Maslach & Pines,

1977; McIntyre, 1984; Morgan & Krehbiel, 1985; Schwab & Iwanicki, 1982b; Stevens & O'Neill, 1983).

Investigations specific to the population of university-level positions have been less common (Blix et al., 1994; Hogan & McKnight, 2007; Tumkaya, 2007). Their findings supported a predictive relationship between age (the risk of burnout decreased with age); gender (women appeared to experience greater incidents of burnout particularly due to higher exhaustion scores); duration in the position (incidents of burnout decreased the longer one is employed in a position, with ten years appearing as a pivotal duration); and tenure status (the risk of burnout decreased as tenure status increased). One study on professors in Spain concluded that perceptions of personal confidence mediated the relationship between workplace stressors and burnout (Navarro, et al., 2010). Another study of Spanish professors concluded that daily hassles, long work hours, and non-work social supports were associated with burnout (Otero-Lopez, et al., 2008), supporting that JD-R characteristics are present in academia. However, in those studies, burnout was examined in the context of the teaching relationship only, versus the context of all aspects of the academic role.

In general, the job characteristics listed above correlate more highly with burnout than general occupational characteristics such as specific types of work (Schaufeli & Enzmann, 1998). Some specific emotional characteristics associated with certain occupations, such as being required to express or suppress emotions at work, have accounted for additional variance in burnout results above and beyond job stressors, although results are inconsistent.

Violations of the employee-employer “psychological contract” are also associated with burnout. These occur when the employee’s belief that the employer will deliver on promises in return for sustained effort does not match with the employee’s perception of the employer’s actual behaviour (Maslach, Schaufeli, & Leiter, 2001; Robinson, & Rousseau, 1994). However overall, job-related stressors and available resources remain the most strongly and consistently associated causal issues with burnout, and it remains to be seen whether or not this may be represented within academia.

#### *Dispositional Issues*

Few consistent findings exist relating dispositional factors to burnout other than a limited number of weak relations among demographic factors (Lee & Ashforth, 1996; Schaufeli & Enzmann, 1998). One researcher’s developmental theory (Super, 1953), which has been supported and extended by psychoanalytic theory, involves the motivations of unconscious career choices (Fischer, 1983). The main idea is that an individual’s personal and familial histories reflect unconscious vocational interests through attempts to actualize ungratified needs from childhood. Individuals are typically invested in such career choices, and the meaningfulness of this investment may reflect unresolved childhood issues and the hope for their resolution. This theory suggests that failed attempts at resolving these issues can result in burnout (Pines, 2004).

Consistent demographic findings suggest burnout is reportedly higher among individuals under the age of 30, although this could be confounded as there is a higher risk of burnout for those with little experience on the job. Also, males

generally score slightly higher on burnout measures due to consistently higher scores on cynicism (Maslach, Schaufeli, & Leiter, 2001). However, contradictory findings apparently unique to academia identified that women appear to experience greater incidents of burnout particularly due to higher exhaustion scores. Similar to findings across occupation types, duration in the position (incidents of burnout decreased the longer one is employed in a position, with ten years appearing as a pivotal duration); and tenure status (the risk of burnout decreased as tenure status increased) associate with burnout (Blix et al., 1994; Hogan & McKnight, 2007; Tumkaya, 2007). Also, married, divorced, and single marital statuses score higher on burnout respectively, as do levels of higher education.

The few findings regarding personality characteristics typify the commonly-regarded profile of an individual predisposed to stress: low self-esteem, avoidant coping behaviour (Semmer, 1996), neurotic traits (Lee & Ashforth, 1996), and emotionally-oriented, rather than psychologically-oriented “feeling types” (Garden, 1989). Findings on ethnic variables are scarce, however the three-factor construct of burnout has been found to be invariant across different countries (Dion & Tessier, 1994), even though differences in levels of burnout do exist between nations (Schutte, et al., 2000).

### *Familial Environment*

Recently, shared familial environmental characteristics have been implicated as predictive of burnout, based on interesting results from genetic studies. Middeldorp, et al., (2005), concluded that while genetic factors within mono and

dizygotic twins did not offer complete explanations for burnout, the shared environmental factors within families explained 22% of the variance, with the remaining 78% explained by unique environmental factors. This finding was irrespective of gender or age, and increased with the duration of the relationship with the common familial environment. These researchers speculated that this outcome could partly be the result of either avoidant coping styles and fatigue, which are found to cluster in families as a result of common environmental factors, or an interaction between genes and the environment (Middeldorp, et al., 2005).

The gene-environment interaction explains how burnout scores are influenced by job stressors in people who are high in negative affectivity, but not with those who are low in this trait (Houkes, et al., 2003). In effect, cumulative job stressors (work environment), may interact with genetic traits and shared familial factors (home environment), leading to burnout (Middeldorp, et al., 2005). Earlier familial studies have found that children who observe their parents experiencing insecurity about their employment relationship develop negative work beliefs themselves, which are subsequently predictive of their attitudes toward employment as adults (Barling, et al., 1998). These findings are consistent with the transactional model of burnout, and emphasize the addition of familial environmental factors in the development of the burnout syndrome when individuals experience cumulative organizational stress.



### *Job Engagement*

Since the beginning of this century, a major focus of psychological research has been to include investigations of human strengths and optimal functioning, in an effort to understand their contributions to living well (Seligman & Csikszentmihalyi, 2000). This relatively recent change from problem-focused research has been termed the positive psychology movement, and it has also impacted the study of burnout. Recently, burnout investigators have begun to ascertain what constitutes thriving at work, and whether or not this information can be used in the prevention or treatment of burnout.

### *Definition*

According to the areas' leading researchers, "being engaged with one's work" is the direct opposite of being burned-out (Bakker, van Emmerik, & Euwema, 2006; Bakker, & Schaufeli, 2008; Maslach, & Leiter, 2008; Schaufeli, Bakker, & Salanova, 2006; Schaufeli, Taris, & van Rhenen, 2008). Generally, job engagement is considered to be a positive state of mind in which a person feels fulfilled in relation to work (Langelaan, et al., 2006). The concept of being "psychologically present" at work emerged in the early 1990's to describe engaging behaviours involving the direction of energies into physical, cognitive, and emotional work (Kahn, 1992). However, the concept was not further operationalized until its reconceptualization in relation to burnout a few years later.

In 1997, Maslach and Leiter hypothesized that the construct of job engagement contained three factors, energy, involvement, and efficacy, which

are purported to be the direct opposites of the three factors used to describe the experience of burnout characterized by emotional exhaustion, cynicism, and inefficacy. As a result, employees who are engaged with their work apparently are energized by and connected to their job duties, and perceive themselves as capable of handling their job-related responsibilities (Schaufeli, et al, 2001). Further, Maslach and Leiter (2008), claim that the concept of job engagement can be evaluated using the opposite pattern of scores on their same measure used to assess burnout, which is the Maslach Burnout Inventory.

Some critics disagree with both Maslach's definition and approach to measuring engagement despite acknowledging that job engagement is well-represented as the opposite of burnout (Schaufeli, et al., 2001, 2008). In their operationalization of job engagement as a distinct construct, Schaufeli et al., (2002), consider the three factors of vigor, dedication, and absorption to better define and represent the measurement of engagement. Vigor characterizes high levels of energy and mental resilience while working, and the willingness to exert effort, and to persist when faced with difficulties on the job. Dedication is the experience of feeling inspired, enthusiastic, challenged, and significant. These two factors are viewed as the direct opposites of exhaustion and cynicism. The third factor, absorption, refers to being fully concentrated and engrossed in work such that time passes quickly and there is difficulty detaching from it (Schaufeli, et al., 2002). Similar to inefficacy, the factor of absorption was included as a relevant aspect of engagement after additional studies were conducted (cited in Schaufeli, et al., 2002).

Delineated from the factors just described, these authors view engagement as containing distinct qualities of its own, and not just as the inverse of burnout. They define engagement as a positive, fulfilling, work-related state of mind that is characterized by a persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior (Schaufeli, et al., 2002). This explanation of engagement connotes a general longer-lasting positive experience in relation to the workplace, rather than one's employment tasks, and therefore seems more similar to the construct of organizational commitment. Maslach's definition of engagement denotes the experience of a positive transitory state in specific relation to the work itself, more aptly referred to as job engagement (Maslach, et al., 2001). Further, Schaufeli et al.'s (2006) alternate approach to conceptualizing and measuring engagement contributes little additional explained variance over Maslach's original definition and the Maslach Burnout Inventory (Leiter & Laschinger, 2006 as cited in Maslach & Leiter, 2008; Schaufeli, et al., 2002). Maslach's conceptualization of job engagement is more consistent with the transactional dynamic of self-in-relation to a specific other, which is inherent between the attachment and supervisor support variables. In the case of job engagement, the transactional model is represented by the self-in-relation to specific duties rather than the many aspects of an organization.

#### *Distinction From Organizational Commitment*

As with burnout, job engagement's direct relationship with work duties rather than with the workplace or organization further distinguishes this positive state

from better known terms such as organizational commitment, job satisfaction, and job involvement. Organizational commitment is a multi-faceted construct itself, with several kinds of entities to whom one could be committed, such as the organization, the specific people who represent the employer, or even to the occupational field one has chosen (Meyer, Allen, & Gellatly, 1990; Meyer, Allen, & Smith, 1993). Debates on the elements which comprise organizational commitment have also occurred, with the most commonly regarded models including affective, continuance, and normative factors, yet they are still defined in relation to the organization (Allen, & Meyer, 1990; Leiter, & Maslach, 1988; Meyer, Allen, & Gellatly, 1990). Organizational commitment measures allegiance to the organization that provides employment, whereas engagement focuses on the work itself, and as a result is considered a distinct construct (Maslach, Schaufeli, & Leiter, 2001).

Similarly, job satisfaction traditionally examines the extent of contentment achieved by the degree to which an employee's needs are met by the workplace, and thus does not examine the level of involvement an employee has with the job. The factor of job involvement more closely resembles engagement than job satisfaction, but it omits two of the three dimensions of energy and efficacy (Maslach, Schaufeli, & Leiter, 2001). As a result, job engagement provides a more comprehensive view of an individual's relationship with their work, than previous organizational concepts (Maslach & Leiter, 2008).

### *Work Environment Factors*

As it is the opposite of burnout, engagement is also associated more with the job-related resource factors represented in the JD-R model, rather than with individual risk factors (Schaufeli & Bakker, 2004). Recent research on engagement suggests that six worklife domains can summarize these organizational concerns; an employee's workload, the amount of personal control in the workplace, the sufficiency of rewards, the degree of community in the workplace, the perception of fairness, and individual versus organizational values (Maslach & Leiter, 2008). The measurement of worklife domains represents the level of congruency between a person and their environment, and the belief that a better fit predicts better adjustment and less strain. This finding is consistent with the multitude of conceptualizations concerning the degree of fit between an individual and their work, including even the inherent goal of the JD-R model which is to strike a balance between the demands on the individual and the resources that are available (Kristof-Brown, Zimmerman, & Johnson, 2005;).

### *Social Support*

One of the early definitions of social support that stimulated continued research in the area was provided by Sidney Cobb. After reviewing the literature at that time, he described social support as information that a person receives which makes them believe that they are esteemed, cared for, and belong. He found that it was evident then that social support protects people from life stress and a variety of health consequences, and that those who have such support are generally better off than those without (Cobb, 1976). Subsequent research has

identified that not all forms of social support carry such beneficial effects to employees.

Generally speaking, social support has been divided into two key aspects: the type of support and the source of the support (Beehr, 1985). Three global types are commonly recognized in the literature including: instrumental support, which is defined by the provision of some tangible assistance that is needed by a person to complete a task; emotional support, defined by caring or empathic behaviours toward another; and, informational support, distinguished by the provision of task-related communication that aids in the completion of job responsibilities. Emotional and instrumental supports are the two types most commonly identified with work (Fenlason & Beehr, 1994).

Regarding sources of social support, two main classifications encompass its various origins, and they are work-related and non-work related supports. Work-related social support is usually divided into co-worker and supervisor support, while non-work supports include family and friends (Halbesleben, 2006). Additional sources within the two main classifications include distinctions between family and spousal supports, and between supervisor and organizational supports, with the latter distinguishing support from specific superiors versus a general perception of assurance provided by the company (Rhoades & Eisenberger, 2002). This last distinction is similar to that made between job engagement and organizational commitment.

### *Supervisor Support and Burnout*

Supervisor support has been repeatedly confirmed to be the source of support that is most related to burnout and its prevention (Bakker, et al., 2005; Halbesleben, 2006; Harlow & Cantor, 1995; House, 1981; Maslach & Leiter, 2008; Rhoades & Eisenberger, 2002; Ross, et. al, 1989; Russell, et al., 1987). The relationship between these variables has been so strong that theorists have identified a buffering hypothesis in which supervisor support actually mediates the relationship between occupational stress and burnout (Bakker, Demerouti, & Euwema, 2005; Cohen & Wills, 1985; Ross, Altmaier, & Russell, 1989). That is, the presence or absence of supervisor support can be a determining factor in whether or not burnout develops from repeated, work-related stressful experiences.

Specifically, a lack of supervisor support or just unpleasant contact with a supervisor is reportedly most associated with the emotional exhaustion component of burnout, and to a lesser degree with cynicism. Supervisor support has not been found to be associated with efficacy, the one factor in the burnout model that is not highly associated with the other two. However co-worker support is directly related to efficacy (Leiter & Maslach, 1988). A speculative explanation for these findings is that employers have practical control over reducing job-related demands, and their support is instrumental in nature thus affecting both the level of energy one experiences and whether or not they remain exposed to potentially harmful situations and duties (Halbesleben, 2006). A co-worker's support is considered an emotional form of support, and therefore

less influential on the two main burnout factors. Emotional support may better correspond to feelings about oneself, and therefore self-efficacy (Harlow & Cantor, 1995; Leiter & Maslach, 1988).

### *Supervisor Support and Engagement*

Interestingly, an extensive search of the literature failed to reveal any studies claiming to investigate a relationship between social support and job engagement. This is likely due in part to the relatively recent conceptualization of the job engagement experience; only 61 results were found during a search for the term on the PsychInfo database (Bakker & Schaufeli, 2008). It is also probably due to the fact that the relationship between social support and being engaged with the workplace has traditionally been demonstrated using the construct of organizational commitment (Allen, 1992; Cobb, 1976; Cropanzano, Howes, & Grandey, 1997; Eisenberger, et al., 1990; Hutchison, 1997a; Maertz, et al., 2007; Rhodes & Eisenberger, 2002). Results from such studies suggest that supervisor support is directly related to one of three organizational commitment factors, the affective commitment variable. This variable assesses the degree to which factors in an organization make an employee feel psychologically comfortable (Allen & Meyer, 1990; Allen & Meyer, 1996; Withey, 1988). Again, organizational commitment refers to a different type of involvement with the organization itself, although similarities between it and job engagement indicate the strong possibility of an association between supervisor support and the more recent term of job engagement. Therefore such research is now overdue.



### *Influence of Authority*

Another subtle distinction that is important to clarify in the documented relationship between supervisor support and organizational commitment concerns employees' perceptions of their organization's overall supportiveness. Investigations into the perception of organizational support (POS) have produced an empirical belief that employees have a tendency to attribute human-like characteristics to their conceptual representation of the entity of the company (Eisenberger et al., 1986). This personification often results from misattributions of the supervisor's personal motives as indications of the organization's intentions. Subsequently, employees tend to view favourable or unfavourable treatment by these supervisors as indications of the organization's opinion of them (Levinson, 1965). By representation, direct supervisors who are responsible for employees' performance are imbued with the authority of senior management, and of the organization as a whole. As a result, the valence of interactions with supervisors, whether supportive or not is more meaningful, and becomes more influential on cumulative stress outcomes. However, certain dispositional characteristics may mediate the magnitude of this effect.

### *Dispositional Characteristics*

One of the individual characteristics associated with supervisor support is personality. Within personality, a person's tendency to experience positive or negative affect is known to influence employee's interpretations of supervisory conduct (Watson & Clark, 1984; Witt, 1991). Also, the degree of neuroticism in a person's personality make-up is known to influence interpersonal interactions,

especially with authority figures (Costa & McCrae, 1985), and neuroticism is the only personality trait identified by the Big Five factors to consistently associate with burnout (Deary et al., 1996; Hills & Norvell, 1991; Maslach, Schaufeli, & Leiter, 2001; Zellars, Perrewe, & Hochwarter, 2000). Specifically, neuroticism is thought to best reflect the burnout factor of efficacy (Cordes & Dougherty, 1993; Lee & Ashforth, 1996).

The demographic variables associated with the perception of supervisor support also overlap with the burnout literature. Age, gender, education, and duration on the job have all been found to influence the use and perception of supervisor support (Rhoades & Eisenberger, 2002). Controlling for these variables may assist with the identification of other individual factors that may interact with the relationships between support, burnout, and job engagement.

### *Attachment Theory*

In the last three decades, research on occupational stress has focused on individual differences to better understand how people deal with this issue (Lazarus & Folkman, 1984). It is a relatively recent switch from an environmental focus to include the influence of personal characteristics on this syndrome. An ideal example of such a transactional focus is the finding that familial environment accounts for the majority of the variance with burnout beyond the causal weight of genetics alone (Middlethorp, Cath, & Boomsma, 2005). One of the predominant theories that has emerged over the past three decades that addresses the interplay between the individual and the environment is attachment theory.

The current body of attachment literature is based upon the work of John Bowlby and Mary Ainsworth, with credit given to ethnologist Konrad Lorenz. Bowlby was initially trained as a child psychiatrist who had a unique interest in helping children by helping their parents. His idea ran contrary to the psychoanalytic theory of the 1940s, which was that children's emotional problems were the result of conflicts between internal drives (Bretherton, 1992). Bowlby's interests led him to become the department head of the Tavistock Clinic after World War II. This position, combined with his time working there during the war, provided him with the opportunity to observe the effects of hospitalization and institutionalization on children who were separated from their parents. Bowlby was also intrigued by the concept of critical periods in development. At this time he was introduced to Konrad Lorenz's (1935) paper on imprinting in geese, and found it to be similar to his interest in parent-child separation, particularly because it provided for the idea that the development of the social bond did not only rely upon mother-child feeding. Bowlby formally introduced attachment theory through the presentation of three papers: "The Nature of the Child's Tie to His Mother" (1958), "Separation Anxiety" (1959), and "Grief and Mourning in Infancy and Early Childhood" (1960).

Mary Ainsworth's contributions to attachment are most notably her empirical studies and theoretical and psychometric insights. With a PhD in developmental psychology from the University of Toronto, she first introduced the central concept of a "secure base" to attachment. She posited that:

*“Familial security in the early stages is of a dependent type and forms a basis from which the individual can work out gradually, forming new skills and interests in other fields. Where familial security is lacking, the individual is handicapped by the lack of what might be called a secure base from which to work”* (Ainsworth, 1940).

Her book entitled “Infancy in Uganda: Infant Care and the Growth of Love” (1967), was based on empirical observations of mother-child interactions and suggested an initial framework for attachment patterns. Later modifications of these patterns in children resulted in the terms secure, anxious-resistant, and anxious-avoidant types. Together with the development of Bowlby’s evolutionary theory, which claims humans pursue security through seeking and maintaining contact with a responsive caretaker figure, Ainsworth’s patterns formed the foundation of the body of attachment theory (Ainsworth et al., 1978; Bowlby, 1969, 1973, 1980).

### *Definition*

Bowlby also suggested the concept of a goal-directed behavioural attachment system, which is referred to as the normative process of attachment development. In infancy, an innate goal of maintaining proximity to a protective figure develops through interactions with the figure to formulate essential working models; both a model of the self, particularly regarding our worth, and working models of others, specifically concerning dependability. As a person develops, the repertoire of attachment behaviours increases so that a person can choose the most effective means of attaining physical or psychological contact.

Researchers then developed a four-category model that subdivided previous attachment types into four areas: secure, preoccupied, dismissing, and fearful (Bartholomew, 1990). It was found that these categories were best described using a dimensional explanation, such that an individual's attachment style could exist at any point on a continuous quadratic scale instead of within a discrete category (Bartholomew & Horowitz, 1991). Taxometric research supported the dimensional model and identified that most researchers conceptualized attachment in this way (Fraely & Waller, 1998). Subsequent empirical findings have suggested that within the insecure attachment orientations of the dimensional model, two fundamental orientations are most common among adults, and they are labeled anxiety, and avoidance (Brennan, Clark, & Shaver, 1998). The moderate stability of these two orientations over the lifespan is consistent with Bowlby's theory of working models of the self and other.

Hazan and Shaver (1987) extended Bowlby's idea of working mental models to adult attachment styles. These working models constitute our habits of engagement with others, referred to as attachment orientations, and they are evoked by and provide guidance for coping with stressful situations (Mikulincer & Shaver, 2007). If caregivers are available and responsive in one's childhood, a sense of safety and diminished distress is experienced that fosters a sense of safety and enhanced stability, a process referred to as "the broaden and build theory of attachment security". In adulthood, proximity-seeking behaviour can be supplemented by the use of mental representations of these previous experiences with attachment figures and used as a strategy for self-soothing and

self-regulation (Mikulincer & Shaver, 2004). As a result, secure people are then able to tolerate stress better as adults (Bonanno, 2004).

In the last 15-20 years, the broaden and build theory of attachment security was extended to adult romantic relationships. The development of closeness in romantic relationships follows the same attachment stages as infant-parent relationships, but the development of a committed bond may occur in as soon as one to two years (Hazan & Zeifman, 1999; Shaver et al., 1988). However, the development of a stable relationship that lasts beyond the initial stages of attachment formation largely depends upon each person's interpersonal, and conflict management skills, two areas greatly affected by differences in attachment orientations (Noller & Feeney, 2002).

In individual relationships, research has shown that secure attachment styles tend to result in adaptive coping responses while insecure styles evoke maladaptive, and largely ineffective coping responses in stressful situations. Securely attached people consider themselves worthy of others' compassion and care, and view others as trustworthy, accessible, reliable, and therefore feel more comfortable when depending upon others (Collins & Read, 1990). Securely attached people are generally free from worrying about becoming too close with others, or having the relationship end unexpectedly.

The maladaptive coping of insecurely attached people is associated with high-conflict interactions (Hammen, et al., 1995; Pietromonaco, Feldman-Barrett, 1997), decreased use of social support in times of illness and stress (Kotler, et al., 1994; Mikulincer & Florian, 1995), shorter and more unstable relationships

(Collings & Read, 1990; Kirkpatrick & Davis, 1994), and problems with physical health and illness (Berry, Barrowclough, & Wearden, 2007; Feeney, 2000).

Generally, insecure attachment styles are further subdivided into two dimensions: anxious and avoidant. Anxiously attached adults tend to think of themselves negatively, and yet view others in a fairly positive light. They view themselves as being underappreciated or undervalued, and perceive others to be either unwilling or unable to be emotionally available. They doubt the reliability of compassion offered by others, and attempt to become unhealthily intertwined with them. As a result, there is a greater prevalence of negative affect, mistrust, dissatisfaction, and low commitment in their relationships (Hazan & Shaver, 1987).

Individuals with an avoidant attachment style may either view themselves positively or negatively, yet regularly have a negative and often cynical view of others. They act aloof and emotionally distant, believe others are unreliable so they are distrustful and uncomfortable becoming too close to others, either fearing or viewing such closeness with contempt (Collins & Read, 1990).

#### *Attachment in the Workplace*

Hazan and Shaver (1990) were the first to extend the construct of adult attachment to the workplace. In keeping with the concepts prevalent at the time, they examined the relationship between individuals' attachment orientations and organizational commitment. Along with other researchers, they have found that work could be used by adults as an opportunity to satisfy unmet attachment

needs in the same way that children seek secure contact with their caregivers (Hazan & Shaver, 1990; Rholes & Simpson, 2004).

### *Attachment Associations*

Since Hazan and Shaver's (1990), rare application of attachment theory to the workplace, the construct has been associated with work difficulties (Hardy & Barkham, 1994); subjective stress (Maunder et al., 2006; Wei, et al., 2003); problematic interactions with leaders (Popper, Mayseless, & Castelnovo, 2000); work-family boundaries (Sumer & Knight, 2001); and even with the relationship between stress and social support (Schirmer & Lopez, 2001). Specifically, anxious attachment has been found to increase the experience of stress when supervisor support is low, and such individuals were more likely to perceive low supervisor support regardless of the actual support provided (Schirmer & Lopez, 2001). In the same study, the experience of stress was less for avoidant attachment orientations, when supervisor support was low. These conclusions provide support for an association between attachment and the development of accumulated workplace stress, referred to as burnout. However, only one peer-reviewed article has been found that has claimed this possibility based on preliminary investigations, and none have been found using a population of university professors (Pines, 2004). To this date, no studies have been found associating individual attachment orientations with job engagement.

### *Summary and Rationale*

This study proposed to extend the burnout literature by identifying additional factors that contribute to this syndrome, and to its positive opposite, job



engagement. An adult's attachment orientation guides interpersonal interactions in the significant relationships in their lives, with respect to ones' comfort depending upon, and being emotionally close to others. Insecure attachment styles are known to be associated with higher interpersonal conflict, negative perceptions of self and others, and stress. These difficulties are experienced in the workplace and in personal arenas.

The burnout syndrome has been distinguished from stress and depression by classifying it as the end result of cumulative occupational stress derived from an imbalance of demands at work and available resources. It is considered to be a possible contributor to depression rather than an outcome. Maladaptive responses to interpersonal conflict can create additional demands as well as diminish resources required for positively negotiating stress and avoiding burnout.

One prominent resource at work is supervisor support, and it has been recognized as more important than coworker or non-work social support in the development of burnout. While the relationship between the higher conflict and negative perceptions of insecurely attached adults has been associated with the perception of social support in the workplace, its association with burnout is nearly non-existent. Existing research points to how supervisor authority can represent previously significant attachment figures and thereby elicit interpersonal coping patterns in employees thus leading to stress. The extrapolation of these relationships to burnout and job engagement has not been examined. Further, by studying university professors, claims that burnout is more

associated with common job characteristics rather than the type of job may be confirmed in this demographic. Also, the moderating role of supervisor support in the relationships between attachment and burnout and engagement has not been investigated.

It was hoped that the results of this study may aid in the identification of when interpersonal interventions could be employed to prevent the development of burnout from interpersonal conflict, or from a perceived lack of social support. Findings regarding attachment may also help to identify factors that could be used to enhance a person's job engagement. The overall ramifications of such findings could result in reductions in illnesses, healthcare costs, absences, and employee turnover, while performance, wellness and positive factors associated with engaged employees could be increased. Also, it was hoped that these results could improve the early identification of employees who are prone to burnout from dispositional factors, in order to prevent mental health issues, rather than waiting for performance decrements to arise in the workplace.

The starting point for such future workplace interventions requires the confirmation of predictive relationships between individual attachment orientations and the outcome variables. The first hypothesis will determine whether or not insecure attachment is predictive of burnout. The second hypothesis will delineate whether or not attachment also predicts job engagement as this has not been investigated previously. A confirmation of an inverse relationship between attachment and various forms of social support is needed from the third hypothesis to validate that the relationship between

attachment and social support is present in this sample. The fourth hypothesis confirms the buffering theory that the absence of supervisor support predicts the development of burnout, while hypothesis five confirms that the provision of supervisor support forecasts job engagement. Hypothesis six examines whether or not attachment is a better predictor of burnout and engagement than forms of social support by determining the predictive order of these variables. The seventh hypothesis resolves the moderation theory that supervisor support transforms the magnitude of the relationship between attachment and burnout, while the eighth and final hypothesis determines whether or not supervisor support also influences the relationship between attachment and job engagement.

## CHAPTER 3: METHOD

### *Participants*

1000 faculty members at a major western Canadian university were invited to participate in this study. A random sampling procedure was used to select professors from the university faculty directory. Academic positions included Assistant, Associate, and Full Professors.

Full-time employment was defined as working a minimum of 35 hours per week, and adults were defined as individuals aged 18 years and over. Demographic data was collected on gender, age, marital status, ethnicity, the number of hours worked per week in the primary fulltime position, whether or not a second position was held simultaneously and the hours worked in that role per week, and the durations of each position in years.

224 packages were returned, providing a return rate of 22.4%. Out of the returned packages, 213 were fully completed and comprised the present sample used for the preliminary data analyses for this study. 127 respondents were male (60%), and 86 were female (40%), ranging in age from 29 to 69 with a mean age of 49 years. 84.5% of the sample reported being of Caucasian origin, 4% Asian, 2.3% East Indian, 1% Hispanic, and lesser proportions of French, Black, Middle Eastern, and "other", non-specified origins. 73% of the participants were married, 10% were single, 9% common-law, and 8% were divorced.

Regarding employment, Figure 7 shows the proportion of participants within each faculty rank. 98 participants were Full Professors, 66 Associate Professors, and 49 were Assistant Professors. Professors worked an average of 47.26 ( $SD =$

18.72) hours per week, Associate Professors worked an average of 48.25 ( $SD = 9.97$ ) hours per week, and Assistant Professors worked an average of 49.78 ( $SD = 10.65$ ) hours per week. Respondents had been employed in their primary position for an average of 10 years.

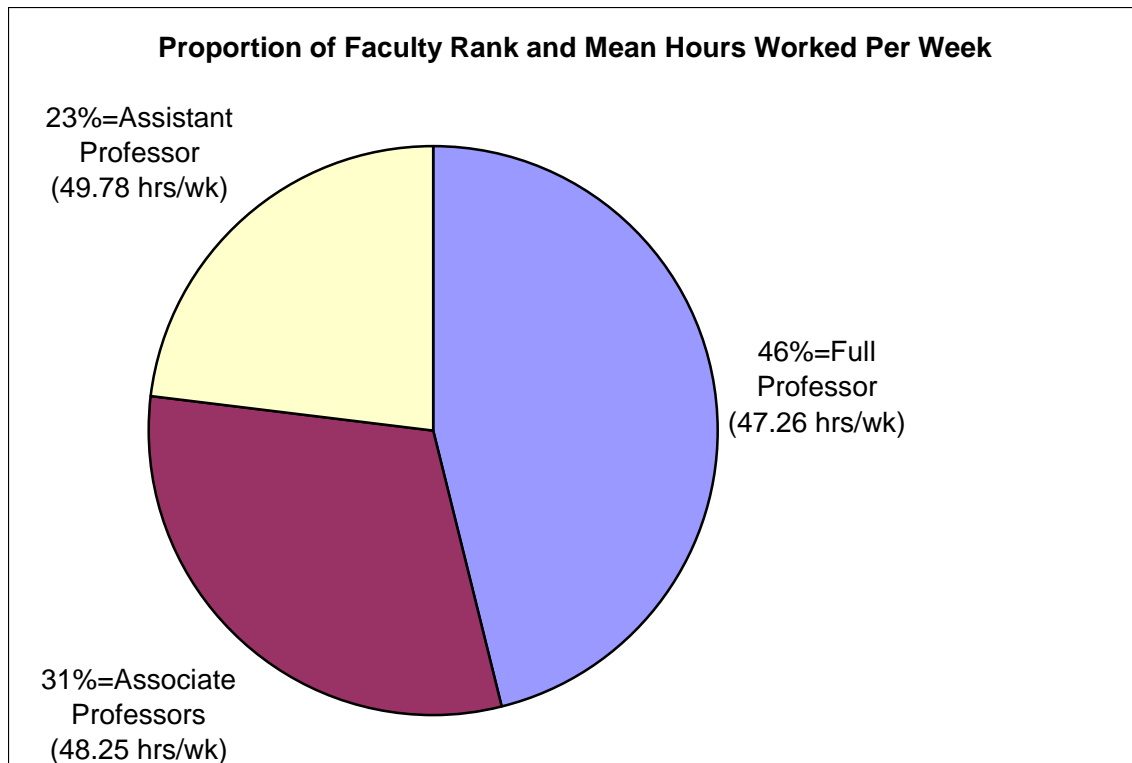


Figure 7. Proportion of Faculty Rank and Hours Worked

56 participants (26.3% of the sample), also held a secondary position for an average of an additional 5 hours per week, and have done so for an average of 1 year. As depicted in Figure 8, 21.2% of the secondary positions held were either Department Chair, or Associate Chair positions, while 5.6% were Dean or Associate Dean positions. An additional 45.1% of the secondary positions were purely administrative, and the remaining 28.1% fell into an “other” category.

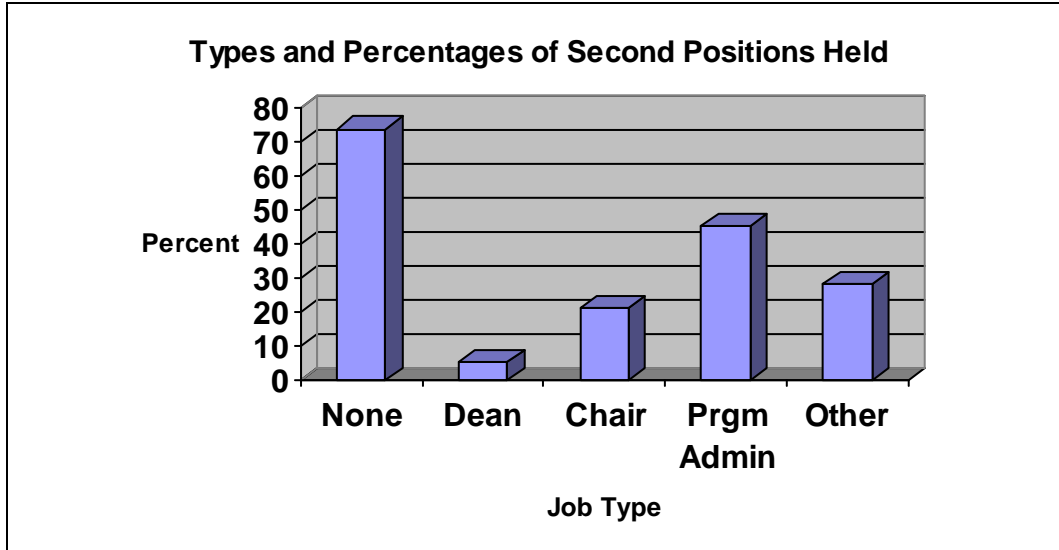


Figure 8. Types and Percentages of Second Positions

The distribution of fulltime professors by rank within the population of professors at the university where this study was done was: 50% Full Professor; 28% Associate Professor; and 22% Assistant Professor, with 32% of the fulltime academic staff being female, and 68% being male; the mean age was 48.8 (Strategic Analysis Data Book<sup>1</sup>, 2008-2009). 2008 Canadian population demographics for university professors listed 51% as Full Professors, 29% ranked as Associates, and 20% were Assistant Professors; 35% of the population were female (65% male), and 16.1% of professors (the highest proportion) fell within the 50-54 years of age category (CAUT, 2011). Based on these data, the present study's sample is reasonably representative of the university and national academic populations.

<sup>1</sup> The identification of the University has been omitted in the text

However, based on a survey conducted two years prior, information regarding workload for the present sample depicts a slight decline from 2006 to 2008 (AASUA, 2006). In 2006, Full Professors reported working an average of 57 hours per week (contrasted with 47.26 in 2008); Associate Professors worked 55.2 (compared to 48.25); and Assistant Professors worked 56.4 hours (compared to 49.78 hrs in 2008). Overall, in the same 2006 survey, 58% of the fulltime faculty at this university reported that their workload was unmanageable.

### *Procedures*

A package containing all six questionnaires was distributed through the university's internal mail system to ensure that all randomly selected academic employees' had an equal chance to participate in this study. Each package contained: a general demographics form; the Experiences in Close Relationships Scale (ECR) by Brennan, Clark, and Shaver (1998); the Maslach Burnout Inventory-General Scales (MBI; Maslach, 1982); two subscales from the Job Content Questionnaire (JCQ; Karasek, Brisson, Kawakami, Houtman, & Bongers, 1998); the Multidimensional Scale of Perceived Social Support (Zimet, et al., 1988); the Depression, Anxiety, and Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995); the Inventory of Interpersonal Problems (Kim & Pilkonis, 1999); a covering letter, and an information form.

Respondents anonymously conveyed their consent to participate by completing the package and returning it through the internal mail system in an unmarked envelope. Anonymity was ensured by sending all packages in identical envelopes, and by requesting that participants not provide their names or any

identifying information on any forms. No incentives were offered for participating in this study. Ethical approval was received from the university's research and ethics board before data collection commenced.

### *Measures*

*Experiences in Close Relationships Scale* (ECR; Brennan, Clark & Shaver, 1998). The ECR is a publicly-available, self-report measure of adult attachment orientations containing 36 statements about how individuals experience their important adult relationships. Respondents were asked to think of what their relationships are like in general terms, and not just at this moment in time. They were directed to rate the statements using a 7-point Likert Scale ranging from 1-Disagree Strongly, to 7-Agree Strongly. All items were divided into either of two 18-item scales, one to assess anxious attachment, and the other to assess avoidant attachment. Avoidance items assess discomfort with interpersonal closeness, dependence and intimacy in the form of self-disclosure. "I prefer not to show others how I feel deep down", and "I try to avoid getting too close to others" are two examples from this subscale. Anxiety items measure fear of abandonment and the desire for interpersonal closeness, and two examples of these items are "I worry about being rejected or abandoned" and "I worry about being alone". As the attachment construct was represented by a dimensional model, higher respective scale scores indicated higher experiences of anxiety or avoidance in close relationships, while low scores on both subscales indicated secure attachment (Brennan, Clark, & Shaver, 1998).



The measure was originally created using a sample of over 900 adults, and from the factor-analysis of all non-redundant items in all self-report attachment measures existing before the late 1990's. This measure has been used in hundreds of studies and reports concerning reliability coefficients have been consistently at or above (Cronbach's alpha) .90, with test-retest coefficients ranging from alpha .50-.75 in all studies (Mikulincer & Shaver, 2007).

The validity of the ECR is also reported as high. Correlation between items on the two subscales was reported at alpha .28,  $p < .05$ , indicating the two subscales assess distinct attachment dimensions (Wei, et al., 2007). Further comparisons of the two attachment subscales with similar constructs demonstrated good construct validity. For example, excessive reassurance seeking, and emotional reactivity correlated highly with the anxiety subscale at  $r = .41$  and  $.45$  respectively, while being emotionally cutoff and fearful of intimacy correlated strongly with the avoidance subscale at  $r = .59$  and  $.74$  respectively,  $p < .05$  (Wei, et al., 2007). Also significant inverse correlations were found between attachment anxiety and social desirability ( $r = -.14$ ), and attachment avoidance ( $r = -.15$ ) in their six-study article, indicating that the ECR is not susceptible to the response bias of social desirability (Wei, et al., 2007).

*The Maslach Burnout Inventory-General Scales (MBI-GS; Maslach, 1996).*

The MBI is a commercially-available measure that has been used in over 90% of the studies investigating burnout and it is considered the current standard for measuring this construct (Shirom & Melamed, 2006). The MBI-GS is intended for use with employees in all occupations, and was developed from the MBI, which

was originally created for human service professions only. In contrast to the original MBI form which focused on employees' relationships with service recipients, the MBI-GS focuses primarily on respondents' relationships with their work in general. As burnout is a construct that is conceptualized as a continuous variable, scores may range from low to high levels on this measure (Maslach, Jackson, & Leiter, 1996). Participants were directed to indicate the extent to which they agreed with each of 16 statements using a 7-point Likert Scale ranging from 0=never to 6=every day. The inventory contains three subscales tapping: exhaustion, cynicism, and (reduced) professional efficacy. The five items assessing emotional exhaustion in relation to work have reflected a reliability coefficient of alpha .86, while the five items of the cynicism scale which comprises an attitude of distance toward work have reported an alpha of .81 (Taris, et al., 1999). Examples of questions from these two respective domains are as follows: "I just want to do my job and not be bothered", and "Working all day is really a strain for me" (emotional exhaustion); "I have become more cynical about whether my work contributes anything", and "I doubt the significance of my work" (cynicism). The professional efficacy scale measures both social and task-related accomplishments at work using six items, which have a reported alpha of .71,  $p < .05$ , (Taris, et al., 1999). Sample questions from this scale are: "I can effectively solve the problems that arise in my work", and "In my opinion, I am good at my job". Cronbach's alphas for the composite scale range from .83 - .88 (Scheurs & Taris, 1998).

In a study using two separate samples to investigate the internal validity of the MBI-GS, results depicted a strong fit with the data and clear distinctions between the subscales of the three factor model (Taris, et al., 1999). These authors also tested burnout as a one factor model that accounted for the shared variance among the measure's three domains, and this single factor model was found to also fit the data well. Due to the strong confirmatory factor results of both models, the researchers claimed justification exists for using a composite burnout score to address the problems of making inferences about a unitary construct based on three dimensions (Scheurs & Taris, 1998; Taris, Schreurs, & Schaufeli, 1999). As there are dual purposes for the use of this scale, namely to make inferences about the construct of burnout, job engagement, and to clarify the nature of their relationships with the predictor variables, both composite and three-factor domain scores were reported in this study.

Being engaged with one's work has been broadly defined as the direct-opposite of the burnout construct (Bakker, van Emmerik, & Euwema, 2006; Bakker, & Schaufeli, 2008; Maslach, & Leiter, 2008; Schaufeli, Bakker, & Salanova, 2006; Schaufeli, Taris, & van Rhenen, 2008). However, a debate exists about how to best operationalize and measure job engagement (Maslach & Leiter, 1997; Schaufeli, et al., 2001). Consistent with the view that burnout and job engagement are at opposite ends of what is essentially the same construct, leading researchers have investigated the two states as existing on a single continuum rather than each operating as a distinct construct (Maslach & Leiter, 2008). Within this perspective, they suggested that experiences of high burnout

would correspond to low engagement, and vice versa. The measurement difficulty with this approach arises when there is a desire to associate predictors uniquely to either experience, for when we move away from the extreme opposite ends of the continuum toward the middle, the characteristics of either condition are not reliably differentiated. Thereby, statistical inferences about these experiences are limited to descriptions of the continuum itself, because the same variance can not be used to explain two separate conditions. That is, the amount of variance explained by a predictor variable is specific to that particular variable, and therefore can not also be said to account for any of the variance in another separate variable.

Critics of the continuum approach have developed an alternative definition of engagement as an independent construct, also using three factors distinct from those defined by the MBI (Gonzalez-Roma, Schaufeli, Bakker, & Lloret, 2002; Schaufeli & Bakker, 2004). Recent research has found, however, that this alternative form of measurement “contributes very little additional explained variance over . . . utilizing the opposite scores on the MBI”, (Leiter & Laschinger, 2006, in Maslach & Leiter, 2008, p. 498).

While there are limitations to defining the burnout and engagement experiences as two opposites on the same continuum, the approach continues to offer one of the most valid and reliable explanations of variance available in the closely related domains of burnout and job engagement. Providing that the conceptualization of burnout/job engagement as opposite poles of a continuum is openly acknowledged, use of the Maslach Burnout Inventory to measure job

engagement provides a conceptualization of how one's specific relationship with their work is a fluid experience between inversely-related positive and negative characteristics.

Within the one-factor conceptualization of burnout, scores on the three dimensions are summed, and because of the wording of the professional efficacy items, this subscale is recoded first so that all valences designate the same direction (Halbesleben, 2003; Taris, et al., 1999). To measure job engagement, the entire modified composite burnout scale is reverse coded (Halbesleben, 2003). In the multidimensional model, cutoff scores are provided in the test manual to indicate low, medium, and high ranges for each domain (Maslach, Jackson, & Leiter, 1996).

*The Job Content Questionnaire* (JCQ; Karasek, Brisson, Kawakami, Houtman, & Bongers, 1998). A clear standard for the measurement of work-related social support does not currently exist in the literature. The most frequently-cited measure of supervisor support by Caplan et al., (1975), is found in only 18 studies, and it doesn't examine collegial support (Halbesleben, 2006). Therefore, two, four-item scales were selected from the commercially-available JCQ. The composite measure is a self-report survey designed to assess the psychosocial aspects of organizational environments, specifically in relation to the Job Demands-Resource model. One of the selected subscales was used to measure employees' perceptions of their supervisor's support, while the other selected subscale was used to assess employees' perceptions of their coworkers' support on the job. The supervisor and coworker scales represent

instrumental and emotional support respectively, which are the two main forms of workplace social support described throughout the literature (Beehr, 1985). Two examples of questions assessing supervisor support are: “My supervisor is concerned about the welfare of those under him/her”, and “My supervisor is helpful in getting my job done”. Coworker support is measured by questions such as “People I work with are helpful in getting my job done”, and “People I work with take a personal interest in me”.

Internal reliability coefficients by gender for one study were: alpha .73 for females, and alpha .74 for males (Karasek, et al., 1998). Test, re-test reliability coefficients range from .48-.64. The internal consistencies of the two scales in the same study are reported at alpha .87 for the coworker scale, and alpha .91 for the supervisor scale,  $p < .05$ .

*Multidimensional Scale of Perceived Social Support (MSPSS: Zimet et al., 1988)*. The MSPSS is brief 12-item self-report questionnaire that measures the adequacy of perceived social support from three different sources: a significant other, family, and friends. Respondents provided their answers to each item using a seven-point Likert-type scale that ranges from Very Strongly Disagree to Very Strongly Agree, with higher scores indicative of greater perceptions of support. The scale is considered to have good face validity. For example, items representing the Significant Other scale are: “There is a special person in my life who cares about my feelings”, and “I have a special person who is a real source of comfort to me”; sample items from the Family subscale are: “My family is willing to help me make decisions”, and “I can talk about my problems with my

family”; while sample items from the Friends subscale are: “My friends really try to help me”, and “I can count on my friends when things go wrong” (Dahlem, Zimet, & Walker, 1991).

Factor analyses confirmed high loadings on these three sources with minimal cross-loadings, strengthening the claims that these items tap three distinct dimensions within the single construct (Clara, et al., 2003). Internal reliability of the subscales and composite scale was considered good, with Cronbach’s alpha’s of .91 for the Significant Other, .87 for Family, and .85 for the Friends subscales, and .88 for the total scale,  $p < .05$  (Zimet, et al., 1988). Test-retest reliability reports from the initial study claimed adequate stability over 3 months, with alpha .72 for the Significant Other, alpha .85 for Family, and alpha .75 for Friends,  $p < .05$  (Zimet, et al., 1988). Also, the MPSS claimed good divergent validity in this same study, as the entire scale was minimally yet significantly related to depression as measured by the Hopkins Symptoms Checklist  $r = -.25$ ,  $p < .01$ , as was the Significant Other subscale  $r = -.13$ ,  $p < .05$ , and the Friends subscale  $r = -.24$ ,  $p < .01$ . The Family subscale was significantly and inversely related to both depression  $r = -.24$ ,  $p < .01$ , and anxiety  $r = .18$ ,  $p < .01$  (Zimet, et al., 1988). These discriminations were also found in both non-clinical and psychiatric outpatient populations (Clara, et al., 2003). A gender difference was found with this measure such that women perceived significantly more support than men overall, from friends, and from a significant other, while men reported fewer symptoms of both depression and anxiety (Zimet, et al., 1988).

*Depression, Anxiety, and Stress Scales-21* (DASS-21; Lovibond & Lovibond, 1995). The DASS is a publicly-available self-report measure designed to assess the unique aspects of depression, anxiety, and stress. Two versions of the measure are available, and the 21 item adaptation is a subset of the original 42 item version. Each of the three scales contains seven items to which respondents rated the frequency with which they have experienced each of the statements during the past week on a four-point Likert-type scale. Empirical analysis supports the long-term validity of the measure (Lovibond, 1998). The depression scale assesses hopelessness, anhedonia, and dysphoric mood states, while the anxiety scale taps arousal states including anxious affect, muscle tension, and autonomic arousal (Lovibond & Lovibond, 1995). The stress scale is reported to measure negative affect in relation to general stress and tension felt in the current week based on Selye's (1974) original conceptualization of physiological arousal, a claim which subsequent confirmatory factor analytic studies have supported (Henry & Crawford, 2005; Norton, 2007). This conceptualization of stress is supportive of the distinctions made between stress and burnout in the MBI. Further, the measure is reportedly internally consistent, with good convergent and divergent validity across Asian, Caucasian, Hispanic, and African-American ethnic groups (Norton, 2007), and with the Beck Depression (coefficient alpha = .79,  $p < .01$ ), and Anxiety Scales (coefficient alpha = .85,  $p < .05$ ; Lovibond & Lovibond, 1995; Norton, 2007). In their original study, Cronbach's alphas for internal consistencies were: .88 for the depression scale, .82 for the anxiety scale, .90 for the stress scale, and .93 for



the total scale,  $p < .05$  (Lovibond & Lovibond, 1995). Overall, the DASS-21 appeared to have advantages over the longer version with fewer items, a cleaner factor structure, and small inter-factor correlations (Henry & Crawford, 2005).

*Inventory of Interpersonal Problems-25 (IIP-25: Kim & Pilkonis, 1999).* The Inventory of Interpersonal Problems-25 is a brief version of the original measure developed by Horowitz (1988), intended to evaluate an individual's distress arising from interpersonal disturbances. Kim & Pilkonis (1999), refined the original measure from six scales to the current five, entitled: Interpersonal Sensitivity (eg. "I am too sensitive to rejections"); Interpersonal Ambivalence (eg. "It is hard for me to take instructions from people who have authority over me"); Interpersonal Hostility/Aggression (eg. "I argue with other people too much"); Need for Social Approval (eg. "I try to please other people too much"); and Lack of Sociability (eg. "It is hard for me to feel comfortable around other people"). The 25-item version was found to have equal reliability and validity to the original scale, and reported internal consistencies for the scales' items of above alpha .80,  $p < .05$ .

#### *Data Analysis*

The first step in the analysis of this data was to confirm that the internal consistencies (i.e., reliability coefficients) of all of the measures were acceptable. Next, descriptive statistics such as means and standard deviations were calculated for each instrument. Correlation coefficients between the variables were tested to ascertain the degree of relationship between them, and to check for multicollinearity.

This study employed multiple regression statistics to determine how much variance in the dependent variable was accounted for by the independent variables. When using regression, it is established that the standard terminology used to refer to independent variables is the term “predictor variable”, and the dependent variable is described by using the term “criterion” or “outcome variable” (Glass & Hopkins, 1996). Multiple regression was the principal statistical methodology used for predicting the values of outcome variables from independent variables, and “no causal association was required or assumed” (p153, Glass & Hopkins, 1996).

The effect of depression on the criterion variable was parceled out before hierarchical regression was used to determine the order of predictor variables, based on the previous literature. In other words, regression was used to determine which predictors accounted for the most variance in the criterion variable after the effects of depression were removed from the sample and thereby, the burnout variable. The attachment orientations (anxious, and avoidant), and forms of social support (supervisory, coworker, family, friends, significant other) were the predictor variables, and burnout, and job engagement were the criterion variables. Hypotheses concerning burnout and engagement were listed separately to simplify discussions regarding these experiences. Therefore, as stated previously, the data for job engagement is presented by inverting the burnout results to reflect the conceptualization of opposite conditions on the same continuum. It was estimated that attachment would predict more variance in burnout and job engagement than would collegial and

non-work forms of social support. However, supervisor support was expected to moderate the relationships between insecure attachment and burnout and insecure attachment and job engagement.

“A common framework for capturing both the correlational and the experimental views of a moderator variable is possible by using a path diagram” (p. 1174, Baron & Kenny, 1986), such as was shown earlier in Figures 1 through 6. Hierarchical regression is the preferred statistical method for examining moderator effects (Frazier, Tix, & Baron, 2004). As a result, this procedure was used to examine the moderation hypothesis that supervisor support influenced the relationships between attachment and burnout, and attachment and job engagement.

## CHAPTER 4: RESULTS

This chapter provides a description and summary of the data analyses conducted in this research.

### *Preliminary Analyses.*

Before beginning any statistical analysis, missing data were replaced using the mean variable replacement method recommended by Downey & King (1998). According to this method, cases with less than 20 percent of missing data may be included by estimating missing values using the item mean from the sample. No more than three percent of the data was missing from any case included in this sample.

Examination of the normal distributions of each variable revealed that some variables were slightly skewed, and one subscale was leptokurtic. Specifically two subscales, cynicism/optimism and inefficacy/high efficacy on the MBI, were skewed (-.900 and -.970 respectively). The third subscale entitled exhaustion/energized, appeared slightly leptokurtic (-.705), but not skewed, indicating that there were fewer extremely high or low scores on this scale. All skewness and kurtosis values fell within acceptable limits of 2.0 units (Field, 2005; Maslach, Jackson, & Leiter, 1996). As this was a large sample, the shape of the distribution was more meaningful for interpretation than consideration of skewness and leptokurtosis alone (Field, 2005). For example, the naturally occurring distributions for these constructs within the normal population depict that a minority of cases present with either high burnout or job engagement. The results found in this study accurately reflected what is found in the normal

population for these constructs, and precluded the need to transform the data or to use non-parametric statistics.

Results of the DASS-21 measure were examined to distinguish cases that presented with depression from those with burnout. According to Lovibond's (2009), scoring and interpretation criteria, 38 (17.8%) of the 213 original participants scored in the depressed range on this measure; 8% in the mild range, 7% in the moderate range, 2.3% in the severe range, and .5% in the extremely severe range. The remaining 82.2% of the participants scored in the "normal" or non-depressed range, and were retained for inclusion in the multivariate analyses for this study.

#### *Reliability Analyses.*

In order to confirm that the individual items within each measure and subscale loaded on the intended constructs, the internal consistencies of each scale and subscale were examined. It is commonly accepted that Cronbach Alphas of .6 or .7 indicate acceptable reliability, while alphas of .8 or higher represent good reliability (Cortina, 1993; Field, 2005). Table 1 on the next two pages provides the internal consistencies that were cited in the previous research and that were listed in Chapter 3, along with the alpha coefficients for all the scales and subscales from this study's results, which were good to excellent at .81 or better. The only exception is the Depression, Anxiety, Stress Survey, which demonstrated acceptable alphas of .79, .73, and .74 for the respective subscales.

Table 1

## Internal Consistencies, and Principal Component Analyses for Study Scales

Measure	Internal Consistency		Principle Component Analyses	
	Previous Alpha*	Current Alpha	Eigenvalue	% Shared Variance
(MBI)				
Burnout/Engagement	.88	.90	6.67	41.67
Exhaustion/Energy	.86	.90	3.54	70.82
Cynicism/Optimism	.81	.82	3.15	62.96
Low/Hi Efficacy	.71	.83	3.29	54.76
(ECR)				
Anxious Attachment	.90	.91	7.21	40.07
Avoidant Attachment	.87	.92	7.98	44.32
(JCQ)				
Supervisor Support	.91	.89	3.03	75.64
Collegial Support	.87	.81	2.59	64.54
(MSPSS)				
Friend Support	.85	.93	3.31	82.62
Family Support	.87	.91	3.16	79.01
Special Person	.91	.96	3.57	89.19

Note. \*See Chapter Three for previously reported alpha citations.  $p < .05$ .

Table 1 (*continued*).

## Internal Consistencies, and Principal Component Analyses for Study Scales

Measure	Internal Consistency		Principle Component Analyses	
	Previous Alpha*	Current Alpha	Eigenvalue	% Shared Variance
(DASS21)				
Depression	.88	.79	3.32	47.43
Anxiety	.82	.73	2.80	40.01
Stress	.90	.74	2.85	40.72
(IIP)				
Sensitivity	.80	.82	2.88	57.60
Ambivalence	.82	.83	3.03	60.68
Anger/Hostility	.85	.81	2.89	57.80
Need for Social Approval	.84	.91	3.67	73.36
Lack of Sociability	.88	.88	3.35	66.99

*Note.* \*See Chapter Three for previously reported alpha citations.  $p < .05$

Principal component analyses were also conducted to confirm that the results on each scale and/or subscale represented one respective primary domain to account for the majority of each variable's variance, as had been intended in the original development of each measure. A minimum factor loading limit of .3 was set as the inclusion criteria for the analysis. Factor loadings represent the correlation of each item to its scale domain. Also a minimum eigenvalue limit of 1 was used as a determinant for which components were statistically significant, according to Kaiser's criteria (Kaiser, 1960). Eigenvalues are squared factor loadings, and indicate how much common variance is accounted for by each component that is included in the resulting list of identified components in a scale. In previous research on the MBI-GS subscales with groups of managers, clerical and maintenance workers, technologists, therapists, and nurses, eigenvalues of 3.72 for emotional exhaustion, 3.74 for cynicism, and 3.57 for inefficacy were cited (Maslach, Jackson, & Leiter, 1996). The results of this study's analyses with a randomized sample of academics of varied rank identified that every individual scale item was represented within the initial primary component listed for each scale. The measures performed as intended representing a single domain as cited by Maslach et. al's (1996) previous research. Table 1 lists the Eigenvalues and the percentages of each construct's variance accounted for by the subscales in this study.

Results from the Inventory of Interpersonal Problems (IIP), were examined to confirm the findings reported in the literature that insecure attachment



Table 2

## Central Tendencies for Attachment, Social Supports, and Interpersonal Problems

Scale	Mean	Standard Deviation	Range
(ECR)			
Anxious Attachment	2.49	.850	4.06
Avoidant Attachment	2.75	.970	4.28
(JCQ)			
Supervisor Support	3.05	.732	3.0
Collegial Support	3.23	.527	3.0
(MSPSS)			
Friend	5.58	1.10	5.0
Family	5.79	1.22	6.0
Special Person	5.99	1.44	6.0
(IIP)			
Sensitivity	1.06	.704	3.0
Ambivalence	.532	.627	2.6
Aggression/Hostility	.602	.638	3.2
Need for Social Approval	1.27	.939	3.6
Lack of Sociability	.762	.846	3.6

*Note.* n = 175 after depression was controlled.

orientations correspond with higher levels of interpersonal distress (Hardy & Barkham, 1994; Horowitz, et al., 1993; Mikulincer & Shaver, 2007). Specifically, different attachment orientations correspond to different types of interpersonal problems (Horowitz, et al., 1993). For example, individuals with an anxious attachment orientation tend to be more concerned with social approval, and sensitive to interpersonal relationships than individuals within the avoidant dimensions, while the latter tend to be more ambivalent about relationships and less comfortable with socializing than anxiously attached individuals (Horowitz, et al., 1988; Horowitz et. al, 1993, and Kim & Pilkonis, 1999). Pearson correlations between the Anxious Attachment scale from the ECR, and the IIP subscales showed the strongest correlations with the Need for Social Approval ( $r = .435$ ;  $p < .01$ ), and Interpersonal Sensitivity ( $r = .432$ ;  $p < .01$ ) scales. Avoidant attachment was most associated with the Lack of Sociability ( $r = .483$ ;  $p < .01$ ), and the Interpersonal Sensitivity ( $r = .302$ ;  $p < .01$ ) scales. Consistent with the literature, these results indicate that both forms of attachment were associated with feeling interpersonally sensitive, with anxious orientations having associated more strongly with this domain than avoidant orientations. As expected, anxiously attached respondents were more associated with a need for social approval than avoidant individuals, while the latter participants reported more discomfort with socializing than their anxiously attached counterparts.

#### *Descriptive Statistics.*

The following section describes the central tendencies and variances of the

measures included in this study. Refer to Table 2 for a summary of these statistics.

*Burnout and Job Engagement.* As described in Chapter 3, the Maslach Burnout Inventory-General Survey provides a measure of both burnout and job engagement (the latter construct is represented after all items are reverse scored), and treats these constructs as continuous variables, each with three subscales: exhaustion/energized, cynicism/involvement, and inefficacy/high efficacy. Responses on the subscales were scored in a positive direction, such that higher endorsements represented higher experiences of the domains. According to the normative sample data provided in the MBI test manual, high exhaustion and cynicism scores and low professional efficacy scores reflect higher amounts of burnout (the inverse is true for job engagement). Established cut-offs from the test manual were used to distinguish low, moderate, and high levels of the burnout or job engagement constructs (Maslach, Jackson, & Leiter, 1996; Scheurs & Taris, 1998; Taris et al., 1999).

Table 3 depicts the proportion of scores falling in the low, medium, and high ranges of the subscales for burnout and job engagement. A decreasing proportion of cases were distributed among the burnout subscales for cynicism and inefficacy as the ranges increased from low to high. For the exhaustion subscale, the majority of the cases fell in the low range, while a near even split of the remainder of the sample fell in each of the moderate and high ranges. Subscales on the job engagement measure showed the opposite patterns.

Table 3

## Central Tendencies for Burnout and Job Engagement

Scale	Mean	Standard Deviation	Proportion of Sample in Each Range		
			Low	Mod	High
(MBI-Burnout)	4.70	2.52	79.40	17.70	2.90
Exhaustion	2.11	1.23	53.10	23.40	23.50
Cynicism	1.60	1.20	38.30	33.14	28.57
Inefficacy	.980	.830	62.86	22.29	14.85
(MBI-Engagement)	13.31	2.52	2.90	17.70	79.40
Energized	3.88	1.23	23.50	23.40	53.10
Involvement	4.40	1.20	28.57	33.14	38.30
Efficacy	5.02	.830	14.85	22.29	62.86

*Note.* n = 175 after depression was controlled.

*Attachment.* As previously mentioned, the Experiences in Close Relationships Scale measures attachment, based on a dimensional rather than a discrete categorical model. Individual items were scored on a 7-point Likert scale ranging from “disagree strongly” to “agree strongly”. Cut-off points are not recommended for identifying a respondent’s level of either anxiousness or avoidance in their relationships with others (Mikulincer & Shaver, 2007). Higher scores reflect higher levels of anxiety or avoidance. The mean score of anxious attachment was 2.49 ( $SD = .850$ ). The average avoidant attachment score was 2.75 ( $SD = .970$ ).

*Social Support.* Items from two measures were used in this study to evaluate respondent’s perceptions of the social supports provided to them, and they were two subscales from the Job Content Questionnaire (JCQ), and the complete Multidimensional Scale of Perceived Social Support (MSPSS). The Supervisor Support, and Collegial Support subscales from the Job Content Questionnaire, measured work-related supports using a 4-item Likert Scale. The average perception of the provision of supervisor support for respondents in this study was 3.05 ( $SD = .732$ ), while the mean for the perception of collegial support provided was 3.23 ( $SD = .527$ ), within a range of 3 for both scales. Respondents appeared to perceive more collegial support on average than supervisor support.

The MSPSS subscales provided three measures, and tapped friend, family, and support from a special person. These scales evaluated the participants’ perceptions of support provided to them from sources outside of work. The means and standard deviations were: friend support ( $M = 5.58, SD = 1.10$ );

family support ( $M = 5.79$ ,  $SD = 1.22$ ); and special person support ( $M = 5.99$ ,  $SD = 1.44$ ), and indicated that respondents perceived more support from the special person in their lives than other forms of non-work supports.

*Interpersonal Problems.* The five subscales of the Inventory of Interpersonal Problems evaluated the various types of relational disturbances in this sample. As can be seen in Table 2, The Need for Social Approval and Interpersonal Sensitivity subscales had the highest means of the five scales (1.27 and 1.06 respectively), followed by the Lack of Sociability scale, with a mean of .762. The Aggression/Hostility subscale, and Interpersonal Ambivalence scale demonstrated the lowest average endorsements with means of .602 and .532 respectively.

#### *Inferential Statistics*

Correlations and multiple regression analyses are described in this next section, and are organized by this study's hypotheses. A correlational analysis of the outcome and demographic variables revealed significant, yet low correlations only with age ( $r = .181$ ,  $p = .00$ ). Burnout was inversely correlated with age such that younger participants experienced greater burnout, while job engagement increased as age increased. Hierarchical regression calculations of age on burnout and job engagement revealed that age accounted for 3.3% of the variance in each of these outcome variables.

*Hypothesis One.* The first research question predicted that attachment orientations and burnout would be positively correlated, and that anxious and avoidant attachment orientations would predict the prevalence of burnout. A

Pearson Correlation was used to measure the association between these constructs, and resulted in a low, yet significant coefficient between anxious attachment and burnout ( $r = .267, p < .01$ ), as shown in Table 4. Anxious attachment was significantly correlated with the exhaustion ( $r = .240, p < .01$ ) and inefficacy ( $r = .217, p < .01$ ) subscales, and less correlated with the cynicism subscale ( $r = .165, p < .05$ ). The avoidant attachment orientation was not significantly correlated with the composite burnout measure. However, avoidant attachment did correlate with the inefficacy subscale ( $r = .223, p < .01$ ).

Table 4

## Correlations Between Attachment and Burnout

Subscale	1	2	3	4	5	6
1. Anxious	-	.392**	.267**	.240**	.165*	.217**
2. Avoidant		-	.144	.077	.070	.223**
3. MBI Composite			-	.812**	.831**	.636**
4. Exhaustion				-	.550**	.245**
5. Cynicism					-	.310**
6. Inefficacy						-

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



A hierarchical regression was calculated to determine if attachment orientations predicted the occurrence of burnout. The multiple correlation coefficient confirmed the significant correlation between anxious attachment and burnout ( $R = .267$ ), even when the portion of variance which avoidant attachment accounted for in burnout was controlled (part correlation = .228). Anxious attachment was a significant predictor of burnout ( $p = .000$ ), and accounted for 7.13% of the occurrence of burnout in this sample. Table 5 showed that the addition of avoidant attachment to the model did not result in a significant change in prediction, as expected from the lack of correlation between these two variables.

Table 5

## Hierarchical Multiple Regression Analysis of Attachment Predicting Burnout

Variable	$R^2$	$\Delta R^2$	Std.Beta	$\Delta F$
Step 1				
Anxious	.071	.071	.267	13.23**
Step 2				
Anxious			.249	
Avoidant	.073	.002	.044	.304

Note.  $R^2$ ,  $\Delta R^2$ , and  $\Delta F$  values are reflective of the model metrics. \*\* $p < .01$ .

*Hypothesis Two.* The second hypothesis predicted that insecure attachment and job engagement would have an inverse association. Higher ratings of insecure attachment would predict individuals' experiencing less job engagement, and lower levels of insecure attachment would predict individuals higher in engagement. As job engagement is operationalized as the opposite of the burnout scores on the same continuum, the association between job engagement and attachment is at the same magnitude yet inverse to the correlation between anxious attachment and burnout ( $r = -.267, p < .01$ ). In the same way, hierarchical regression calculations indicated that anxious attachment alone was a significant predictor of job engagement by accounting for 7.13% of the variance in this outcome variable.

*Hypothesis Three.* The third research question predicted that insecure attachment and perceptions of social support would negatively correlate, and that insecure attachment would better predict the occurrence of supervisor support than other forms of support. Correlations are depicted in Table 6 and show that anxious attachment did not significantly correlate with the work-related forms of social support, specifically supervisor and collegial supports. Significant inverse correlations did result between anxious attachment and non-work forms of support, with the strongest correlation between the special person form of support ( $r = -.380, p < .01$ ), followed by friend support ( $r = -.348, p < .01$ ), and then perceptions of support from family ( $r = -.310, p < .01$ ). Avoidant attachment also did not significantly correlate with work-related forms of support, yet correlated more strongly with non-work social support than anxious attachment.

Table 6

## Correlation Coefficients Between Attachment and Social Support

Subscale	1	2	3	4	5	6	7
1. Anxious	-	.392**	.005	-.035	-.348**	-.310**	-.380**
2. Avoidant		-	.038	-.050	-.470**	-.450**	-.487**
3. Supervisor			-	.293**	.071	-.009	-.008
4. Collegial				-	.235**	.055	-.081
5. Friend					-	.412**	.358**
6. Family						-	.450**
7. Special							-

Note. \*\* $p < .01$ .

As depicted in Table 6, avoidant attachment was most significantly correlated with special person support ( $r = -.487, p < .01$ ), followed by friend support ( $r = -.470, p < .01$ ), and family support ( $r = -.450, p < .01$ ), in the same pattern as anxious attachment.

Tables 7 through 9, represent the results from a series of hierarchical regression calculations showing that insecure attachment orientations predicted variance in non-work forms of social support.

Table 7

## Hierarchical Regression of Insecure Attachment Predicting Special Support

Variable	$R^2$	$\Delta R^2$	Std.Beta	$\Delta F$
Step 1				
Anxious	.144	.144	-.380	29.15**
Step 2				
Anxious			-.219	
Avoidant	.277	.133	-.399	31.69**

Note.  $R^2$ ,  $\Delta R^2$ , and  $\Delta F$  values are reflective of the model metrics. \*\* $p < .01$ .

Table 8

## Hierarchical Regression of Insecure Attachment Predicting Friend Support

Variable	$R^2$	$\Delta R^2$	Std.Beta	$\Delta F$
Step 1				
Anxious	.121	.121	-.348	23.88**
Step 2				
Anxious			-.190	
Avoidant	.251	.130	-.393	29.78**

Note.  $R^2$ ,  $\Delta R^2$ , and  $\Delta F$  values are reflective of the model metrics. \*\* $p < .01$ .

Table 9

## Hierarchical Regression of Insecure Attachment Predicting Family Support

Variable	$R^2$	$\Delta R^2$	Std.Beta	$\Delta F$
Step 1				
Anxious	.096	.096	-.310	18.44**
Step 2				
Anxious			-.154	
Avoidant	.223	.126	-.388	27.98**

Note.  $R^2$ ,  $\Delta R^2$ , and  $\Delta F$  values are reflective of the model metrics. \*\* $p < .01$ .



A lack of significant correlation between attachment and work supports precluded regression calculations for these forms of support. Insecure attachment accounted for the most variance in the special person form of social support (27.7%), followed by friend support (25.1% of the variance predicted), and family support (22.3% of the variance predicted). Further, the addition of avoidant attachment in the second model demonstrated that avoidant attachment was a slightly better predictor of the variance in friend and family supports than anxious attachment, while anxious attachment was a slightly better predictor of the variance in special person support than avoidant attachment.

*Hypothesis Four.* Research question number four hypothesized that social support would predict the development of burnout, and that supervisor support would account for more variance in burnout than other forms of support. Pearson correlations between social supports and burnout are shown in Table 10, and identify significant inverse correlations between collegial support and burnout, friend support and burnout, and supervisor support and burnout respectively. A significant yet minimal correlation between family support and burnout also resulted.

Table 10

## Correlation Coefficients Between Supports and Burnout and Job Engagement

Subscale	1	2	3	4	5	6	7
1. Supervisor	-	.293**	.071	-.009	-.008	-.215**	.215**
2. Collegial		-	.235**	-.055	-.081	-.328**	.328**
3. Friend			-	.412**	.358**	-.297**	.297**
4. Family				-	.450**	-.185*	.185*
5. Special					-	-.039	.039
6. Burnout						-	1
7. Engagement							-

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

A hierarchical regression calculation was performed to determine the degree to which each form of social support predicted burnout, and the results are listed in Table 11. Significant regression coefficients resulted for supervisor, collegial, and friend supports on the burnout criterion. Collegial support represented the greatest change in predicted variance for burnout ( $R^2$  Change= 7.8%), followed by friend support ( $R^2$  Change= 5.1%), then lastly supervisor support ( $R^2$  Change= 4.4%). Collinearity statistics for the independent variables in the regression models were well within tolerance limits, demonstrating that multicollinearity was not a confounding factor for the variance accounted for in burnout by these forms of social support.

Table 11

## Hierarchical Regression of Social Supports on Burnout

Variable	$R^2$	$\Delta R^2$	Std.Beta	$\Delta F$
Step 1				
Supervisor	.044	.044	-.209	7.53**
Step 2				
Supervisor			-.123	
Collegial	.122	.078	-.292	14.56**
Step 3				
Supervisor	-	-	-.130	-
Collegial	-	-	-.236	-
Friend	.172	.051	-.231	9.94**
Step 4				
Supervisor	-	-	-.131	-
Collegial	-	-	-.231	-
Friend	-	-	-.241	-
Special	.173	.001	.026	.114
Step 5				
Supervisor	-	-	-.134	-
Collegial	-	-	-.228	-
Friend	-	-	-.205	-
Special	-	-	.070	-
Family	.187	.014	-.135	2.77

Note.  $R^2$ ,  $\Delta R^2$ , and  $\Delta F$  values are reflective of the model metrics. \*\* $p < .01$ .

*Hypothesis Five.* This research question estimated that supervisor support would be a better predictor of job engagement than collegial or non-work forms of support. Table 10 depicts the correlations between all forms of social support and job engagement. The correlations of collegial, friend, and supervisor supports with job engagement are highly significant at alpha .01, yet are low to moderate in magnitude, respectively. A very low yet significant correlation resulted between family support and job engagement.

A hierarchical regression was completed using the same models that were used with the burnout criterion. Regression coefficients for job engagement were the same as the results found for burnout, however the relationships between the predictors and job engagement were direct rather than inverted, such that higher amounts of support predicted higher job engagement. Specifically, collegial support positively predicted 7.8% of the variance in job engagement, friend support positively accounted for 5.1% of this outcome variable, and supervisor support predicted slightly less variance in job engagement with 4.4% explained

*Hypothesis Six.* This research question estimated that insecure attachment orientations would be more related and therefore more predictive of the development of both burnout and job engagement than all of the social support forms in this study except supervisor support. Table 4 lists the respective correlations between the forms of insecure attachment and the criterion variable, and Table 10 lists the correlations between the five forms of social support and the criterion variables.

As described previously, results showed that of the two forms of insecure attachment, only anxious attachment was correlated to burnout and job engagement. All forms of social support except the special person form of support were also correlated with burnout and job engagement. Collegial and friend supports represented the strongest correlations with the criterion variables, followed by supervisor then family support. The correlations between anxious attachment to burnout and job engagement were slightly stronger than the correlations between supervisor, family, and special person supports and these dependent variables. However, collegial and friend forms of support were more correlated to burnout and job engagement than anxious attachment.

Hierarchical regression was used to determine whether or not insecure attachment accounted for more variance in the criterion variables than all forms of social support except supervisor support. The two forms of insecure attachment were entered in the first block as the predictor variables for the first model, and all forms of social support were entered in the second block as additional predictor variables for the second model. Regression coefficients are shown in Table 12, and the results demonstrate that when all forms of social support are entered together, they are a better predictor of burnout and job engagement than both forms of insecure attachment together. Anxious and avoidant attachment accounted for 7.1% of the variance in the criterion variables, while social supports accounted for an additional 15.1% of the total 22.2% of predicted variance.

Table 12

Hierarchical Regression of Insecure Attachment and Supports on Burnout and Engagement

Variable	$R^2$	$\Delta R^2$	Std.Beta		$\Delta F$
			Burnout	Engagement	
Step 1					
Anxious	.071	.071	.244	-.244	6.22**
Avoidant			.045	-.045	
Step 2					
Anxious	-	-	.217	-.217	-
Avoidant	-	-	-.005	.005	-
Supervisor	-	-	-.137	.137	-
Collegial	-	-	-.229	.229	-
Friend	-	-	-.160	.160	-
Family	-	-	-.100	.100	-
Special	.222	.151	.128	-.128	6.18**

Note.  $R^2$ ,  $\Delta R^2$ , and  $\Delta F$  values are reflective of the metrics for each model. \*\* $p <$

.01.

Examining the standardized Beta coefficients in the second model showed that supervisor support (Beta =  $-.137$ ) did not account for a greater change in the criterion variables than anxious attachment (Beta =  $-.217$ ), contrary to the hypothesis. Standardized Beta coefficients are statistics that represent the standardized amount of change that occurs in the criterion variable for a single unit of change in the standard deviation of a predictor variable. However, anxious attachment did account for more change in the criterion variables than all forms of social support except collegial support (Beta =  $-.229$ ), which produced a Beta slightly larger than the one produced by anxious attachment (Beta =  $-.217$ ).

*Hypothesis Seven.* This question predicted that supervisor support would moderate the relationship between attachment and burnout. According to Baron and Kenny (1986), moderation occurs when the predictor variable and the proposed moderator interact to account for a significant amount of variance in the outcome variable. They also suggest that for full moderation to exist, it is preferred that there is no significant association between the predictor and the moderator, and the predictor and the outcome variable. In this study, the lack of association between insecure attachment (the predictor), and supervisor support (the proposed moderator) has been previously demonstrated. However, even though it is contrary to the preferred conditions for moderation, an association was confirmed between insecure attachment and burnout in this study. To investigate whether a less stringent form of moderation existed moderation calculations were completed. All variables in this hypothesis were centered by subtracting their respective composite variable means from their individual case



mean scores, prior to their entry into the multiple regression equation. Burnout was then regressed on the individual predictors and their product, which represented their interaction. As shown in Table 13, results were non-significant for moderation. Insecure attachment, and supervisor support each predicted burnout independently.

Table 13

Hierarchical Regression of the Interaction Between Anxious Attachment and  
Supervisor Support on Burnout

Variable	$R^2$	$\Delta R^2$	Std.Beta	$\Delta F$
Step 1				
Anxious			.267	
Supervisor	.118	.118	-.216	11.14**
Step 2				
Anxious				
X	.121	.003	-.056	.586
Supervisor				

Note.  $R^2$ ,  $\Delta R^2$ , and  $\Delta F$  values are reflective of the metrics for each model. \*\* $p < .01$ .

*Post Hoc Analysis.* As moderation did not occur between the predictors, an investigation to determine whether or not mediation existed was completed. Judd and Kenny (1981b), suggest that three conditions are required to demonstrate a mediational relationship between variables using multiple regression analyses. First a significant regression coefficient must result from the regression of the outcome variable on the first predictor. In this hypothesis, burnout would be regressed on attachment, and findings from hypothesis six demonstrated an  $R^2$  of .071 with a significant F Change level of .002 for this regression, thereby meeting this criterion. The second condition requires that each variable in the model is found to predict the variable that follows it, when all previous variables are controlled. For this second condition, burnout was regressed on supervisor support while controlling for the effects of attachment, which resulted in an  $R^2$  of .05, rather than an  $R^2$  of .044 when attachment wasn't controlled. Next, supervisor support was regressed on attachment to complete Judd & Kenny's (1981b) second condition, and previous results reported a lack of association between these variables, and therefore regression results were non-significant. If all previous criteria were met, the final condition for mediation would have required non-significant results from the regression of burnout on attachment while the influence of supervisor support was held constant. The lack of a significant association between attachment and supervisor support in condition two prevents confirmation of a mediating relationship between anxious attachment and supervisor support on burnout.

As collegial support was identified as the support variable that shared the most variance with burnout (and engagement) in this study, an additional post hoc analysis was conducted to examine whether or not it moderated the relationship between anxious attachment and burnout. As can be seen from Table 14, hierarchical regression calculations did not produce an interaction between anxious attachment and collegial support with burnout (an *F Change* of 2.42 at a significance level of .102), and therefore moderation did not occur.

Table 14

Hierarchical Regression of the Interaction Between Anxious Attachment and  
Collegial Support on Burnout

Variable	$R^2$	$\Delta R^2$	Std.Beta	$\Delta F$
Step 1				
Anxious			.254	
Collegial	.172	.172	-.319	17.32**
Step 2				
Anxious				
X	.184	.012	-.111	.242
Collegial				

Note.  $R^2$ ,  $\Delta R^2$ , and  $\Delta F$  values are reflective of the metrics for each model. \*\* $p < .01$ .

*Hypothesis Eight.* The final hypothesis for this study purported that supervisor support would also moderate the relationship between attachment and job engagement. Using the same process of centering the variables and multiple regression analysis as described in the previous hypothesis, moderation was not found due to a lack of interaction between anxious attachment and supervisor support when predicting job engagement.

*Post Hoc Analysis.* As found in hypothesis seven, the lack of association between attachment and supervisor support precluded the assertion that mediation occurs between these variables when predicting job engagement.

## CHAPTER FIVE: DISCUSSION

Regression analyses identified that anxious attachment and perceptions of supervisor support each predicted the development of burnout and job engagement in a sample of 213 university professors. Although collegial support was found to be a marginally better predictor of these outcomes than supervisor support, neither form of social support moderated the relationships between attachment and burnout.

Three core findings were realized from this study. First, multiple regression confirmed and extended preliminary correlation results associating insecure attachment with burnout. These results identified that anxious attachment predicted the development of workplace burnout in university professors.

Next, anxious attachment was found to also predict the development of job engagement in this population through an inverse relationship. The predictive relationship between insecure attachment and job engagement, which is considered the opposite of burnout, had not been previously investigated. As anticipated, anxious attachment was found to be a better predictor of burnout and engagement than all forms of social support, except one. However, the form of social support that predicted the outcome continuum better than anxious attachment was not supervisor support, which was the one expected. Collegial support was identified as the best predictor of burnout and engagement in this sample of academics. See the discussion of Hypothesis Six for possible explanations of this result.

The final contribution from this study was unexpected. Evidence demonstrated that supervisor support did not moderate the relationships between anxious attachment and burnout/engagement. Based on theory concerning the activation of the attachment mechanism, an interaction was expected between anxious attachment and supervisor support in the prediction of burnout and engagement. In this study, supervisor support and anxious attachment were discovered to each predict burnout/engagement separately.

*Hypothesis 1: Attachment and Burnout.*

As anticipated, anxious attachment was positively correlated with burnout and negatively correlated with job engagement, and predictive of both. However, there was no significant association between avoidant attachment and the composite burnout scale. Similarly, there is a lack of association between avoidant attachment and burnout's precursor, stress (Schirmer & Lopez, 2001). Anxious attachment was most correlated with the exhaustion and inefficacy subscales, while avoidant attachment only yielded a statistically significant correlation with the inefficacy subscale. These results appear to suggest that individuals who tend to steer away from closeness in their relationships may at times perceive themselves to be less effective in their jobs, however not to the extent that this dynamic alone greatly influences their energy level, or the development of burnout, as defined by the MBI.

In contrast, anxiously attached individuals, who appear nervously preoccupied about closeness in their relationships seem more likely to develop burnout. They tend to experience more tiredness, perceive themselves as less effective in their



tasks, and hold a contemptuous view toward their employment more consistently than non-anxiously attached adults.

A possible explanation for the difference in the experience and prediction of burnout between insecure attachment orientations may stem from the different coping responses inherent in each orientation (Mikulincer, 1998). Such coping responses have been demonstrated even in infancy. For example, infants classified as avoidant, appear to shut-down their attachment systems after repeated unsuccessful attempts at eliciting responsiveness from their caregivers, whereas anxiously attached infants tend to hyper-activate their attachment systems in attempts to gain responsiveness (Main, 1990). As adults at work, avoidant individuals are likely to remain ambivalent and dismissive about pursuing closeness in relationships and retain an authentic cognitive distance, which in the context of burnout is an advantage. Anxiously attached individuals seem to experience cynicism to a lesser degree, and increased inefficaciousness when repeated and intensified attempts to navigate interpersonal closeness issues go awry.

*Hypothesis 2: Attachment and Job Engagement.*

The results of hypothesis two demonstrated an original and significant correlation between insecure attachment and job engagement. Again, of the two forms of insecure attachment, only anxious attachment predicted the development of job engagement. Theoretical explanations for this follow the same argument as just proposed for burnout. If anxious rather than avoidant styles influence the development of burnout, then it may be that anxiously

attached individuals are likely to experience an increase in feelings of connection to their job tasks when there is success in navigating the work relationships that influence completion of their daily duties. Accordingly, avoidant styles unconcerned to the same extent with the construct of connection would not develop such engagement through these transactional experiences.

*Hypothesis 3: Attachment and Social Support.*

This third premise was partially supported by the correlation between both forms of insecure attachment with non-work forms of social support. Both anxious and avoidant attachment orientations significantly predicted perceptions of social support. Anxious attachment predicted the most support from a special person in their lives (typically a romantic partner), while avoidant attachment best predicted support from a non-work friend, or from their families. However, correlations did not occur between insecure attachment and either form of work social support. Therefore, the part of this hypothesis that claimed insecure attachment would better predict the occurrence of supervisor support over all other forms of support was not borne out in this study.

As previously explained, the rationale for this claim was based on how the attachment system can be activated by an authority figure, namely a specific workplace supervisor, or by any management figure who can be seen to represent the general authority of the workplace (Hazan & Shaver, 1990). In this sample of university professors, it appears that this association between attachment and supervisor authority didn't occur. It is possible that the responsibilities within such an academic position require a level of autonomy that

diminishes the influence of supervisors and their opinions, making their influence insignificantly related to the performance of daily tasks, and thereby less likely to trigger the attachment system. Instead, for academics, supervisor authority may have cumulative effects over time on the ongoing development of one's professional identity, which as a construct may be more resilient to criticisms of daily tasks, and less likely to activate insecure attachment mechanisms.

Alternately, a lack of relationship between insecure attachment and supervisor support may have to do with the reporting structure in academic environments. Many academics may perceive themselves as operating autonomously in their role, and view the authority of a Departmental Chair as administrative in nature, and therefore view themselves as removed from being evaluated on daily task performance.

*Hypothesis 4: Social Support and Burnout.*

The fourth confirmatory hypothesis claimed that social support would predict the development of burnout, and this was demonstrated using hierarchical regression. Results showed that both collegial and supervisor support accounted for proportions of variance in burnout respectively, as did support from a friend. However, friend support was the only non-work social support to account for a significant change in burnout. The form of support previously identified as being the most associated with insecure attachment, special person support was not predictive of burnout.

With the exception of the order of predictor variables between supervisor and collegial support in this sample, these findings were consistent with the literature

that stated work support is more influential than non-work social support as a buffer against the development of the burnout syndrome. It may be that supervisor support did not predict burnout better than collegial support in academia because of the relatively independent reporting structure of the role. The majority of daily tasks are completed with a high degree of autonomy, and interactions with supervisors regarding performance are fairly infrequent, and in practice may be relegated to an infrequent review meeting.

*Hypothesis 5: Social Support and Job Engagement.*

This original premise claimed that social support would predict the development of job engagement, and supervisor support would predict job engagement more so than other forms of support. Results supported the claim, again with the exception of the order of the predictor variables, such that collegial support was a better predictor of job engagement than supervisor support. This partial difference from the literature may be a characteristic of academic work environments that seem to emphasize collegiality in research and mentorship, and that also primarily identify professional accomplishment as having one's work reviewed, accepted, and esteemed by one's peers. When such an emphasis is contrasted with the influence of a supervisor in this setting, whose role and influence are both ambiguous, and with the fact that the majority of non-academic employment positions do not place as much emphasis on peer evaluation to denote achievement, it is possible to speculate that these results may be representative of academic job types in general. However, further research is necessary for such a claim.

*Hypothesis 6: The Order of Predictor Variables.*

This new proposition estimated that insecure attachment was more related to and predictive of burnout and job engagement than all forms of social support except supervisor support. Only anxious attachment was correlated with both criterion variables, and more so than all forms of social support except collegial and friend supports.

Hierarchical regression coefficients showed that when all forms of social support were entered together as a model (Model 2 in Table 12) along with anxious and avoidant attachment, social support accounted for twice as much variance in burnout/job engagement than when both forms of insecure attachment were entered alone (Model 1). Therefore, insecure attachment seemed half as good at predicting the outcome variables as all forms of social support combined. As a result, it seemed not as influential in burnout and job engagement as was estimated.

However, an alternate examination of each variable's individual contribution to the change in burnout and job engagement when the influences of all other variables in the model were held constant provided a divergent perspective. Beta coefficients in Model 2 revealed that anxious attachment affected more change in both outcome variables than all other forms of social support except collegial support, which was only marginally better. Therefore, when examining individual influences on burnout and job engagement, anxious attachment was better than all social supports except one. However the one support that predicted the

outcome variables better was collegial support, not the form of support identified in the hypothesis.

The substitution of supervisor with collegial support as the primary form of work support that predicted burnout and job engagement may signal an atypical structure of accountability in academia. It seems plausible that peers have unique influence over one's success in an employment context, such that it is actually one's colleagues who are indirectly imbued with the authority that is more typically held by a direct supervisor in most occupations.

As previously explained, the two most common types of social support identified at work are instrumental and emotional (Fenlason & Beehr, 1994). In most occupations, supervisors are the source from which instrumental support is provided, as they have the practical authority to adjust workplace demands and available resources so that tasks can be completed. Coworkers are typically the source from which emotional support is garnered, which are the caring and empathic behaviours that help to shore up taxed resources or temporarily bear extra demands. These results appear to signal that in academic settings, the sources from which these two types of support are obtained may be inverted.

Perhaps in academia, instrumental support is actually obtained from colleagues, who through the peer review structure, serve as indirect authority figures able to influence the resources and demands that may or may not continue to be available to a professor. Reciprocally, supervisors who are typically department chairs in this setting, may provide some aspect of emotional

support through empathic interactions. Clearly more research in this area is required to investigate these relationships.

*Hypothesis 7: Supervisor Support Moderates Attachment and Burnout.*

This hypothesis suggested that supervisor support acts as a moderator of the relationship between insecure attachment and burnout. For full moderation to exist, insecure attachment should not be directly associated with supervisor support. Moderation would occur through the interaction, or combined influence of attachment with supervisor support on burnout, and this interaction would account for greater variance than the influence of supervisor support on burnout alone. Moderation did not exist, due to a lack of interaction between insecure attachment and supervisor support.

Post Hoc analyses were explored to determine whether or not mediation rather than moderation occurred between these three variables. For mediation conditions to have been met, insecure attachment would have predicted supervisor support, and subsequently each would have predicted burnout. However, the influence that insecure attachment would have had on burnout would cease when the predictive effects of supervisor support on burnout were controlled. Previous results demonstrated a lack of association between insecure attachment and supervisor support.

From these results, it appears that insecure attachment, specifically anxious attachment, and supervisor support are each associated with burnout independently. An interaction was anticipated based on the literature that insecurely attached individuals typically perceive supervisors as less supportive

than those that are securely attached, and that the anxious attachment system can become more activated when interpersonal supports are withheld (Main, 1990; Schirmer & Lopez, 2001). The previously-described characteristics of this type of job may be a factor contributing to this lack of association. Similarly, without a preliminary association between anxious attachment and collegial support in this study, speculation that this alternate form of work support is involved in the relationship between attachment and burnout is unwarranted.

*Hypothesis 8: Supervisor Support Moderates Attachment and Job Engagement.*

This final hypothesis claimed that supervisor support would moderate the relationship between insecure attachment and job engagement. Results did not support this supposition due to the preliminary lack of an interaction between the attachment variables and supervisor support required for moderation. Post Hoc analyses did not confirm a mediating relationship also because of the lack of association between the predictor and mediating variables.

*General Discussion*

Prior to the completion of this study, a final review of the literature was conducted, and four new articles were found that examined a relationship between attachment and burnout. However, none of the articles included the construct of job engagement, or used the population of university professors as their sample. In one study of 393 Israeli bank clerks, insurance agents, salespersons, and engineers, higher levels of attachment anxiety and avoidance were associated with higher levels of burnout (Ronen & Mikulincer, 2009). Perceptions of the cohesion of the work team were found to mediate the



relationship between anxious attachment and burnout, while perceptions of organizational fairness mediated the relationship between avoidant attachment and burnout.

The examination of work team cohesion appears similar to the construct of collegial social support used in the present study. It seems that work team cohesion may have represented the emotional support benefits across those general occupations, thereby mediating the relationship between anxious attachment and burnout. In the present academic sample, collegial support predicted burnout, however failed to operate as a mediator. One may speculate that either collegial support functions as a different type of support in academic occupations, for example as instrumental support, or that work team cohesion actually measures an independent construct.

Another key finding that could illuminate this issue is found within the group process literature. Recently in their investigation of first year university students' working part-time, and buffers against stress, Jimmieson et al., (2010), found that the simple identification with one's work group was a better predictor of psychological well-being than receiving support from ones' colleagues. Perhaps then identification rather than cohesion with one's work group may more directly tap the main emotional benefit gleaned from colleagues in academic settings. Research determining an association between work group identification, attachment, and burnout may be worth exploring in both types of occupational settings.

Perceptions of organizational fairness was the other factor that mediated the relationship between avoidant attachment and burnout in Ronen & Mikulincer's recent study. It elicits the worker's global estimate of how all employees are treated in the company, yet it does not specifically tap how the employee views their own treatment in a precise relationship with an identified institutional authority figure. Some similarity exists between this construct and the supervisor support factor, namely the attempt to capture the provision of an authority-given resource that holds meaningful implications for the employee in his/her relationship with the employer. For example, employees who do not perceive their organization as fair are likely to experience reticence in having to rely upon, trust, or make themselves vulnerable to organizational authority if the perceived fairness is absent or unpredictable. In essence, such employees would tend to avoid vulnerable interactions with the organization, an orientation synonymous with the avoidant attachment dimension, and the cynicism (distancing oneself from one's work) factor of the burnout construct. Also, perceptions of being treated fairly by the organization appears similar to feeling understood by, and cared for by the organization, which is the definition of emotional support. As the present study identified that supervisor support may be actually providing emotional support in the academic environment, organizational fairness may be a better predictor of attachment and burnout in academic settings.

In another study of 161 assisted living center employees, secure attachment was associated with burnout and trust in supervisor's ratings of employee performance (Simmons, Gooty, Nelson, & Little, 2009). Securely attached

employees were less likely to burnout if they trusted their supervisor. In general occupations, such trust appears more closely associated with the concept of organizational fairness.

Two additional recent articles substantiated the link between attachment and burnout. One study associated a form of insecure attachment styles with higher burnout in 530 security guards (Vanheule & Declercq, 2009). The other study comprised of 231 Israeli hotel employees linked anxious attachment to higher burnout scores (Ronen, & Baldwin, 2010). As a result, additional support is provided for the results of this research associating insecure attachment with burnout.

Although burnout has been extensively studied within the teaching field (Burke & Greenglass, 1988; Friedman, 1995; Gold, 1985; Maslach & Pines, 1977; McIntyre, 1984; Morgan & Krehbiel, 1985; Schwab & Iwanicki, 1982b; Stevens & O'Neill, 1983), peer-reviewed investigations specific to the population of university-level positions have been less frequent, and have only focused on burnout in the context of the teaching relationships (Blix et al., 1994; Hogan & McKnight, 2007; Tumkaya, 2007). Their findings supported a predictive relationship between age (the risk of burnout decreased with age); gender (women appeared to experience greater incidents of burnout particularly due to higher exhaustion scores); duration in the position (incidents of burnout decreased the longer one is employed in a position, with ten years appearing as a pivotal duration); and tenure status (the risk of burnout decreased as tenure status increased).

The present study measured professor burnout in the context of their complete work roles. Therefore, a direct comparison of the present study's results with the literature is limited. This sample's participants generally reported less burnout overall as compared to previous U.S. studies. Specifically, levels of emotional exhaustion were less, while levels of cynicism, or the psychological distancing from one's work, were in the high average versus middle average range as compared to the US studies (Blix et al., 1994; Hogan & McKnight, 2007). University professors' reports of being impacted in their work performance (self-efficacy), were lower than their U.S. counterparts. 20% of the participants reported moderate to high levels of burnout.

As described above, burnout has been associated with demographic factors such as age, gender, duration of employment, and tenure. In this sample, only age was significantly correlated with burnout and engagement, such that younger participants reported higher burnout scores, while job engagement increased with age. The magnitude of this correlation was weak, and speculation exists in the literature that the association between burnout and age may be confounded by the duration of experience in the occupation. A trend, but not a significant association existed between the outcome variables and duration of employment in this sample, enabling one to estimate that the practical significance of age as an associated factor with burnout and engagement is supported.

The main finding from this research identified that for these participants, an anxious attachment orientation is more of a risk factor for developing burnout and precluding job engagement than four out of the five main protective factors of

social support. While support from a supervisor has typically been found to be the greatest resource buffer in most occupations (Ellis & Miller, 1994; Greenglass et al., 1996), collegial support was cited as the most meaningful by these participants. This possibly signals that social supports function uniquely in academic occupations, and that distinctive characteristics of the job predict burnout more strongly in this profession than the demand/resource factors common across occupations. More research on burnout in university professors is needed.

#### *Implications For Psychotherapy*

Universally, attachment orientations have not been formally regarded in employment settings, particularly with respect to their involvement in employee health and wellness or in performance management planning. With the exception of an initial foray into dispositional factors in the late 1960s and early 1970s, wellness and performance management have focused on work environmental factors, and the balance between various demands and resources, and have only recently begun to include individual factors as a necessary issue for health and safety (Narhgang, Morgeson, & Hofman, 2011). The addition of this study's results further suggest that individual attachment issues need to be included in organizational interventions.

Attachment-based therapies may be expanded to address the prevalence of the impact of workplace relationship issues on mental health, by developing interventions tailored for this demographic. Such interventions would emphasize a psycho-educational focus to validate the occurrence of the burnout syndrome,

and to provide motivated employees with an opportunity for prevention. Self-referred counselling for common interpersonal misperceptions and maladaptive behaviours that are associated with anxious attachment could assist employees to resolve difficulties more quickly when they present for help. In an organizational context, institution-wide wellness education on this issue supplemented by general interpersonal training, and the provision of confidential counselling services could help prevent the exacerbation of burnout in organizational systems from anticipated factors such as absenteeism, employee turnover, and workload/resource imbalance. Developing such interventions have been shown to minimize burnout for employees, and to maximize job engagement, both of which are tied to corporations' bottom lines (McPhillips, et al., 2007; Nahrgang, et al., 2011; Tumkaya, 2007).

The identification of collegial support as the prime resource against burnout in this study, and contributor towards job engagement for academics expands the psychotherapy literature by illuminating a key wellness factor that may be unique to university-level employment. Whether or not this is an artifact of the independent reporting structure in university institutions, dissemination of this information may help clinicians to better treat burnout or a lack of engagement by collaboratively examining peer group interactions or their absence. Results suggest that such a working hypothesis may more accurately identify the contributing issues to this condition, than examining the nebulous relationships to authority figures within the reporting structures of universities.

### *Limitations and Recommendations for Future Research*

Highlighting the limitations of this study may also provide opportunities for future research in this area. A main limitation of this study is the use of self-report measures to obtain quantitative estimates of the variables being measured. Another limitation is the use of the same measurement tool to quantify both outcome variables. Despite the arguments advanced supporting the use of the Maslach Burnout Inventory to measure both burnout and job engagement and the theoretical conceptualization that these experiences are opposites on the same continuum, limitations are inherent in this approach. Specifically, the predictive associations can only be attributed to the continuum of burnout/engagement, and neither one alone, because the two experiences are considered mirror opposites. This implies that burnout and engagement are perfectly inversely associated, such that at any particular point on the continuum, the degree to which one is burned out is exactly the opposite amount that one is engaged with their work. The likelihood that the two experiences are indeed identical, albeit reversed, is certainly open to debate. For this reason, the alternate measurement approach which proposes that these experiences are distinct constructs, that have differing magnitudes of variance accounted for by either the same or distinct predictor variables, enables specific claims to be made about either outcome. Within this study, investigations into the unique relationships between attachment dimensions and the subdomains of both burnout and engagement could, perhaps, have been better illuminated and strengthened through the use of an alternate tool. The Utrecht Work Engagement

Scale has been identified as a similar and equally valid instrument for measuring job engagement (Shaufeli & Bakker, 2006).

The measurement of supervisor support may also be a limitation to this study. Although the Job Content Questionnaire and the Multidimensional Scale of Perceived Social Support tapped the five main forms of social support, the nature of the work environment for this population did not readily map onto the wording of the individual items. Also, a clarifying statement at the top of the page directing participants to respond to the supervisor items by referring to the single person to whom their position was technically accountable may have diminished inconsistent interpretations and responses. It is possible that with more reliable results on this domain, an association between supervisor support and insecure attachment orientations could result.

With the emergence of collegial support over supervisor support in the prediction of burnout and engagement found in this study, further confirmation of this ordering of predictors would be beneficial to strengthen this finding as an occupational distinction in university-level positions, from others with different reporting structures.

It is important to note that although each measure reported strong reliability statistics, the sensitivity of these measures is lacking for understanding the degree to which general occupational worklife factors versus job specific characteristics influence the outcome variables in this population.



### *Conclusion*

In conclusion, the results of this study demonstrated that an adult's style of insecure attachment predicts the development of the burnout syndrome and inversely, the growth of job engagement for fulltime academic employees. Working models of self and others appear to be activated during the navigation through cumulative workplace stress situations, such that individuals with anxious attachment orientations are more likely to suffer the burnout condition. Less anxiously attached people are likely to be more engaged in their work. The avoidant attachment style was not associated with either outcome.

Supervisor support did predict burnout and engagement, but collegial support was found to be a better predictor. Anxious attachment was also found to supercede all social supports with the exception of collegial support, in the prediction of these two outcomes. However neither supervisor, nor collegial support were predicted by insecure attachment in this study. As a result, the authority inherent in the provision of supervisor support did not seem to activate the participants' attachment mechanisms, and its moderation of the attachment-burnout/engagement relationships was precluded.

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## Appendix A

### Research Information and Consent Form

Dear Sir or Madam:

My name is Jacob Tremblay and I am a Ph.D. Candidate in the Counselling Psychology program at the University of Alberta. I am respectfully asking for your help with my dissertation research by completing this packet of questionnaires. This study will be used to fulfill the requirements of my doctoral dissertation. Anonymously returning this package will help to illuminate this important, yet understudied area.

#### Objective:

The main objective of this study is to better understand how the interplay between a person's social supports, and their typical interpersonal style, associate with one's experience of job pressures. These issues can have chronic effects on individual, familial, organizational, and public health, and are known to last for years. You are among an extensive number of adults that have been selected to participate in this large study, and your participation is highly valued. Your anonymous participation would involve completing the enclosed packet of questionnaires (which should take between 15-25 minutes), and returning them in the included self-addressed envelope through the internal campus mail system to the Education Clinic at 1-135 Education North (*Note:* please attempt to complete all questionnaires at one time rather than in multiple sittings). Returning this packet of completed questionnaires indicates your consent to participate in this study. Should you wish to withhold your consent, then please don't return these surveys. No identifying information of any kind is requested for this study (please do not include your name, address, or department/faculty with this package). Participants will only be distinguished by job category. Only the principal researcher, Jacob Tremblay, will be reviewing the completed questionnaires, and all information will be kept confidential in a locked cabinet and office at the University of Alberta.

The research findings of this study may be published. As your participation will be anonymous, your responses will remain confidential at all times. A summary of the main research findings can be obtained at the office of the supervising professor (Dr. William Whelton, 6-123G Education North, University of Alberta) after the study has been completed. This study has been reviewed and approved by the Research Ethics Board of the Faculties of Education and Extension at the University of Alberta. For questions regarding participants rights and ethical conduct of research, contact the Chair of the Research Ethics Board at (780) 492-3751.

#### Risks:

Please note that the primary investigator is employed at the UofA's Employee and Family Assistance Program. Please decline to participate in this study if this concerns you in any way. There is a small chance that you may become aware of feelings of discomfort when completing the questionnaires. Should adverse feelings become acute or persist, please seek assistance from a mental health professional (for community resources dial 211), or visit your nearest hospital emergency department. Possible benefits of this study could be an awareness of positive feelings, self-knowledge, and coping responses.

## Appendix B

**Demographic Sheet**

The following demographic questions are voluntary, but the information would be greatly appreciated helpful for research purposes.

A. Please write your age in the space provided.

AGE: \_\_\_\_\_

2. Please indicate your gender by checking either male or female.

- MALE
- FEMALE

3. Please indicate your current status from the following list of options by checking the one(s) that applies to you:

- SINGLE
- DIVORCED
- MARRIED
- COMMON-LAW or OTHER LONG-TERM RELATIONSHIP

4. Please indicate your ethnicity by checking one of the following options that describes you:

- ABORIGINAL
- ASIAN
- BLACK/AFRICAN-CANADIAN
- CAUCASIAN
- EAST INDIAN
- FRANCOPHONE
- HISPANIC
- MIDDLE EASTERN
- OTHER (please specify) \_\_\_\_\_

5. Please specify your fulltime job-type (example: computer tech, carpenter, cleaning staff, nurse, clerk, administrative assistant, psychologist, researcher, maintenance, etc.) in this space

\_\_\_\_\_.

6. How many hours per week do you work at this one job?

- Fulltime (36.5 or more)
- Part time (less than 36.5 hours)

7. How long have you been employed in your current position? \_\_\_\_\_

## Appendix C

**Experiences in Close Relationship Inventory**

The following statements concern how you generally feel in close relationships (e.g. with romantic partners, close friends, or family members). Please respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided beside each number, using the following rating scale.

- |                      |                      |          |                   |                   |       |                   |
|----------------------|----------------------|----------|-------------------|-------------------|-------|-------------------|
| 1                    | 2                    | 3        | 4                 | 5                 | 6     | 7                 |
| Disagree<br>strongly | Disagree<br>slightly | Disagree | Neutral/<br>mixed | Agree<br>slightly | Agree | Agree<br>strongly |
- 
- \_\_\_ 1. I prefer not to show others how I feel deep down.
- \_\_\_ 2. I worry about being rejected or abandoned.
- \_\_\_ 3. I am very comfortable being close to other people.
- \_\_\_ 4. I worry a lot about my relationships.
- \_\_\_ 5. Just when someone starts to get close to me I find myself pulling away.
- \_\_\_ 6. I worry that others won't care about me as much as I care about them.
- \_\_\_ 7. I get uncomfortable when someone wants to be very close to me.
- \_\_\_ 8. I worry a fair amount about losing my close relationship partners.
- \_\_\_ 9. I don't feel comfortable opening up to others.
- \_\_\_ 10. I often wish that close relationship partners' feelings for me were as strong as my feelings for them.
- \_\_\_ 11. I want to get close to others, but I keep pulling back.
- \_\_\_ 12. I want to get very close to others, and this sometimes scares them away.
- \_\_\_ 13. I am nervous when another person gets too close to me.
- \_\_\_ 14. I worry about being alone.
- \_\_\_ 15. I feel comfortable sharing my private thoughts and feelings with others.
- \_\_\_ 16. My desire to be very close sometimes scares people away.
- \_\_\_ 17. I try to avoid getting too close to others.
- \_\_\_ 18. I need a lot of reassurance that close relationship partners really care about me.
- \_\_\_ 19. I find it relatively easy to get close to others.



Continued . . .

1	2	3	4	5	6	7
Disagree strongly	Disagree slightly	Disagree	Neutral/ mixed	Agree slightly	Agree	Agree strongly

- 20. Sometimes I feel that I try to force others to show more feeling, more commitment to our relationship than they otherwise would.
- 21. I find it difficult to allow myself to depend on close relationship partners.
- 22. I do not often worry about being abandoned.
- 23. I prefer not to be too close to others.
- 24. If I can't get a relationship partner to show interest in me, I get upset or angry.
- 25. I tell my close relationship partners just about everything.
- 26. I find that my partners don't want to get as close as I would like.
- 27. I usually discuss my problems and concerns with close others.
- 28. When I don't have close others around, I feel somewhat anxious and insecure.
- 29. I feel comfortable depending on others.
- 30. I get frustrated when my close relationship partners are not around as much as I would like.
- 31. I don't mind asking close others for comfort, advice, or help.
- 32. I get frustrated if relationship partners are not available when I need them.
- 33. It helps to turn to close others in times of need.
- 34. When other people disapprove of me, I feel really bad about myself.
- 35. I turn to close relationship partners for many things, including comfort and reassurance.
- 36. I resent it when my relationship partners spend time away from me.

Thank you.

## Appendix D

**Maslach Burnout Inventory-General Survey**

(sample items only-not for reproduction)

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. I feel emotionally drained from my work.                                 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. I have become less interested in my work since I started this job.       | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. At my work, I feel confident that I am effective at getting things done. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Thank you.

## Appendix E

**Subscales from The Job Content Questionnaire**

Please read the statements below carefully, and check the number of the response above each question which best applies to how you generally feel.

strongly disagree     disagree     agree     strongly agree     I have no supervisor

1. My supervisor is concerned about the welfare of those under him.

strongly disagree     disagree     agree     strongly agree     I have no supervisor

2. My supervisor is helpful in getting my job done.

strongly disagree     disagree     agree     strongly agree     I have no supervisor

3. My supervisor pays attention to what I am saying.

strongly disagree     disagree     agree     strongly agree     I have no supervisor

4. My supervisor is successful in getting people to work together.

strongly disagree     disagree     agree     strongly agree     I have no supervisor

5. People I work with are competent in doing their jobs.

strongly disagree     disagree     agree     strongly agree     I have no supervisor

6. People I work with take a personal interest in me.

strongly disagree     disagree     agree     strongly agree     I have no supervisor

7. People I work with are friendly.

strongly disagree     disagree     agree     strongly agree     I have no supervisor

8. People I work with are helpful in getting my job done.

Thank you.

## Appendix F

**Multidimensional Scale of Perceived Social Support**

Instructions: Please indicate how you feel in general about the following statements by circling the number of the specific response that best describes your feelings for each question. Please read each statement carefully.

Possible Responses:

Circle "1" if you **Very Strongly Disagree**

Circle "2" if you **Strongly Disagree**

Circle "3" if you **Mildly Disagree**

Circle "4" if you are **Neutral**

Circle "5" if you **Mildly Agree**

Circle "6" if you **Strongly Agree**

Circle "7" if you **Very Strongly Agree**

Questions:

- |   |               |
|---|---------------|
| 1. There is a special person who is around when I am in need.           | 1 2 3 4 5 6 7 |
| 2. There is a special person with whom I can share my joys and sorrows. | 1 2 3 4 5 6 7 |
| 3. My family really tries to help me.                                   | 1 2 3 4 5 6 7 |
| 4. I get the emotional help and support I need from my family.          | 1 2 3 4 5 6 7 |
| 5. I have a special person who is a real source of comfort to me.       | 1 2 3 4 5 6 7 |
| 6. My friends really try to help me.                                    | 1 2 3 4 5 6 7 |
| 7. I can count on my friends when things go wrong.                      | 1 2 3 4 5 6 7 |
| 8. I can talk about my problems with my family.                         | 1 2 3 4 5 6 7 |
| 9. I have friends with whom I can share my joys and sorrows.            | 1 2 3 4 5 6 7 |
| 10. There is a special person in my life who cares about my feelings.   | 1 2 3 4 5 6 7 |
| 11. My family is willing to help me make decisions.                     | 1 2 3 4 5 6 7 |
| 12. I can talk about my problems with my friends.                       | 1 2 3 4 5 6 7 |

Thank you.

## Appendix G

**Depression Anxiety Stress Scale-Brief Version (DASS-21)**

For each of the statements below, please circle the number which best indicates how much the statement applied to you OVER THE PAST WEEK. There are no right or wrong answers. Do not spend too much time on any one statement.

*0 = Did not apply to me at all*

*1 = Applied to me to some degree*

*2 = Applied to me a considerable degree, or a good part of the time*

*3 = Applied to me very much, or most of the time*

- \_\_\_ 1. I felt downhearted and blue.
- \_\_\_ 2. I felt that I had nothing to look forward to.
- \_\_\_ 3. I felt that life was meaningless.
- \_\_\_ 4. I felt I wasn't worth much as a person.
- \_\_\_ 5. I was unable to become enthusiastic about anything.
- \_\_\_ 6. I couldn't seem to experience any positive feeling at all.
- \_\_\_ 7. I found it difficult to work up the initiative to do things.
- \_\_\_ 8. I was aware of the action of my heart in the absence of physical exertion  
( e.g., sense of heart rate increase, heart missing a beat).
- \_\_\_ 9. I was aware of dryness of my mouth.
- \_\_\_ 10. I experienced breathing difficulty (e.g., excessively rapid breathing,  
breathlessness in the absence of physical exertion).
- \_\_\_ 11. I experienced trembling (e.g., in the hands).
- \_\_\_ 12. I was worried about situations in which I might panic and make a fool of myself.
- \_\_\_ 13. I felt I was close to panic.
- \_\_\_ 14. I felt scared without any good reason.
- \_\_\_ 15. I found it hard to wind down.
- \_\_\_ 16. I found it difficult to relax.
- \_\_\_ 17. I felt that I was using a lot of nervous energy.
- \_\_\_ 18. I found myself getting agitated.
- \_\_\_ 19. I tended to over-react to situations.
- \_\_\_ 20. I felt that I was rather touchy.
- \_\_\_ 21. I was intolerant of anything that kept me from getting on with what I was doing.

Thank you.

Appendix H

Copy of the Invoice for the Maslach Burnout Inventory

Office.com: Help and How-to! Restart or continue page numbering Page 1 of 1

International Invoice Page 1 of 2

**Print**

**International Invoice**

Original Invoice 3/13/2009 1:37:33 PM

CPP, Inc.  
1055 Joaquin Rd., 2nd Floor  
Mountain View, CA 94043  
USA  
(650) 969-8901  
Federal Id : 94-1337736

Order Number ..... 896356  
Shipment Number ..... 725682  
Po Number ..... cc  
Currency ..... United States Dollar  
Shipping Method ..... FEDEX ECONOMY CANADA  
Country Of Origin..... United States

**Bill To :**  
-----  
JACOB TREMBLAY  
5754 172ND ST -  
-  
EDMONTON - AB  
Canada - T6M 1B4  
780-907-4487

**Ship To :**  
-----  
JACOB TREMBLAY  
5754 172ND ST -  
-  
EDMONTON -AB  
Canada - T6M 1B4

Item	Description	Qty	Unit Price	Discount (%)	Discount (\$)	Net Amt
3467	MBI GENERAL SURVEY	1	\$38.50	25 %	\$9.63	\$28.87
3452	MBI MANUAL 3RD EDITION	1	\$57.50	25 %	\$14.38	\$43.12

**Gross Amt** ..... \$71.99  
**Freight Charge:** ..... \$25.70  
**Total Discount** ..... \$24.01  

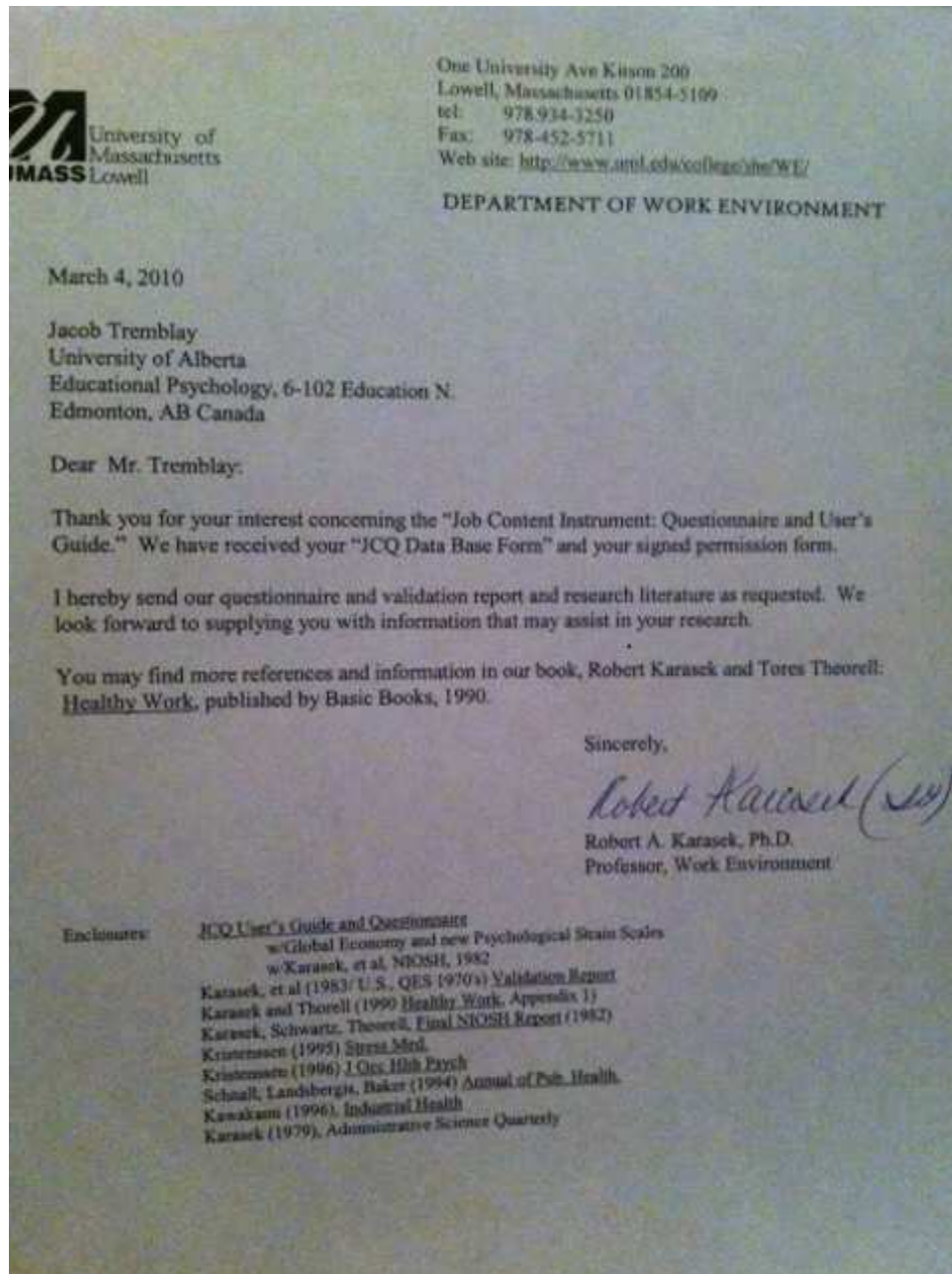

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**Net Amt** ..... \$97.69

001-806156-03-734694-01-1 3/13/2009

## Appendix I

## Copy of the Letter for Use of the JCQ



## Appendix J

**Curriculum Vitae****JAKE TREMBLAY, M.Ed., R. Psych., SAP****EDUCATION**

- University of Alberta (2004-current): PhD Candidate, Counselling Psychology. Dissertation: Attachment, Supervisor Support, & Burnout in Professors. In Progress.
- University of Alberta (Oct 2004): M.Ed., Counselling Psychology. Thesis: Positive Emotion & Negative Mood Regulation.
- University of New Brunswick, Fredericton (1999): BA Psychology degree, First Division Honours. Basic Research: Experimental Design Development for Measuring the Impact of Rotating Shifts on Firefighters.

**RELATED WORK EXPERIENCE**

- Primary Care Network of St. Albert & Sturgeon County (Jan 2010 – present)  
*Primary Care Psychologist:* providing individual and group psychotherapy and assessment services to patients of physicians in the St. Albert and Sturgeon County area; providing case consultation to Mental Health Coordinators, Primary Care Physicians, Nurses, Pharmacists, and Dietitians; assisting with program development, research and evaluation as needed.
- Private Practice – Jake Tremblay, Psychologist (2008-present, part-time)  
Providing psychotherapy, assessment, and consultation services to the public through independent private practice. Individual, couples, and group therapy; along with addictions, and pre-employment suitability assessments are provided.
- Human Solutions EFAP (May 2005 – Jan 2010)  
*National Manager of Substance Abuse Services Canada, & R. Psych.* (June 2009 – Jan 2010): responsible for the development, research, and maintenance of professional substance assessment processes, standards, and protocols for the national network of psychologists. Co-developed a professional training and reference manual, and provided assessment orientations, training, and consultations to the national network of providers. Solely responsible for recruitment and maintenance of the national network of providers, their clinical supervision, and quality control of all substance assessment reports. Provided consultations to national and local corporate customers on policy development and best-practice management of substance related performance issues.



*Clinical Manager of Professional Services, Northern Alberta & the Territories, & R. Psych.* (Oct 2008-present): responsible for the daily operations of two Edmonton offices & associates throughout northern Alberta and the territories, ensuring the delivery & provision of EFAP services, interventions and best practice consultations to organizations, their management, employees and families; provision of clinical supervision & case consultation for counselling and assessments to both internal and external associate clinicians throughout Northern Alberta & the Territories; maintenance of a clinical case load and billable hours (18/wk); coordination & delivery of Organizational Development services & case management; conduct critical incident stress debriefings on-call; clinical representation during sales presentations to prospective customers; member of National Substance Abuse Protocol Development Team, National Construction Industry Drug & Alcohol Committee, & AB Mental Health Commission D&A committee.

*Coordinator of Employee Health Assessment Services, Northern Alberta, & R. Psych.* (January 2007-Sept/08): in addition to providing clinical services, responsibilities included coordinating professional workplace health services, such as arranging and supervising assessments & counselling for workplace health issues. This also involved providing clinical case consultation and supervision to treating clinicians, conducting critical incident stress debriefings, and maintaining the clinical network in this region; quality-control review of substance abuse assessments for national network of clinicians.

*Staff Clinician* (May 2005 – Dec 2006, fulltime): served as a provisional psychologist for this Employee and Family Assistance Program provider offering therapeutic counselling and assessment to adults & youth, couples & families, organizational and strategic interventions to businesses, along with consultations, professional development workshops, and critical incident stress debriefings to employees.

- *Catholic Social Services* (Sept 2001 – September 2004)  
*Counsellor (May 2003-Sept 2004 part-time contract)*: provided group and individual counselling to families, adolescents, and individual adults in various open & closed custody treatment programs (Children/Adolescent, Safehouse, etc.) using experiential, solution-focused, CBT, and psycho-educational approaches; co-therapist of of Dialectal Behaviour Therapy group for adult borderline personality.

*Human Resources Consultant (Apr – Sept 2002, fulltime secondment)*: for the Edmonton Children and Youth Program, comprised of 19 Treatment Homes; responsibilities included recruitment, placement, and performance management.

- Team Leader (Sept 2001 – Apr 2002, fulltime):* managed the treatment, programming, and operations of a Children's Residential Treatment Home for ages 4 –12; a 5-bed facility with 8 staff.
- Big Brothers Big Sisters (June 2003 – Sept 2004)  
*Part-time Case Worker:* screened, interviewed, matched and supported volunteers with children and families in three community centres; assisted with program development and implementation.
  - Vista Evaluation and Research (2003 – summer contract)  
*Research Associate:* worked as part of the Edmonton Homelessness Study research team; assisted with the development of protocols, facilitated a special interest group workshop, conducted clinical interviews of homeless individuals, created and entered narrative data.
  - Slate Personnel Ltd. (Aug 1999 – Sept 2001)  
*Agency Manager:* Managed the operations of this Human Resource Agency while serving as a recruiting specialist (professional and technical placements). This included empowering the internal recruiting and administrative staff, coaching and developing marketing and sales plans, negotiating employment contracts, administering and developing internal policy, facilitating staff development, and ensuring quality customer service and account management. Active member of the Strategic Planning and Business Development Committee for the Slate Group of Companies.
  - The People Centre (1995 - 1999)  
*Managing Partner (8 employees):* Authored, and facilitated professional development, social skill training, and psycho-educational workshops and counselling for a variety of demographics including: professional educators, Provincial and Municipal governments, First Nation communities, private businesses, individual adults, parents and adolescents. Services ranged from provincial exam prep classes, the creation of a public school reintegration program and concurrent parental support on reserve for aboriginal adolescents and parents, community & school anger management services, & parenting programs.
  - John Howard Society of Fredericton Inc. (1993 - 1995 contract)  
*Positions:* Correctional Services of Canada Community Parole Program Coordinator; Youth Prospects Program Coordinator; Adult Offender Life Skills Facilitator; Sex Offender Pre-release Counsellor.  
Obtained and supervised the private community billeting for federal parolees of this Correctional Services of Canada contract, while serving as the Parole Officer supervising the inmates' early parole. Consecutively, I authored, facilitated and obtained the funding for an educational program

whose goal was to transfer crucial interpersonal skills to “youth at-risk” for their successful return to school. During both of the previous roles, I facilitated weekend life skills workshops for groups of 8-25 adults in correctional institutions and in community settings while intermittently conducting pre-release counselling to adult sex offenders.

- Residential Treatment Experience (1993 –1997)  
Assistant Director - Parent-model Residential Group Home for female adolescents with behavioural disorders (1995-97)  
Youth Care Worker – Adolescent Crisis Homes, Intake Home, and Secure Custody Group Homes (1993-95)

### **INVITED PRESENTATIONS**

- Tremblay, J.W. (2011). *Full Psychological Service in Primary Care Increases Access & Reduces Wait Times*, Poster Presentation. Accelerating Primary Care Conference, Alberta, Oct, 2011.
- Tremblay, J.W. (2009). *Successful work reintegration after prolonged substance-related absences*. Concurrent speaker, DACSAW-Drug & Alcohol Council for Safe Alberta Workplaces, construction industry Biennial Provincial Conference.
- Human Solutions, (2009). *Better Supervision: best practices for supervisors in the construction industry*, Construction Labour Relations, various locations AB.
- Wilson Banwell, (2008). *Active Parenting Series: Blended Families*. A Six Week Parenting Workshop, University of Alberta employees, Edmonton, AB.
- Wilson Banwell, (2008). *Leadership Series: Respectful Workplace; Facilitating Return to Work; Stress Management; Delivery of Bad News*. University of Alberta employees, Edmonton, AB.
- Wilson Banwell, (2007). *Building Organizational Wellness Programs*. Concurrent Speaker at DACSAW-Drug & Alcohol Council for Safe Alberta Workplaces, construction industry Biennial Provincial Conference
- Wilson Banwell, (2007). *Respect in the Workplace: Discrimination and Harassment In-Service*. Greyhound Canada, Edmonton, AB.
- Wilson Banwell, (2006). *Saying No and Feeling Good About It*. Presentation to Northern Alberta Institute of Technology, Staff Development Program, AB.
- Wilson Banwell, (2006). *Responsible Optimism*. Presentations to Davis & Company's Partners and employees, National Law Firm; and University of Alberta Departments, Edmonton, AB.
- Wilson Banwell, (2006). *Parenting Challenges: Coping With Power Struggles*. Presentation to University of Alberta Employees, Health and Wellness Services, Edmonton, AB.

- Wilson Banwell, (2005). *Assertiveness in Relationships*. Presentations to University of Alberta Hospital Department of Medicine, and Health and Wellness Services, Edmonton, AB.
- Wilson Banwell, (2005). *Dealing With Difficult People: Interpersonal Communication and Assertion*. Presentation to Davis & Company employees, National Law Firm, Edmonton, AB.
- Tremblay, J.W. (2003). *Theraplay with Adolescents in Residential Treatment*. Consultation to U of A Doctoral Counselling Psychology class.
- Tremblay, J.W. (1997). *Managing Self-care and Aggression*. Presentation to N.B. District 17 School Board, Staff Development.
- Tremblay, J.W. (1997). *Strategies for Modeling and Teaching Anger Management*. Concurrent Speaker at 11<sup>th</sup> Annual National Learning Disabilities Association Conference. St. John, N.B.
- Tremblay, J.W. (1997). *Working with Angry Youth*. Presentation to Fredericton Residential Youth Services, Counsellor Professional Development.
- Tremblay, J.W. (1996). *Supporting Professionals and Angry Teens*. In-service to the New Brunswick Department of Education, Counsellors, Teachers, and Administrators.
- Tremblay, J.W. (1996). *Professional and Student Anger In Class*. Presentation to N.B. District 6 School Board, Staff Development Training.
- Tremblay, J.W. (1996). *Parenting Angry Kids: encouraging responsible anger management at home*. Presentations to parents of N.B. District 6 Schools, and St. Mary's First Nations Reservation.

## **PUBLICATIONS**

- Tremblay, J.W. (2011). *Full Psychological Service in Primary Care Increases Access & Reduces Wait Times*, Published Abstract. Accelerating Primary Care Conference, Alberta, Oct, 2011.

## **PUBLICATIONS (Non-refereed)**

- Human Solutions, (2009). *Certified Substance Abuse Expert Assessment Manual, 2<sup>nd</sup> Edition*. A Clinician's Guide.
- Tremblay, J.W. (1998). *Between Teens, Assertiveness Training for Adolescents*. A Facilitator's Guide.
- Tremblay, J.W. (1997). *Interpersonal Conflict for Adults*. A training manual.
- Tremblay, J.W. (1997). *Mediation and Conflict Resolution in Middle Schools*. A training manual.
- Tremblay, J.W. (1996). *Supporting Professionals and Angry Teens (S.P.A.T.)*. Social Skills Program.

- Tremblay, J.W. (1995). *Anger Management Training for Youth. Facilitator's Training Manual.*

## **RESEARCH EXPERIENCE**

- (2011-current) Alberta Addiction & Mental Health Research Partnership Program, Research Network, Primary Care Team.
- (2011) Treatment Effects of a Group Intervention for Depression in Primary Care, St. Albert & Sturgeon Primary Care Network.
- (2004) Positive Affect and Negative Mood Regulation. Master's Thesis, Counselling Psychology, University of Alberta.
- (2003) Research Associate: Edmonton Homelessness Project through Vista Evaluation and Research.
- (1999) Research Assistant, UNB-Dr. Don Fields: Assessment of the effects of rotating shifts in fire fighters; literature review and analysis.
- (1998) Basic Research UNB: Assistance with the development of a computer adapted test for measuring students' subjective knowledge of course materials.
- (1998) Basic Research UNB: Assessment and development of an experimental design for evaluating the effects of alternating shift schedules in the workplace.
- (1993) Research Assistant, Dalhousie- Dr. Pat McGrath: prevalence of chronic pain in the general population.

## **AWARDS and INTERESTS**

- (2010) Community Running Clubs and Races
- (2007) Coronation Triathlon finalist
- (2004) Larry Eberlein Graduate Scholarship in Counselling Psychology, University of Alberta
- (2004) Alberta Learning Graduate Student Scholarship, University of Alberta
- (2003) Honorary Myers Horowitz Graduate Scholarship, University of Alberta (declined)
- (2003) Friends of the Faculty of Graduate Studies and Research Scholarship, University of Alberta
- (2002) St. Albert Triathlon finalist
- (1999) University of New Brunswick Special Undergraduate Scholarship, and Dean's List Member
- (1998) University of New Brunswick Campus Scholarship, and Dean's List Member
- (1997) Canadian Ski Instructor Certification Level 1
- (1996) Multi-Cultural Association of N. B. Steering Committee. Prevention of Violence in Immigrant Families.
- (1991) Canadian Olympic Team Member – Amateur Boxing, Middleweight

**TRAINING/CERTIFICATION**

- Capacity Assessments, by Dr. Stickney-Lee for AHS, May 2011.
- Spotting Dangerous Psychotic Process, Personality Dysfunction & Secrets, by Shawn Shea MD, April 2011
- Changeways Program Facilitation, 2-days, Dr. Paterson, 2010
- WAIS-IV Clinical Use and Interpretation, by Dr. Don Saklofske, 2010
- Elder Abuse Responder Training, AHS, February 2010.
- CBT 1-Week Intensive with Dr. David Burns, July 2009.
- Substance Abuse Professional Qualification, U.S. Department of Transportation, May 2009
- How to Improve Your Clinical Effectiveness, Scott Miller, Ph.D., 2009
- Registered Psychologist, 2008
- Substance Abuse Assessment Training, Wilson Banwell, 2006
- Critical Incident Stress Management In-service, Wilson Banwell, 2005
- On the Tail of the Dragon 5-Trauma Workshop, Pat Ogden, 2005
- Masters of Education, Counselling Psychology, UofA, 2004
- Standard First Aid & CPR, 2004
- Applied Suicide Intervention Skills Training, Canadian Mental Health Association, 2003
- Bachelor's of Arts, Psychology, First Division Honours, UNB, 1999