

Running Head: CONSTRUCT VALIDITY OF EI

Emotional Intelligence: An Investigation of Discriminant and Concurrent Validity

**Submitted in partial fulfillment of the requirements for the degree of
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Andrea Kohan

Lakehead University, Thunder Bay, Ontario

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**Dissertation committee: Dr. D. Mazmanian (advisor)
 Dr. R. Davis
 Dr. R. Nelsen**



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Abstract

Emotional intelligence (EI) is a popularized concept, but one also being empirically examined for its validity as a construct of intelligence. Research has focused on determining its status as a unique ability that is distinct from personality and associated with adaptability. Data thus far equivocally support the conceptualization of EI as an aspect of intelligence, and point to limitations of self-report measures designed to assess it. The purpose of this study was to contribute information to the area by examining the discriminant and concurrent validity of two relatively new self-report measures of EI. Specifically, the Emotional Quotient Inventory (EQi; Bar-On, 1997a) and the Emotional Intelligence Scale (EIS; Schutte et al., 1998) were examined in relation to the five-factor model (FFM) of personality and burnout, an index of response to demands in the workplace. University students, police officers and retail managers completed the EI and personality measures, and the two types of workers also completed self-report measures of potential work demands, work resources, and burnout. Factor solutions revealed a lack of independence between EI measures and FFM domains, except for two EIS factors, which corresponded to two theoretical aspects of EI: emotional appraisal and emotional utilization. Concurrent analyses showed that EI played a minimal moderating role in the experience of burnout. Collectively, the data provide controvertible evidence for the existence of unique EIS factors, but highlight the merit of further inquiry using these two measures of EI. Other findings lent support to the importance of (1) work demands to burnout over and above personality, (2) the mediating effects of cynicism in the experience of burnout, and (3) considering workers' perceptions of the organization as resources against burnout.

Emotional Intelligence:

An Investigation of Discriminant and Concurrent Validity

Emotional intelligence (EI) has been defined in the scientific literature in conventional terms used to describe intelligence. That is, it has been portrayed as an ability associated with adaptability to the environment (Mayer, Caruso, & Salovey, 1997; 2000). Its delineation as a unique construct of intelligence has been the subject of recent empirical efforts designed to assess its status as an ability (Mayer et al., 2000; Roberts, Zeidner, & Mathews, 2001), its distinctiveness from other forms of intelligence and personality (e.g., Davies, Stankov, & Roberts, 1998; Derksen, Kramer, Katzko, 2002; Mayer, et al., 1999; Petrides & Furnham, 2001; Roberts et al., 2001; Schutte et al, 1998), and its association with indices of adaptability (Bar-On, 1997a; Schutte et al., 1998; Schutte, et al., 2001).

Thus far, only equivocal evidence as been provided for EI's discriminant validity vis-à-vis personality (e.g., Davies et al., 1998; Roberts et al., 2001), with disparate results being dependent upon measures used and method of analysis. However, systematic investigations of associations between EI and adaptability measures have generally favoured its concurrent validity (e.g., Bar-On, 1997; Ciarrochi, Dean, Anderson, 2002; Dwada & Hart, 2000; Schutte et al., 1998; Schutte et al., 2001). Inquiries of both types of validity issues depend on valid assessments tools, and recent EI measures have been developed that will assist in this regard (e.g., Bar-On, 1997a; Mayer, Caruso, & Salovey, 2000; Schutte et al., 1998; Tapia, 2001).

The overall goal of this study was to contribute to the understanding of EI's construct validity by using two relatively new self-report measures of EI, the Emotional Quotient Inventory (EQi; Bar-On, 1997a) and the Emotional Intelligent

Scale (EIS; Schutte et al., 1998). More specifically, the aim was to offer information on its discriminant and concurrent validity by examining the relationship between personality and these two EI measures, and investigating its potential as a resource with which to offset occupational stress, in particular, burnout, for police officers and retail managers. Prior to describing the study, relevant aspects of the literatures on EI, stress and burnout are reviewed.

Emotional Intelligence

EI has recently been a topic of popular writings (e.g., Cooper & Swarf, 1997; Goleman, 1995; Simmons & Simmons, 1997), which has fostered some familiarization with the term. These accounts have described EI as a set of skills that help individuals interact with others and contend with problems in life. It has also been portrayed as an alternative to IQ when it comes to predicting success in life (e.g., Goleman, 1995). Unfortunately, these depictions have often simplified EI as “people skills”, and blurred the boundary between it and “character”. Furthermore, self-report measures of unknown psychometric properties have cropped up in the backs of books and articles, encouraging people to “test their EI” (e.g., Cooper & Swarf, 1997; Goleman, 1995; Simmons & Simmons, 1997).

However, EI has also emerged as a construct of interest in the scientific literature, with the emphasis being placed on investigating its operationalization and validity as a unique aspect of intelligence (e.g., Bar-On, 1997a; Ciarrochi, Chan, Caputi, & Roberts, 2001; Davies et al., 1998; Mayer et al., 1997; Mayer & Salovey, 1998; Roberts et al., 2001; Salovey & Mayer, 1990; Schutte et al., 1998). Issues pertaining to its conceptualization and analysis are presented below.

Conceptual Issues

There are two issues that bear on the conceptualization of EI: the provision of theoretical models, and the integration of these models into existing theories of intelligence. Each is discussed in turn.

Models of EI. One of the two main models of EI was put forth by Salovey & Mayer (1990). They defined EI as "the ability to monitor one's own and others' emotions, to discriminate among them, and to use the information to guide one's thinking and actions" (p. 189; see also Mayer et al., 1997; Mayer & Geher, 1996; Mayer & Salovey, 1993; 1995; 1997). More recently, they modelled EI as a series of conceptually-related and hierarchical mental processes, which may or may not be correlated, but which are necessary for a minimum level of competence and adequate intellectual functioning (Mayer et al., 1997; Mayer & Salovey, 1998). In order of development, the mental processes are: (1) the perception and appraisal of emotion, (2) understanding and reasoning about emotion, and (3) the management of emotions. All three processes pertain to the self and others.

The perception and appraisal of emotion is said to be the most basic level of processing and includes the ability to perceive and identify emotional content in a variety of situations and from many different stimuli. Understanding and reasoning about emotion is identified as second-level processing and refers to the ability to assimilate emotions into cognitive processes. Management of emotions is considered third-level processing and includes monitoring, effectively using the knowledge of, and altering emotional reaction in order to ensure an adaptive outcome. This level of processing is reflected in acts of flexible planning, creative thinking, redirecting attention, and motivated behavior.

The other main model of EI was described by Bar-On (1997a), and overlaps with the one described above. He defined EI as "an aggregate of emotional abilities, competencies, and skills... that represent a collection of knowledge used to cope with life" (p. 15). His view reflects EI as ability for immediate functioning that predicts success in dealing with daily situations, rather than an overall capacity to function, such as is the case for cognitive ability. This model is a catalogue of 15 skills that not only encompasses the awareness and use of emotional information, as does Mayer & Salovey's (1997) model, but also includes other components thought to be important for dealing successfully with environmental demands. These are conceptualized as a series of core and higher-order facets, both of which are said to be dependent upon supporting, or auxiliary, facets (Bar-On, 1997b; see Table 1). The 15 abilities are also referenced according to five broad components: intrapersonal, interpersonal, adaptability, stress management, and general mood (Bar-On, 1997b; see Table 2).

Placing EI. Given that the preceding definitions emphasize features of ability and adaptability, they can be said to conform to conventional definitions of intelligence (see Chiu, Hong, & Dweck, 1994; Mayer, Salovey, Caruso, Sitarenios, 2001). However, the fact that EI definitions seem to overlap with existing models of intelligence has contributed to some ambiguity surrounding its definition, and questions have emerged regarding its fit within the overall construct of intelligence (e.g., Davies et al., 1998; Hedlund & Sternberg, 2000; Kaufman & Kaufman, 2001).

For example, EI can be viewed as a specific aspect of "general intelligence", which refers to overall intellectual attainment and ability (Mayer & Geher, 1996). As defined by Wechsler (1958), it is "the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his (or her) environment" (p. 7). A common approach to understanding general intelligence has

been to identify different aspects that might comprise the more global construct (e.g., Gardner, 1983; Sternberg, 1988; Wechsler, 1987). Thus, exploring the concept of EI could represent an effort to understand the "noncognitive" aspects (e.g., emotional, personal, social, and survival) of general intelligence (Bar-On, 1997a; Kaufman & Kaufman, 2001; Mayer & Geher, 1996; Mayer & Salovey, 1993; Salovey & Mayer, 1995).

Recognizing "noncognitive" aspects of intelligence is not new. These aspects were identified by Wechsler as being an important part of general intelligence, even though his main emphasis was on cognitive components such as rational thought, learning capacity, recall ability, and application of knowledge (Kaplan & Sadock, 1991). Gardner's (1983) theory of multiple intelligences also acknowledged the importance of "noncognitive" components. Furthermore, his concept of personal intelligence seems to overlap with EI, particularly in its conceptualization of *interpersonal* intelligence (the ability to understand other people's emotions and to use this knowledge for predicting future behavior), and *intrapersonal* intelligence (the ability to identify and understand one's own feelings and use them as a means of guiding behavior; Davies et al., 1998).

Another example of potential construct overlap is the apparent similarity between EI and social and contextual intelligences. Social intelligence refers to "the application of knowledge to solve problems of daily life and work toward desired goals" (Cantor & Harlow, 1994, p. 138), and contextual intelligence is defined as a composite of practical problem-solving, verbal ability, and emotional and social competence skills (Sternberg, 1988). Clearly, the aspects of EI that pertain to emotional processing in relation to others make it similar to these types of intelligences.

To date, the status of social intelligence as a valid construct is uncertain (e.g., Brown & Anthony, 1990; Davies et al., 1998; Ford & Tisak, 1983; Marlowe & Bedell, 1982), largely due to unsuccessful attempts to distinguish it empirically from verbal ability (Mayer & Salovey, 1993; O'Sullivan & Guilford, 1975), and more recently, from the personality dimension extraversion (Davies et al., 1998). Nonetheless, according to Davies et al. (1998), a better understanding of social intelligence might be cultivated from further delineating the EI construct. They suggested that examining EI in relation to social intelligence is necessary in order to establish the construct validity of both.

A final example of EI's overlap with other intelligence theories is in the area of crystallized intelligence (Cattell, 1987; Horn, 1988). This type of intelligence refers to an individual's knowledge base and set of skills acquired through exposure to socialization processes. EI might be construed as an aspect of crystallized intelligence to the extent that the development of emotional processing occurs through social experience and interaction (Davies et al., 1998).

In summary, considering the importance of emotional processing is not an entirely novel concept. Several theories of intelligence have acknowledged, in different terms, this aspect of intelligence, and this has created a situation of apparent construct overlap. Nonetheless, proponents of EI (e.g., Bar-On, 1997a; Ciarrochi et al., 2001; Mayer & Salovey, 1993; 1995; 1998; Pfeiffer, 2001; Salovey & Mayer, 1990) emphasize the utility of the conceptualization to organize the literature pertaining to intelligence, emotion and personality, and the role of emotion in mental health.

If EI is to be considered a unique construct of intelligence, it must demonstrate that it is an ability, and that it is related to, but distinguishable from, other intellectual

abilities and personality. Additionally, it must be shown to be related to, and predictive of, adaptability (Bar-On, 1997a; Davies et al., 1998). The remainder of this section discusses the issues pertaining to EI's validity vis-à-vis personality and adaptability because of their specific relevance to the study (for a discussion of EI's status as an ability, and its relationship with other intellectual abilities, see Davies et al., 1998; Derksen et al., 2002; Mayer et al., 2000; Roberts et al., 2001).

Construct Validity: Divergence From Personality

According to Wechsler (1958), it was useful to interpret intelligence as an aspect of the overall personality, and a variety of researchers have offered plausible conceptualizations of the interface between personality and intelligence (e.g., see Sternberg & Ruzgis, 1994). However, this means only that the two constructs may be related in a number of ways, not that the constructs are the same. Construct validity depends on a demonstration of a degree of independence between the two, or, in other words, discriminant validity (Anastasi, 1988). Conceptualizations of EI as an ability distinguishes it theoretically from personality traits, which are viewed by Mayer and Salovey (1997), as "behavioral preferences". However, several researchers have acknowledged the resemblance of EI components to personality factors (e.g., Bar-On, 1997a; Mayer & Salovey, 1997; Mayer, Salovey, & Caruso, 2000; McCrae, 2000). Thus, EI would be expected to correlate with measures of personality, but not so highly as to be redundant with personality.

To date there is only equivocal evidence of EI's discriminant validity relative to personality. For example, construct validity assessments in the development of the EQi (Bar-On, 1997a) showed moderate correlations (e.g., $r_s = .30$ to $.70$) with various personality scales, including the Minnesota Multiphasic Personality Inventory-2 (Butcher, Dahlstrom, Graham, Tellegen, & Kraemmer, 1989), Eysenck Personality

Questionnaire (EPQ; Eysenck, H. J., & Eysenck, S. B., 1975), Personality Assessment Inventory (PAI; Morey, 1991), Personality Orientation Inventory (POI; Shostrom, 1974), and 16-Personality Factor Questionnaire (16-PF; Cattell, Eber, & Tatsouka, 1970). The data, based on studies conducted across six countries over a 12-year period (N s = 20 to 533), were taken as evidence in support of construct validity, given that the overlap with personality measures was not so great so as to detract from a demonstration of distinctiveness (Bar-On, 1997a).

Alternatively, Davies et al. (1998) conducted a series of studies (total N = 530) using putative self-report and objective (non-self report) measures of EI available up to the first half of 1996, and several established personality measures, and showed the following: (1) Most of the self-report measures demonstrated adequate reliability (see p. 1012 for exceptions), but loaded onto several dimensions of the five factor model (FFM) of personality (Costa & McCrae, 1992a; Digman, 1990), and the EPQ factor psychoticism. (2) Objective measures were generally unreliable, but the exceptions provided some basis for one independent factor - the perception of emotions in others - that did not load onto personality dimensions.

Based on these findings, Davies et al. (1998) concluded that self-report measures purporting to assess EI offered nothing more than an assessment of well-known personality traits, and that, if anything, there was only tentative evidence to construe EI more narrowly, as an ability to monitor, and discriminate among, emotions in others. Others have reached similar conclusions regarding the operationalization of EI (e.g., Roberts et al., 2001; Zeidner, Matthews, & Roberts, 2001).

Finally, in a study that was conducted after the Davies et al. study, Schutte et al. (1998) found evidence of the discriminant validity of the EIS (which was not

included in the Davies et al. study) in the form of a moderate correlation (e.g., $r = .54$) with the openness to experience dimension of the FFM. Although their sample size was relatively small ($N = 23$), this finding stands in direct contrast to the findings of Davies et al. (1998) inasmuch as openness to experience was the only trait of the FFM unrelated to EI in the latter study. Furthermore, whereas the correlational analysis employed by Schutte et al., (1998) and Bar-On (1997a) favoured the discriminant validity of EI measures, factor analysis, which was used by Davies and colleagues, did not.

The discrepancies in the findings pertaining to the FFM of personality detract from determinations of EI's discriminant validity, and the validity of self-report measures of EI. Therefore, the relationship between EI measures and the FFM requires further analysis. Several reasons exist for specifically examining the EQi and the EIS in relation to the FFM: (1) The relationship between the FFM and the EIS (Schutte et al., 1998) requires further examination using a larger sample and factor analysis. (2) The EQi validation studies (Bar-On, 1997a) did not include any assessment of the FFM. (3) The EQi was published after the 1996 inclusion cut-off date in the Davies et al. (1998) study, which assessed EI in relation to the FFM. (4) The EQi has recently been examined in relation to the FFM, but a modified version of the scale was used (Petrides & Furnham, 2001).

Construct Validation: Predicting Adaptability

Given the definitional emphasis on the functional aspect of EI, its construct validity also depends on demonstrated associations with indices of adaptability. Preliminary evidence exists to support EI's concurrent and predictive in this regard. For example, relationships between a variety of EI measures and indices of adaptability have been reported, including goal orientation, life satisfaction, and

depressive symptoms (e.g., Ciarrochi, Dean, & Anderson, 2002; Martinez-Pons, 1997). Additional evidence was found in studies using the EQi and EIS to operationalize EI. EIS scores were shown to be associated with better interpersonal skills (Schutte et al., 2001), and scores at college onset were found to predict end-of-year grade point average (Schutte et al., 1998). EQi validation studies (Bar-On, 1997a) provided estimations of predictive validity, in the form of relationships between EQi scores and several adaptability measures, including mental health, quality of life, job performance and satisfaction, coping and attribution styles, acculturation, perceived success, and forms of academic and occupational success (cf. Newsome, Day, & Catano, 2000).

EI definitions provide a basis for consideration a variety of adaptability measures. According to Bar-On (1997a), EI, in combination with other individual (e.g., biological, personality, cognitive capacity) and environmental factors, helps to explain behavior and successful adaptation, which can encompass anything from achievement to psychological well-being. One form of adaptability is the ability to contend with occupational stress, and recent accounts have speculated on EI's concurrent and predictive validity in this context (e.g., Bar-On, Brown, Kirkcaldy, & Thome, 2000; Cherniss, 2000; Ciarrochi et al., 2002; Matthews & Zeidner, 2000). Adaptability was defined in the study as successfully dealing with work demands, and operationalized as the degree of burnout reported. Thus, EI was construed as an individual-difference variable denoting resilience against stress.

Clearly, the conceptualizations of EI provide a basis for considering it as an adaptive aspect of work stress. However, rationale is also found in bodies of literature outside of EI research, namely the stress and burnout literatures. The following sections present the rationale provided by each area of research.

Rationale for Considering EI in Stress

The foundation for considering EI as a resilience variable stems from two main considerations in the stress literature: the importance of individual-difference variables, and the role of ability-type variables. Both are discussed.

Individual-Difference Variables in Stress Analyses

Health researchers have acknowledged that well-being and behavior are a function of environment and individual characteristics (Kasl & Rapp, 1991). Thus, models of work stress have emphasized not only the importance of environmental factors, and subjective perceptions of these (e.g., Lazarus & Folkman, 1984), but also the influence of individual differences on perceptions and event-perception transactions in the development of stress outcomes (e.g., Costa & McRae, 1990; French, Caplan, Harrison, 1982; Heady & Wearing, 1992; Karasek, 1979).

One individual-difference variable that has received much attention is disposition. Research has shown traits to play a significant role in the stress process, especially neuroticism (or negative affect; NA; Watson & Clark, 1992), a dimension of subjective distress. Specifically, the evidence suggests that whether or not an individual appraises the environment as stressful, and responds with psychological distress, is mediated by neuroticism (e.g., Brief, Burke, George, Robinson, & Webster, 1988; Burke, Brief, & George, 1993; Moyle, 1995; Watson & Pennebaker, 1989). Other research has shown that extraversion (or positive affect; PA; Watson & Clark, 1992) is a stronger predictor of subjective well-being compared to environmental factors (e.g., Hart et al., 1995; Kohan & O'Connor, in press). Furthermore, both neuroticism and extraversion have demonstrated systematic relationships with coping responses (e.g., Costa & McCrae, 1992b; Hart et al., 1995). These findings imply the likelihood of a predisposition towards perceiving,

experiencing, and responding to environmental events in a particular way. Thus, it seems important, at the very least, to include measures of these traits when assessing the relationship between perceptions of work and stress outcome (Kasl & Rapp, 1991; Kasl, 1998).

Other individual-difference variables examined in relation to work stress, both as correlates and moderators, include Type A behavior patterns, locus of control, hardiness, self-esteem, beliefs about capacity and context, anger, hostility and aggression, power-motivation, and coping style. However, unlike disposition, these variables have been shown to have only a modest or equivocal role relative to work-type variables (Baba et al., 1999; Cox & Ferguson, 1991; Ganster & Schaubroeck, 1991). It has been suggested that decisions about which individual-difference variables to include in health analyses should be based on theoretically-based predictions (Kasl & Rapp, 1991). Thus, considering EI as an individual-difference variable abides by this recommendation, given EI's definition as an element of adaptability (e.g., Bar-On, 1997a).

Ability-Type Variables in Stress Analyses.

Understanding the role of ability in stress has also been emphasized recently (e.g., Cooper & Payne, 1994; Kasl & Rapp, 1991; Payne, 1991). Several skill-type variables have been identified as resilience or vulnerability correlates of subjective well-being, including problem-solving skills and style, (Billings & Moos, 1984; Lazarus & Folkman, 1984), attributional style (Seligman, Abramson, Semmel, & von Vaeyer, 1984), optimism and pessimism (Aspinwall & Taylor, 1992; Scheier & Carver, 1992), and social skills (Bellack, Hersen, & Himmelhock, 1983; Lazarus & Folkman, 1984; Sanchez & Lewinsohn, 1980). Additionally, cognitive ability has

shown a relatively consistent link with job success (e.g., $r = .3$), a part of which might be presumed to reflect the ability to contend with job demands.

Recently, an inductive outline of the role of contextual intelligence in the stress process was offered (Payne, 1991) that bears directly on the issue of considering EI-like abilities in stress analyses. As previously discussed, contextual intelligence (i.e., problem-solving, verbal ability and emotional and social competence; Sternberg, 1988) and EI are similar constructs. Payne described how workers with high levels of contextual intelligence might draw upon such things during appraisal and coping processes to ensure an adaptive outcome.

Payne's reasoning went as follows: Contextually-intelligent individuals would be better able to collect information, analyze it from a variety of viewpoints, theorize about its causes, discuss it honestly with others, and distinguish between intra- and interpersonal aspects. They would also be able to generate options, appreciate the possible outcomes, use flexibility and self-confidence in decision-making, and be able to discuss these options with others. Finally, their skills would facilitate efforts at implementing coping strategies. Thus, these individuals would more accurately determine the extent to which an event represented a threat or actual loss, and how to respond. Given the definitional overlap between EI and contextual intelligence, EI might be expected to operate in similar fashion. Examining EI's role in the process of stress provides a way to empirically test this kind of theorizing.

EI was examined in the present study in relation to the specific stress response, burnout. This response was chosen because it has serious implications for organizational operations. That is, there is considerable evidence of burnout's link with diminished well-being among workers (e.g., Cordes & Dougherty, 1993; Burke & Deszca, 1986; Burke, Shearer, & Deszca, 1984a; 1984b; Kahill, 1988), deficits in

work performance (Maslach & Jackson, 1985) and organizational commitment (Jackson, Turner, & Brief, 1987), and increased absenteeism (Jackson, Schwab, & Schuler, 1986), turnover (Frith & Britton, 1989; Maslach & Jackson, 1984), and intentions to quit (Burke & Deszca, 1986).

A basis for considering EI as a resilience variable also came from the burnout literature, specifically, from the definition of the construct itself, and from the theories that have been adopted to examine it. The following section discusses both areas.

Rationale for Considering EI in Burnout

Definitional Issues

Like EI, burnout is a term found in both popular and scientific writings. In the popular literature, it is used as a "catch-all" pseudonym for the malaise associated with the stress of modern life (Farber, 1983). In the scientific literature, burnout is recognized as a construct reflecting a significant and negative response to the work environment (Maslach & Schaufeli, 1993).

Burnout has been defined in a number of ways. Some of the more commonly cited definitions include, (1) "a state of fatigue or frustration brought about by devotion to a cause, way of life, or relationship that failed to produce the expected reward" (Freudenberger & Richardson, 1980, p.13); (2) "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach, 1982, p. 3); and (3) "a state of physical, emotional and mental exhaustion caused by long term involvement in situations that are emotionally demanding" (Pines & Aronson, 1988, p. 9). Common to all of these definitions is a view of burnout as a state of fatigue and emotional exhaustion, the end result of a gradual process of disillusionment stemming from social interaction in the workplace (Aronson, 1993).

Despite the numerous accounts, most burnout researchers have operationally defined burnout according to Maslach and Jackson's (1982; 1984) three-dimensional definition (Taris, Schreurs, & Schaufeli, 1999). One dimension, *emotional exhaustion*, captures the feeling of depleted energy or fatigue that one may experience as a result of extending oneself beyond one's limit of emotional resource. The realization of reaching one's emotional limit may inspire frustration, tension, and a general dreading of the work day (Cordes & Dougherty, 1993). Another dimension, *depersonalization*, is characterized by a growing detachment from, and callousness toward, the recipients of one's services, and a cynicism directed at the organization for which one works and one's co-workers. Finally, the *diminished personal accomplishment* dimension is marked by feelings of personal incompetence and lack of successful achievement in both professional and interpersonal spheres of life.

This multidimensional view has established burnout as a unique stress reaction because it encompasses three diverse responses: a strain-type (i.e., emotional exhaustion), an interpersonal-type (i.e., depersonalization), and a self-evaluation-type (i.e., diminished personal accomplishment; Maslach, 1993). Furthermore, it is viewed as being specifically job-related, and is described a "breakdown in adaptation accompanied by chronic malfunctioning" (p. 10), rather than a temporary adaptational response (Maslach & Schaufeli, 1993).

Recent conceptualizations have viewed burnout as the result of both work conditions and individual attributes, and interactions between the two (e.g., Ashforth & Lee, 1997; Lee & Ashforth, 1993a; 1993b; 1996). Additionally, they have emphasized its intra- and interpersonal basis. According to Maslach (1993), burnout is an individual stress response that occurs within the context of complex social situations, and therefore, necessarily involves the individual's conception of both self

and others (Maslach, 1993). Echoing this, Ashforth and Lee (1997) stated that "the experience of burnout is, to a certain extent, psychologically and social-psychologically constructed, and one's resulting interpretation can strongly moderate the impact of work conditions" (p. 707). Thus, EI, as an amalgam of intra- and interpersonal skills, seems particularly relevant to a stress response that stems from intra- and interpersonal conditions, and manifests itself similarly.

Theoretical Issues

Much of the early burnout research was not governed by specific theories that would generate testable hypotheses and dictate the inclusion of specific variables (Maslach & Schaufeli, 1993). However, recently, research has begun to progress in a more systematic manner, and there has been a distinct focus on employing theoretical frameworks (e.g., Lee & Ashforth, 1993a; 1993b; Leiter, 1991; 1993; Leiter & Maslach, 1988).

One theoretical account that has been receiving attention among burnout researchers is the *conservation of resources* perspective (COR; Hobfoll & Freedy, 1993). It is based on a general theory of stress by the same name (Hobfoll, 1989), and has been used to explain the aetiology of burnout, the manner in which variables might differentially relate to the three dimensions of burnout, the nature of the relationships among the dimensions themselves, and even the developmental sequencing of those dimensions (e.g., Freedy & Hobfoll, 1994; Janssen, Schaufeli, & Houkes, 1999; Lee & Ashforth, 1996; Taris et al., 1999). It also provides an additional rationale for incorporating EI into the study of burnout. Accordingly, COR theory is briefly reviewed, as is its applicability to burnout.

COR. The COR model offers an explanation for behavior during stressful circumstances in a testable and parsimonious framework. The main tenet of the

model is that individuals are motivated to acquire, maintain, and protect valued resources, and that the potential or actual loss of such resources is distressing, and ultimately leads to a stress response. Environmental circumstances that interfere with the efforts to procure resources, and the preservation of the resources, are likely to cause distress (Hobfoll, 1989). The motivation to garner resources has its basis in social learning theory (Bandura, 1986), which says that individuals strive to (1) establish circumstances and characteristics that will increase the likelihood of receiving positive reinforcement, and (2) guard against the loss of such resources.

Thus, from the COR standpoint, stress is defined as a response to an environment that either threatens or precipitates a net loss of resources, or that prevents resource gain after resource investment. Furthermore, it predicts that in response to stress, individuals strive to minimize resource loss, and, when not experiencing stress, they strive to develop resources in order to guard against future losses. Both loss prevention and resource gain are achieved by investing currently held resources, or resources available in the environment. More succinctly put, environmental demands deplete resources, so individuals strive to maintain and gain social and personal resources as a means of enhancing their coping ability.

Maximized coping ability reduces vulnerability to resource loss and helps individuals contend with threats to resource loss, thereby limiting the experience of psychological distress (Freedly & Hobfoll, 1994).

COR makes two other specific statements. First, the loss of resources are said to be the primary predictor of stress outcome, and this is termed the “primacy of loss principle”. Second, resource gain is also a predictor, but occupies a secondary role. Gain helps to offset loss or vulnerability to loss, and contributes to positive outcomes, so a failure to gain resources when resources are invested results in a net resource

loss. According to Hobfoll (1989), the basis for the “primacy of loss principle” is the demonstrated centrality of loss to stress outcome research (e.g., Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978; Kanner, Coyne, Schaefer, & Lazarus, 1981; Landy, Quick, & Kasl, 1994; Munton & Forster, 1990; Thoits, 1984).

As a general theory of stress, COR can be applied to occupational contexts, and according to Hobfoll (1989), offers a viable alternative to the more commonly adopted transactional framework (Folkman & Lazarus, 1984). In the latter model stress outcome is mediated by the interdependent processes of appraisal and coping. Appraisal is the cognitive evaluation of the environment and options available to address consequential situations (i.e., situations judged to be harmful, threatening, beneficial, or challenging), and coping refers to the cognitive and behavioral efforts made to change the environment, or manage emotional responses to it.

COR is similar to the transactional model inasmuch as both view occupational stress as a (1) response to an imbalance between environmental demands, and the resources available to the individual to meet those demands, and (2) complex, multivariate process (e.g., Baba, Jamal, & Tourigny, 1999; Edwards, 1992; Hart et al., 1993; Lazarus, 1990) rather than either a stimulus or response alone. However, according to Hobfoll (1989), the models differ in their definitions of environmental demands, and the degree to which they emphasize perceptions. In the transactional model, demand is defined by something that is minimized by coping capacity; in COR, demand is anything that causes loss or potential loss. In the transactional model, it is an individual’s perception of the environment and coping capacity that is a key element, whereas in COR, perceptions and the objective environment are said to be key, and loss can be real or perceived. Additionally, resources can be objects,

conditions, personal characteristics, or energies (e.g., time, money, knowledge) that are either valued themselves, or that help to obtain other valued resources.

COR's theoretical viability remains to be tested. Although taken up by burnout researchers (discussed below), analyses are preliminary. Not yet fully understood is whether causal links exist between work variables and losses and gains, respectively, whether resource possession actually reduces losses or results in resource gain, and whether resource loss and gain are associated with stress and well-being outcome measures (Hobfoll, 1989). Nonetheless, the model is valuable to the study of occupational stress because it allows relationships between stress outcome and work conditions and individual attributes, respectively, to be examined in a theoretically meaningful way.

COR applied to burnout. Burnout, from a COR standpoint, occurs when valued resources are lost, when there is a threat of loss, when resources are insufficient to meet demands, and when resource investment fails to result in resource gain (Hobfoll & Freedy, 1993; Lee & Ashforth, 1996). In other words, burnout occurs when "...ongoing work demands deplete resources at a faster rate than the resources can be replenished. Over time, resource loss reduces coping capacity and leads to increased psychological distress" (Lee & Ashforth, 1996, p. 312).

COR also makes specific predictions regarding the manner in which correlates are related to the three burnout dimensions (Hobfoll & Freedy, 1993). Job demands are said to threaten or lead to the actual loss of valued resources and prevent resource gain, resulting in strain in the form of emotional exhaustion and the need to engage in defensive coping (i.e., depersonalization). Thus, work demands are expected to be *more strongly* related to emotional exhaustion, and to a lesser extent, depersonalization. Alternatively, resources and resource gain are viewed as helping

to offset resource loss, the need to engage in efforts to minimize resource loss, such as defensive coping (i.e., depersonalization), and to bolster positive self-evaluations.

Thus, resources are expected to be *more strongly* related to depersonalization (negatively) and personal accomplishment (positively). However, these relationships are expected to be more moderate compared to the relationship between work demands and emotional exhaustion, in light of the “primacy of loss principle”.

One benefit of adopting a COR perspective is that it integrates several aetiological theories of burnout. That is, all individual and organizational antecedents of burnout can be reconceptualized as conditions or circumstances that (1) threaten valued resources, (2) reflect resource depletion, or (3) represent resource investment without resource gain (Hobfoll & Freedy, 1993). Another benefit is that it provides explicit specification of the pattern of independent-dependent variable relationships, and applies to a wide range of explanatory variables (Taris et al., 1999).

Additionally, COR provides a theoretical basis for associations among the burnout dimensions themselves, which contributes to an understanding of the development and sequencing of the burnout process.

This latter issue has been one of ongoing reformulation and various models of sequencing have been offered. One set of researchers (e.g., Leiter, 1993; Maslach & Leiter, 1988) has viewed emotional exhaustion as the initial and direct response to excessive work demands. Detached coping and diminished personal efficacy are said to either result in turn from the exhaustion (e.g., Leiter & Maslach, 1988), or result minimally from exhaustion, but maximally from the presence of resources, especially for the personal accomplishment dimension (e.g., Leiter, 1991; 1993)¹. Another group (e.g., Golembiewski & Munzenrider, 1989) has depicted depersonalization as

¹ This is in keeping with the COR position.

the initial and direct response to work demands, which in turn is said to lead to diminished personal efficacy, and ultimately emotional exhaustion.

Most research has supported emotional exhaustion's central role (e.g., Janssen et al., 1999; Lee & Ashforth, 1993a; 1993b; 1996; Taris et al., 1999), and some support has been garnered for the position that depersonalization, and especially diminished personal efficacy, are more a function of resources than work demands (e.g., Lee & Ashforth, 1993a; 1993b; 1996). This has led to further speculation that diminished personal accomplishment may develop in tandem with the other dimensions, rather than sequentially (Leiter, 1993). Collectively, these findings support COR predictions.

In summary, the emphasis in COR on the importance of resources, and the broad definition of them, opens the door for examining the relevance of several potential resources. Thus, EI was included in a burnout analysis for this reason as well. Two organizational characteristics were also considered as resources, perceived organizational support (POS) and perceived organizational fairness (PF). Before describing the study, a brief overview of these constructs is provided, along with the rationale for considering them as resources.

Organizational Resources: An Emphasis on Global Perceptions

POS and PF refer to workers' global perceptions of the manner in which the organization treats its employees. They were considered for the following reasons: In determining potential workplace resources, most burnout research has focused on workers' perceptions of their immediate work environment, such as the degree of social support (co-worker, supervisory), job enhancement opportunities, and reinforcement contingencies (Cordes & Dougherty, 1993; Lee & Ashforth, 1996).

However, it has been suggested (e.g., Leigh, Lucas, & Woodman, 1988) that employees may look more to the broader organizational environment in determining the presence of resources, such as whether the organization values and supports them. Thus, POS and PF might be important determinants of burnout that have not been systematically assessed in this context. Each construct is described in turn.

Perceived Organizational Support

POS is defined as the general perception that workers have "concerning the degree to which the organization values their contributions and cares about their well-being" (Eisenberger, Huntington, Hutchison, & Sowa, 1986, p. 500). Workers are said to base perceptions of organizational support on the actions of agents of the organization and organizational operations, much the same way that individuals infer commitment on the part of others in social relationships. Thus, POS is thought to be influenced by the manner in which the organization treats them and in turn, POS is said to influence evaluations of organizational motives underlying the treatment, expectations of the organization, and feelings of organizational membership and affective commitment (Eisenberger et al., 1986).

Research on POS has supported its construct validity. It has been empirically distinguished from organizational commitment (e.g., Settoon, Bennet, & Liden, 1996; Shore & Tetrick, 1991), leader-member exchange (e.g., Settoon et al., 1996; Wayne, Shore & Liden, 1997), perceived fairness, and effort-reward expectancies (e.g., Eisenberger, Fasolo, & Davis-LaMastro, 1990). Furthermore, it has been positively linked to affective commitment (e.g., Eisenberger et al., 1990; Hutchison, 1997; Wayne et al., 1997), in-role job performance (e.g., Eisenberger et al., 1990), and organizational citizenship behavior (OCB; Wayne et al., 1997), and inversely associated with absenteeism (e.g., Eisenberger et al., 1990) and turnover intentions

(e.g., Wayne et al., 1997). Possible antecedents include developmental training, promotions, organizational tenure (Wayne et al., 1997), fair evaluations (Fasolo, 1995), feedback and goal-setting (Hutchison & Garstka, 1996), and role ambiguity and conflict (Hutchison, 1997).

Perceived Fairness

PF refers to workers' perceptions of their organization as treating them with respect and fairness. Their perceptions are based on the nature of organizational procedures and decision-making policies, and the way the organization deals with them (Baron & Greenberg, 1990). Research has shown that PF is dependent upon the degree to which the organization solicits input from employees in performance evaluations and uses the input, engages in two-way communication during interviews, offers employees an opportunity to challenge and rebut evaluations, and applies its standards in a consistent fashion (Greenberg, 1986; Folger & Konovsky, 1989; Dailey & Kirk, 1992). Relationships have been shown between PF and organizational commitment, trust in the supervisor, turnover intentions, and work effort (Brockner, Tyler, Cooper-Schneider, 1992; Dailey & Kirk, 1992; Folger & Konovsky, 1989; McFarlin & Sweeney, 1992).

Perceived Support and Fairness in Relation to Burnout

Both POS and PF have been conceptualized from the standpoint of social exchange theory (Blau, 1964), which says that employees respond to their organization based on the manner in which they perceive the organization to be treating them. Thus, workers are hypothesized to devote their contributions (i.e., time, effort, loyalty, fair treatment) to the organization with the expectation that the organization will reciprocate by demonstrating that it values such input through recognition and rewards. Should workers perceive their investments as being

unrecognized and/or unrewarded, or that they are not being treated respectfully, they may see the organization as not living up to its obligation of support and fair treatment. In response, they may decrease effort, affective commitment, and extra contributions (Eisenberger, Cummings, Armeli, & Lynch, 1997; Greenberg, 1986).

POS and PF are relevant to a study of work stress because they can be interpreted as involving a general need or want that if unmet, might result in some form of strain. Presumably, most workers want to be valued and treated fairly, and desire the resources that stem from this (Michela, Lukaszewski, & Allegrante, 1995). POS and PF also seem appropriate to examine in relation to burnout because, like burnout, they are said to develop over time, and represent a long-term perspective based on a series of interactions at work (Folger & Konovsky, 1989). Moreover, they denote a type of social interaction (i.e., between worker and organization), which, as discussed, figures centrally in burnout (Ashforth & Lee, 1997; Maslach, 1993).

POS and PF can be conceptualized as resources according to COR, given its definition of resources as things that assist in the acquisition of other resources (Hobfoll, 1989). That is, time, effort, and loyalty represent resources that are invested in the hope of acquiring the additional resources of being valued and respected by the organization. Being valued and respected could generate feelings of self-worth and efficacy (Eisenberger et al., 1986), which might strengthen internal resilience, thereby offsetting future resource loss (Hobfoll, 1989). Alternatively, being devalued could lead to negative self-evaluations and emotional depletion. Thus, perceptions of devaluation might result in burnout, in addition to withdrawn commitment and a desire to quit, as social exchange theory suggests. A recent study (Jones, Kelloway, & Flynn, 1995) offered some empirical support for this notion. POS was inversely

related to work stressors and stress outcome, which in turn were linked to job satisfaction and organizational commitment in expected directions.

One final consideration is the relevance of these particular resources to the specific professional groups examined, namely police officers and retail managers, especially in the context of burnout. This issue is discussed below, along with the rationale for considering these professional groups in a study involving EI.

Sample Considerations

Constructs denoting perceptions of organizational treatment seem relevant to the experience of burnout in retail managers and police officers for a number of reasons: First, both groups interact with a variety of organizational representatives through which they would be able to form global perceptions of support and fairness (Eisenberger et al., 1986). Second, studies on police stress have shown organizational aspects (i.e., the daily implementation of policies) to be stronger predictors of distress and well-being compared to policing duties (e.g., Hart et al., 1993; 1995). Finally, traditional forms of social support (i.e., colleague or superior support) have not always been shown to buffer the experience of burnout in retail managers, so global perceptions might have more potential in this regard (Dolan & Renaud, 1992).

The significant degree of interaction demanded in each profession, might mean that members of both professions are hired, to some extent, for their skills and ability in dealing with a wide range of situations involving complex social interactions. Thus, it would make sense that skills of emotional processing would be associated with successful performance in both types of jobs. This has been born out in recent job analyses for police performance that have shown a number of intra- and interpersonal skills (e.g., assertiveness, independence, self-confidence, stress

tolerance, social and listening skills) to be essential to effective performance (e.g., Hargrave & Hiatt, 1989; More & Unsinger, 1987). These skills would also likely be instrumental to successful performance for retail managers. It seems plausible that both types of professionals would use such skills when dealing with a variety of work demands, and might even perceive the job environment as being less demanding because of their skill set.

Additionally, there are specific aspects of policing that make it a particularly worthy venue for this type of inquiry. Much has been written on the stressful nature of police work, (e.g., Chandler, 1990; Violanti, 1996), and the prevalence of deleterious responses (e.g., Dietrich & Smith, 1986; Violanti, 1983; Violanti & Aron, 1993), for which some resilience would seem beneficial. However, the police environment is said to promote emotional inhibition (e.g., Dietrich & Smith, 1986; Paton & Violanti, 1996; Violanti, 1983; Violanti & Aron, 1993), a response that has been linked to diminished well-being (e.g., Berry & Pennebaker, 1993). Adeptness in the perception, assessment, and utilization of emotional information might be important for coping within such a work environment.

Despite potential capabilities to handle difficult and challenging work environments, both types of workers may still be susceptible to burnout if, over the long run, demands start to outweigh resources (Hobfoll, 1989; Leiter, 1991). This seems plausible in light of the studies showing evidence of burnout in police officers (e.g., Burke, 1993a; 1993b; 1994; Burke & Deszca, 1986; Burke et al., 1984a; 1984b), and business and corporate managers (e.g., Cahoon & Rowney, 1985; Dolan & Renaud, 1992).

Burnout was initially conceptualized as a phenomenon occurring in the helping professions (Maslach & Schaufeli, 1993) because it was in this context that

emotional depletion, negative stereotyping of clients, and feelings of being ineffectual were witnessed (Maslach & Schaufeli, 1993). However, some have recognized (e.g., Cordes & Dougherty, 1993; Leiter, 1991; Maslach, 1993) that other professionals might be susceptible to burnout because organizational and individual-difference antecedents (e.g., role demands, high expectations) are applicable to a number of occupations. It has been recommended (e.g., Ashforth & Lee, 1997) that researchers sample occupations beyond the helping professions in which interpersonal relationships are a central feature, in light of burnout's social basis. Given the demanding and social interactive nature of policing and retail managing, both professions meet this criterion.

In an effort to facilitate the study of burnout among such professionals, the authors of the Maslach Burnout Inventory (MBI; Maslach, Jackson & Leiter, 1996) have adapted the measure to non-human service professional groups. The new scale, the MBI-General Survey (MBI-GS; Maslach et al., 1996) has three subscales that parallel the MBI, but the item content does not make reference to people as the necessary source of feelings or attitudes (Leiter & Schaufeli, 1996). Additionally, two MBI subscales were reconceptualized. Depersonalization was replaced by cynicism, which is an indifferent attitude towards work in general; diminished personal accomplishment was replaced by diminished professional efficacy, which refers to feelings of dissatisfaction with accomplishments at work and low expectations of effectiveness (Maslach et al., 1996). This measure was used in the present study and is described in more detail in the "Measures" section.

Overview of the Study

Purpose

The overall purpose of the study was to contribute to the construct validation of EI. To that end, there were three specific goals. The first goal was to examine the discriminant validity of EI relative to the FFM of personality using two relatively new self-report measures of EI, the EQi (Bar-On, 1997a) and the EIS (Schutte et al., 1998). The second goal was to contribute further data on the psychometric properties of these two measures of EI. The final goal was to establish estimates of predictive validity by examining EI as a resource in the work demand-burnout relationship in a concurrent format. Specifically examined were the relationships between EI and work demands, resources, and burnout, respectively, as well as the moderating effects of EI in work demand-burnout associations.

With respect to the latter goal, there were two ancillary goals: (1) to provide a further test of the COR model of burnout by examining relationships among work demands, resources, and burnout dimensions using regression analyses, and (2) to extend previous findings in this area by including (i) samples of workers who are outside the helping professions, but who work in jobs requiring a significant degree of social interaction, and (ii) including individual-difference variables (EI and personality) and organizational resources (i.e., POS and PF) not typically studied in burnout research. The following section provides a synopsis of the points relevant to these goals and presents several a priori hypotheses.

Summary

The term EI has become well recognized, largely through popular writings. However, its theoretical roots are of a more scientific nature, and the current empirical emphasis is on its validation as a unique facet of intelligence. Researchers (Bar-On,

1997a; Mayer & Salovey, 1997) have described two main models that conceptualize EI as an ability of emotional processing associated with adaptability, and in so doing, have portrayed EI in accordance with conventional definitions of intelligence. These models, although overlapping with existing theories of intelligence, can serve a unifying role with respect to the issue of emotional processing in intelligence.

Findings pertaining to EI's divergence from personality have been equivocal, but several studies have provided some evidence of EI's concurrent validity by showing its relationship to a number of indices of adaptability. One way to contribute to EI's concurrent validity is to examine its association with the specific stress response, burnout. The rationale for doing so came from the stress and burnout literatures as well as the EI literature.

The stress literature provided a basis for considering individual-difference variables and ability in stress analyses. The burnout literature provided definitions that emphasized the intra- and interpersonal nature of the construct, thereby establishing a rationale for examining the potential adaptive effects of intra- and interpersonal abilities (i.e., EI). Burnout was originally conceptualized as a response among the helping professions. However, there has been a recent call to examine burnout in professions in which there is a significant degree of social interaction because of the interpersonal basis of burnout.

The current emphasis in burnout studies is on the use of theoretical frameworks, and COR is one such framework. It defines stress in terms of demands that cause loss, and resources that can offset that loss, and offers specific hypotheses regarding the relationship between burnout dimensions and demands and resources, respectively. Preliminary tests of its predictions have provided some support for its theoretical applicability to the study of burnout.

COR theory provided a theoretical rationale for considering a variety of work correlates in the study of burnout. Thus, personality, POS and PF were examined for their potential as resources against burnout along with EI. None of these have been well studied in relation to burnout.

Police officers and retail managers represent workers suitable for the study of both EI and burnout because they work in demanding jobs with a significant degree of social interaction, and might be expected to draw upon EI-type skills to contend with workplace challenges.

Hypotheses

Based on the review of the relevant literatures, several main a priori hypotheses were made, and these can be broken down into two categories: those pertaining to the relationship between EI and personality, and those having to do with the EI-adaptability relationships.

EI and personality. First, significant but moderate correlations were expected between EI and at least three of personality dimensions of the FFM². Specifically, positive correlations were predicted between EI and extraversion and agreeableness, respectively, and negative correlations were expected between EI and neuroticism (as shown by Davies et al., 1998). To the extent that there have been conflicting findings regarding the relationship between EI and openness to experience (e.g., Davies et al, 1998; Schutte et al., 1998), predictions involving this dimension were not offered. Given the exploratory nature of the discriminant validity analyses, no predictions were offered regarding the total number of factors that would emerge, and the manner in which measures would load. Significant and strong correlations were expected

² Descriptions of correlations as weak, moderate, and high (strong) were based on suggestions for conventional practice provided by Cohen and Cohen (1983). According to this guideline, effect sizes for Pearson product-moment correlations are as follows: $r = .10$ (weak), $r = .30$ (moderate), and $r = .50$ (strong).

between the two measures of EI given that they are theoretically assessing the same construct, and are based on overlapping theories of EI (e.g., Bar-On, 1997a; Salovey & Mayer, 1990).

EI and adaptability. As a unique individual-difference variable denoting resilience against stress, EI might be expected to bear on perceptions about, and responses to, the work environment. Additionally, as discussed in the section on the role of ability variables in stress, individuals should be able to use their skills in an adaptive way so as to moderate their negative responses to the work environment. Therefore, EI was expected to be associated with work demands, resources and burnout (while controlling for personality), and to moderate relationships between perceptions and outcome. Specifically, negative associations were expected between EI and work demands, and all three burnout dimensions, and positive relationships were expected between EI and resource variables, POS and PF. Furthermore, individuals with high EI were expected to report less burnout in the presence of work demands compared to those with lower EI, and to report less burnout in the presence of POS and PF compared to those with lower EI.

Based on COR theory, the following predictions were also made: Work demands were expected to be *more strongly*, and positively, associated with exhaustion and cynicism, relative to diminished professional efficacy. However, the strongest relationship was predicted between work demands and exhaustion. Alternatively, resources (POS, PF, EI) were expected to be *more strongly*, and negatively linked to professional efficacy, although associations were still expected between these resources and cynicism.

Based on research on personality in stress, neuroticism was predicted to be the trait most strongly related to exhaustion and cynicism, whereas the remaining four

traits of the FFM were expected to be more strongly associated with professional efficacy. Finally, with respect to the dimensions themselves, emotional exhaustion and cynicism were expected to show the strongest relationship (in the positive direction), but cynicism was still expected to be negatively associated with professional efficacy. These predictions were based on the proposed models of burnout discussed earlier.

Method

Participants

Police officers, retail managers, and university students were solicited to participate. The latter group was included in order to generate a large sample for the assessment of EI's discriminant validity.

Police officers. All police officers from the Northwest Region of the Ontario Provincial Police were solicited to participate. Of the 533 police officers, 40 participated (7.5%). Of these, 34 (85%) were male, and 5 (12.5%) were female (one did not report sex); 28 were married, 8 were single, and the following categories had one officer each: common-law, separated, divorced, and unknown. The mean age was 40.6 years, and the mean number of years worked was 10.5. The 40 officers had various levels of education: high school (7), some post-secondary (6), college (9), university (15), graduate school (1), and not reported (2). They also performed a variety of duties (30 patrol or investigative, 4 supervisory, and 6 administrative).

Retail managers. All managers from a large national retail outlet were solicited for participation. Of the 600 managers, 63 participated (10.5%). Of these, 41 held a senior management position, and 22 were designated as junior level. The sample was almost evenly split along sex lines: 32 (50.8%) male and 31 (49.2%)

were female; 39 were married, 15 were single, 3 lived common-law, and 4 were either separated or divorced (one was not reported). The mean age was 34.4, the mean number of years worked was 4, and there were varying levels of education: high school (14), some post-secondary (13), college (19), university (16), and graduate school (1).

The response rate for both types of workers was very low. This may have been due to a number of factors. For example, incentives were not offered, the questionnaire was relatively lengthy, and questions were personal and asked workers to provide views of their organization. It is possible that the workers who did not respond saw the questionnaire as an unnecessary or excessive work demand.

University students. All introductory psychology students at Lakehead University were solicited for participation. They were guaranteed one percentage point towards their final grade in exchange for participation. Of the 420 students, 296 participated (70.5%). Of these, 60 (20.3%) were male, and 236 (79.7%) were female; 7 were married, 280 were single, 4 resided common-law, 3 were separated, one was widowed, and one was not reported. The mean age was 20.9 years. Despite being in an introductory class, the students came from a variety of year levels: first year (259), second year (21), third year (5), fourth year (7), and not reported (2).

Measures

The variables of interest were operationalized by means of self-report measures and incorporated into two different questionnaires. For police officers and retail managers, the questionnaire asked respondents to indicate their age, sex, marital status, years of service and position (e.g., type of police work, level of management; Appendix A). It also included measures of EI, personality, work demands, resources, burnout and social desirability. For university students, the questionnaire asked

participants to indicate their age, sex, marital status, year of study, and subject major: Appendix B), and included measures of EI, personality and social desirability. The measures are described below.

Emotional intelligence (EI). The EQi (Bar-On, 1997a) and the EIS (Schutte et al., 1998) were used to measure EI. The EQi (Appendix C) is a 133-item inventory designed to assess EI according to Bar-On's theory of EI. It measures EI in terms of 15 factors and five composite measures pertaining to intra- and interpersonal aspects, as well as adaptability, stress management, and general mood aspects (see Table 1 and 2). This 1-5-15 factor structure was empirically supported using an international database that supplied the normative data. The scale contains validity indices including an "Inconsistency Responding Index", "Positive and Negative Impression Scales", and correction factors. The EQi has demonstrated adequate reliability using international samples, with reported internal consistencies (i.e., Cronbach's alpha coefficients) ranging from .69 to .86 for the subscales, with an overall alpha coefficient of .76. Test-retest reliabilities ranged from .85 over a one-month period to .75 over a four-month period (Bar-On, 1997a). Adequate scale validity was shown using concurrent, and discriminant methods. Respondents were asked to indicate the extent to which items were true or not true of them according to a five-point scale where "1" represented "very seldom or not true of me" and "5" represented "very often true of me or true of me."

The EIS (Appendix D) is a 33-item self-report inventory based on the theoretical model of EI put forth by Salovey and Mayer (1990). Each item reflects an adaptive tendency toward EI within the framework of the model. Items represent all the categories of the model: 13 items pertain to the appraisal and expression of emotion, 10 items pertain to the regulation of emotion, and 10 items pertain to the

utilization of emotions. Furthermore, the items within each category reflect aspects of emotion with respect to the self, as well as to others. Respondents were asked to indicate the extent to which each items were descriptive of them based on a five-point scale ranging from "1" (strongly disagree) to "5" (strongly agree).

Preliminary validation efforts (Schutte et al., 1998) showed the EIS to have a degree of (1) concurrent validity in the form of significant correlations with theoretically-relevant constructs (e.g., alexithymia, attention, clarity, mood repair ability, optimism, depression, and impulsivity), (2) discriminant validity by way of moderate correlations with the personality trait openness to experience (using the NEO-Personality Inventory Revised; NEO-PI-R; Costa & McCrae, 1992b), and minimal correlations with estimates of cognitive ability (i.e., using SAT scores); and (3) predictive validity by means of significant correlations with grade point average over time. Preliminary reliability statistics indicate adequate internal consistency as evidenced by Cronbach's alphas of .87 and .90 on separate administrations, and acceptable test-retest reliability (i.e., .78) over a two-week interval (Schutte et al., 1998).

Personality. Personality was measured using the NEO-Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992b; Appendix E). This is a 60-item short-form of the NEO-PI-R; Costa & McCrae, 1992b), a widely used and psychometrically sound inventory designed to assess normal personality traits according to the FFM of personality (e.g., Digman, 1990). The short version contains 12 items pertaining to each factor of the FFM (i.e., neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness). Sample items include, "I am not a worrier", "I often feel inferior to others" (neuroticism), "I like to have a lot of people around me", "I laugh easily" (extraversion), "I don't like to waste my time daydreaming", "Once I

find the right way to do something, I stick to it" (openness to experience), "I try to be courteous to everyone I meet", "I often get into arguments with my family and co-workers" (agreeableness), "I keep my belongings clean and neat", and "I'm pretty good about pacing myself so as to get things done on time" (conscientiousness). Respondents were asked to indicate the extent to which they agreed or disagreed with each item according to a five point scale ranging from "1" (strongly disagree) and "5" (strongly agree).

The NEO-FFI has demonstrated adequate reliability and validity, although values tend to be smaller than those found for the corresponding factor scales of the NEO-PI-R. Therefore, some precision is traded for the speed and convenience offered by the shorter version. NEO-FFI scales have been shown to account for approximately 85% as much variance in convergent validity analyses relative to the NEO-PI-R factor scales and correlations between the NEO-FFI and the NEO-PI-R range between .77 and .92, depending on the factor. Cronbach's alpha coefficients range between .68 (e.g., agreeableness) and .86 (e.g., neuroticism).

Work demands. Two common work demands were measured: role conflict and role ambiguity. *Role conflict* refers to the conflict an employee experiences when the behaviors expected of that employee are inconsistent. *Role ambiguity* refers to a lack of necessary information available to a given organizational position, or unclear descriptions of performance duties (Rizzo, House, & Lirtzman, 1970). According to role theory (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964), both conditions are considered to be potential work stressors that can lead to dissatisfaction and less effective performance. They have been empirically linked with stress outcome measures, including burnout (Cordes & Dougherty, 1993).

Role conflict and ambiguity were measured using Rizzo et al.'s (1970) Role Conflict and Role Ambiguity Scales (Appendix F). The eight items in the Role Conflict Scale assess conflict between (1) the employee's internal standards or values and the defined role behavior, (2) the time, resources, or capabilities of the employee and defined role behavior, and (3) several roles for the same person that require different or incompatible behaviors, or changes in the behavior as a function of the situation. They also assess conflicting organizational demands, requests, and expectations in the form of incompatible policies and standards of evaluation. Sample items include: "I have to buck a rule or policy to carry out an assignment", "I receive an assignment without adequate resources and materials to execute it", and "I have to do things that should be done differently."

The six items in the Role Ambiguity Scale measure the existence or clarity of behavioral requirements that would guide behavior and provide knowledge that the behavior is appropriate. Sample items include: "Clear planned goals and objectives exist for my job", "I know that I have divided my time properly", and "I know exactly what is expected of me." Respondents were asked to read each item and indicate the extent to which the condition existed for them on a 7-point scale ranging from "1" (very false) to "7" (very true).

The Role Conflict and Role Ambiguity Scales are the most widely used in studies examining role characteristics (Gonzalez-Roma & Lloret, 1998) and have shown adequate internal consistencies (e.g., Cronbach's alpha = .85 and .82, respectively), and consistent correlations with theoretically relevant organizational variables including job satisfaction, job strain, and supervisor and organizational practices (Harris, 1991). However, considerable debate has surrounded the internal validity of the scales. The criticisms (e.g., McGee, Ferguson, & Seers, 1989) are

based on the wording of the items comprising the scales, given that the role conflict items are positively worded, and the role ambiguity items are negatively worded. The problem is well-articulated by Kelloway and Barling (1990) who stated: "...the substantive interpretation of these two scales is perfectly confounded with the direction of item wording, rendering any interpretation open to rival hypotheses" (p. 738). Thus, two response biases - the tendency to agree with positively stated items, and the tendency to disagree with negatively stated items - represent two potential method factors acting as confounds (Gonzalez-Roma & Lloret, 1998). Nonetheless, recent research using diverse samples (e.g., Gonzalez-Roma & Lloret, 1998; Kelloway & Barling, 1990) has shown that two factor models reflecting role ambiguity and role conflict provide a better fit for the data compared to models that depict (1) response method factors only, or (2) an overall general role stress factor that might underlie both types role difficulties.

Perceived organizational support (POS). Perceptions of organization support were measured using the Survey of Perceived Organizational Support (SPOS; Eisenberger et al., 1986; Appendix G). This is a 36-item scale comprised of statements of the organization's valuation of the employee, and actions it would be likely to take in situations that affect the employee's well-being. Representative items include: "The organization values my contribution to its well-being"; "If the organization could hire someone to replace me at a lower salary it would do so"; and "The organization considers my goals and values." It has shown acceptable internal consistency (e.g., Cronbach's alpha = .95 to .97), and a replicable unidimensional factor structure that is distinct from, but empirically related to, theoretically meaningful constructs such as organizational commitment (Eisenberger et al., 1986; Shore & Tetrick, 1991), job satisfaction (Eisenberger et al., 1997), organizational

citizenship behaviour, intentions to quit, and performance ratings (Wayne et al., 1997). Respondents were asked to indicate the extent to which they agreed with each item on a seven-point scale ranging from "1" (strongly disagree) to "7" (strongly agree).

Perceived fairness (PF). Perceived fairness was assessed using a measure of developed by Schappe (1998; Appendix H). It consists of 19 items assessing fairness of procedures and protocols for decision-making (sample item: "The procedures used to make decisions in your organization make sure that the decisions made are based on as much accurate information as possible"), and eight items assessing fairness of the manner in which employees are advised about decisions (sample item: "With regard to carrying out the procedures at your organization, your supervisor takes steps to deal with you in a truthful manner"). Respondents were asked to indicate the degree to which they agreed with each item using a 7-point scale ranging from "1" (strongly disagree) to "7" (strongly agree).

The measure was adapted from scales used by Konovsky and Cropanzano (1991), Moorman (1991), and Greenberg (1986) in their assessments of issues related to PF (e.g., feedback, involvement, and resource availability to employees). Preliminary data have shown the scale to exhibit adequate reliability (i.e., Cronbach's alpha coefficients .92 and .97, respectively), and concurrent validity in the form of correlations with theoretically relevant variables such as job satisfaction and organizational commitment (Schappe, 1998). However, the scale is new and in need of further psychometric validation.

Burnout. Burnout was measured using the MBI-GS (Maslach et al., 1996; Appendix I). This scale was designed to measure burnout among workers who are not human service providers, where burnout is defined as a crisis in one's relationship with work, not necessarily as a crisis in one's relationships with people at work. It

assesses three aspects of burnout: exhaustion, cynicism, and lack of professional efficacy, with each aspect being measured by a separate subscale. The *Exhaustion* subscale (five items) measures the degree to which a worker is worn out or fatigued by work without reference to people being the source of that feeling (e.g., "I feel emotionally drained from my work", "I feel used up at the end of the workday"). The *Cynicism* subscale (five items) assesses indifference or a distant attitude towards work (e.g., "I have become less enthusiastic about my work", "I doubt the significance of my work"). The *Diminished Professional Efficacy* subscale (six items) measures both social and non-social aspects of occupational accomplishments, and focuses on a worker's expectations of continued effectiveness at work (e.g., "I can effectively solve problems that arise in my work", "At my work, I feel confident that I am effective at getting things done"). A high degree of burnout is reflected in high scores on the exhaustion and cynicism subscales, and low scores on the professional efficacy.

The MBI is the most widely accepted measure of burnout (Cordes & Dougherty, 1993) and is supported by favourable psychometric properties. The MBI-GS is relatively new, but research thus far (e.g., Leiter & Schaufeli, 1996; Schutte, Topinen, Kalimo, & Schaufeli, 2000; Taris et al., 1999) has shown it to be a valid instrument in the assessment of burnout: The three-factor structure has been replicated, and similar ratings of reliability (e.g., Cronbach' alphas of .87-90 for exhaustion, .74-.80 for cynicism, and .70-.77 for efficacy) have been found for each subscale³. The same research has provided evidence of external validity in the form of relationships with expected constructs such as mental and physical strain, work overload, role conflict, organizational commitment, job involvement, and job satisfaction.

³ The internal consistency of the cynicism subscale has been found to be poor in some occupational samples (Schutte et al., 2000).

Respondents were asked to indicate the frequency with which they experienced each of 16 statements according to a seven-point scale ranging from "0" (never) to "6" (every day). Given the strong correlations between frequency and intensity measures found with the original MBI, the standard protocol is for responses to be recorded on the frequency dimension only (Maslach et al., 1996).

Social desirability. Participants were asked to provide a large amount of personal information concerning their personality, well-being, and attitudes about work. Therefore, the potential for socially desirable responding of both seemed likely. In order to assess the degree of such responding, the Balanced Inventory of Desirability Responding (BIDR; Paulhus, 1984; 1988; Appendix J) was included. The BIDR assesses the two major facets of social desirability responding: *self-deception* (the tendency to see oneself in a favourable light and to deny the presence of socially undesirable but probable statements about oneself; 20 items), and *impression management* (the tendency to portray oneself more favourably and to attribute socially desirable but improbable statements to oneself; 20 items).

It uses a dichotomous scoring procedure (assigning points only for extremely desirable responses), thereby providing some assurance that style rather than content is being tapped. The scale has demonstrated adequate internal consistency (Chronbach's $\alpha = .83$), test-retest reliability (.65 to .69 over a five week period), concurrent validity with other accepted measures of social desirability responding, and convergent validity with a variety of lie scales and measures of self-deception (Paulhus, 1984). Respondents were asked to indicate the degree to which they found each of the 40 items true of them using a Likert scale ranging from "1" (not true) to "7" (very true). A point was assigned only for answers of "6" or "7".

Procedure

Police officers. A questionnaire was placed in each police officer's personal mailbox, along with an envelope and a cover letter providing instructions and procedures used to ensure anonymity and confidentiality. The letter also stated that participation was voluntary. Participants were asked to seal the completed questionnaire in the envelope and place it in a container situated in a central location within the respective detachments. The contents were then forwarded by mail.

Retail managers. The questionnaires, envelope, and cover letter were disseminated to the retail managers of each outlet across the country through a central administrative office. Participants were asked to seal their completed questionnaire in the envelope and forward it by mail.

University students. Introductory psychology students were solicited for participation in class. They were provided with a brief description of the study and procedures used to ensure confidentiality and anonymity, and those wishing to participate were provided with a questionnaire and envelope. They were asked to read the cover letter and complete the questionnaire on their own time, seal it in the envelope, and deliver it to a container situated in a specified location.

Data Reduction and Analyses

Data analyses were divided according to the two areas of inquiry previously specified (EI and personality, and EI and adaptability), and are reported in the results section in the same format. The types of analyses described below pertain to both areas.

Overview. That data came from three samples: Introductory psychology students and two types of workers (retail managers and police officers). For the student sample, data analyses involved 23 variables: two measures of EI, one of

which was divided into 15 scale scores, five composite scores, and one total score; five separate measures reflecting each domain of the FFM of personality; and one measure of social desirability responding.

For the two worker samples, data analyses involved 30 variables: The measures of EI, personality, and social desirability described above; two measures of work demands; two measures of organizational resources; and three outcome measures (three dimensions of burnout).

Descriptive analyses. Descriptive analyses involved three steps: (1) Data were reviewed for the presence of outliers as recommended by Tabachnik and Fidell (2001). Outliers were defined as scores more than three standard deviations above or below the mean. None were revealed. (2) Means, standard deviations, and scale reliabilities (Chronbach's alpha) for all measures were determined for the three samples, and are reported in Table 3(a-c).

(3) Due to the relatively small samples of each type of worker, differences between the two types of workers on all variables were examined in order to assess the feasibility of combining the samples in subsequent analyses. A series of ANOVAS ($p < .01$) showed that officers differed from retail managers on four of the 35 variables. The group of officers had more years of work experience ($M_s = 15.28$ and 4.00 , $F(1, 101) = 22.81$), higher scores on the cynicism scale of the MBI-GS ($M_s = 13.66$ and 6.60 , $F(1, 101) = 20.20$), and lower extraversion scores on the NEO-FFI ($M_s = 31.02$ and 34.21 , $F(1, 100) = 7.63$). There were also more males in the officer group ($\chi^2(2) = 15.47$, $p < .01$). Correlational analysis showed that age and years experience were unrelated to any variable, and sex was only weakly related to two variables: POS ($r = -.29$, $p < .01$) and role ambiguity ($r = .26$, $p < .01$). Due to these

minimal differences between the groups, the data were combined to form one group of workers ($N = 103$).

Bivariate analyses. Predicted relationships were assessed by determining zero-order Pearson product-moment correlation coefficients. A significance level of .01 was used in order to minimize potential Type I errors that might result from the large number of correlations tested. For the area “EI and personality”, the student and worker samples were combined, given that the issue of EI-personality is not sample specific ($N = 399$). That is, if EI is a unique construct, it should be distinguishable from personality across samples (Davies et al., 1998). EI was represented by three measures: total EQi score (“EQi-total”) and 15 EQi scale scores (Bar-On, 1997), and the EIS total score (Schutte et al., 1998). Correlations were calculated between these scores and the facets of the FFM of personality (agreeableness, conscientiousness, extraversion, neuroticism, openness to experience).

For the area “EI and adaptability”, the sample of workers was used to test relationships among independent variables (two EI total-scores, five personality domains, work demands -role ambiguity and role conflict- and work resources - POS, PF), and outcome variables (three separate measures of burnout: emotional exhaustion, cynicism, and personal efficacy).

Exploratory factor analyses. The relationship between EI and personality was also investigated using exploratory factor analyses. Principal component analysis (PCA) and orthogonal (varimax) rotation were used for all analyses⁴. Item-retention was based on item loadings $\geq .4$, and multiple loadings with a differential of $\geq .2$.

Two analytical procedures were used to determine component retention: parallel analysis with raw data permutation, and Velicer’s (1976) minimum average

⁴ Varimax rotation was used in order to facilitate interpretability of factor solutions (Tabachnick & Fidell, 2001).

partial test (MAP). Researchers have recommended the use of both as a means of determining optimal solutions because when they err they do so in different directions (MAP tending to underextract and parallel analysis tending to overextract), thereby complimenting each other (O'Connor, 2000; Zwick & Velicer, 1986). Thus, retention decisions can be improved after considering the result of both procedures.

Furthermore, these procedures have been described as being superior to others (e.g., eigenvalue > 1, scree plot) in the determination of factor retention because they are statistically based rather than being mechanical rules of thumb (O'Connor, 2000; Wood, Tataryn, & Gorsuch, 1996; Zwick & Velicer, 1986).

In parallel analysis, components are retained if eigenvalues from the actual data set account for more variance than eigenvalues generated from 1000 permutations of the raw data set. Currently recommended is the use of eigenvalues that correspond to the desired percentile (e.g., 95th) of the distribution of raw data permutation eigenvalues, rather than the mean eigenvalues from these data sets (Cota, Longman, Holden, Fekken, & Xinaris, 1993; Glorefeld, 1995; O'Connor, 2000). In the MAP test, retention depends on the relative amounts of systematic and unsystematic variance remaining in a correlation matrix after extractions of increasing numbers of components (O'Connor, 2000).

Regression analyses. Hierarchical regression analysis was employed to test the potential moderating effects of EI on significant work demand-burnout associations. In this procedure, predictors and moderator variables are entered into the regression equation. An interaction is said to occur when a significant incremental change in R^2 results from entering the cross-product of the predictor and the moderator into the equation. The extent to which a particular moderator variable was in fact moderating the relationship in question was determined by examining the

strength of the original relationship at different levels of the moderator variable (e.g., low, average, high). The levels of the moderator were represented by the mean of the moderator variable, and one standard deviation below and above the mean to reflect average, low, and high levels, respectively. These were then plotted for minimum and maximum levels of the predictor variable (Cohen & Cohen, 1983).

Multiple linear regression analysis was used to test (1) bivariate relationships while controlling for potential effects of personality, and (2) supplemental predictions based on COR theory pertaining to potential mediating effects of EI and other resources on work demand-burnout relationships. In this procedure, the mediator is entered into the regression equation as a first step, and the predictor is entered as a second step. A mediating effect is said to occur when there is no incremental change in R^2 as a result of entering the predictor variable (i.e., the previously significant relationship between the predictor and criterion becomes non-significant as a result of controlling for the effects of the mediator; Baron & Kenney, 1986). This procedure also shows each variable's unique contributions to explained variance as depicted in a partial correlation (r_{partial}).

Results

EI and Personality

Bivariate Analyses

EI was predicted to be moderately associated with at least three personality facets of the FFM. Specifically, positive correlations were predicted between EI and extraversion and agreeableness, respectively, and negative correlations were expected between EI and neuroticism. As can be seen from Table 4, these predictions were confirmed. Extraversion was correlated with EQi-total ($r = .46$), all EQi scale scores

except for impulse control (correlations ranging between $.18$ and $.63$ [$r_{\text{mean}} = .34$]), and with the EIS ($r = .44$). Similarly, agreeableness was correlated with EQi-total ($r = .36$), and all scale scores except for assertiveness, independence, and stress tolerance (correlations ranging between $r = .17$ to $r = .47$ [$r_{\text{mean}} = .30$]), and with the EIS ($r = .21$). Finally, neuroticism correlated with EQi-total ($r = -.70$), all scale scores except for empathy and social responsibility (correlations ranging between $r = -.29$ and $r = -.77$ [$r_{\text{mean}} = -.52$]), and with the EIS ($r = -.34$).

Although no predictions were made for conscientiousness, it was also associated with EI. It correlated with EQi-total ($r = .57$), all scale scores (correlations ranging between $r = .17$ and $r = .57$ [$r_{\text{mean}} = .38$]), and with the EIS ($r = .39$). Openness to experience was also not the subject of predictions, given conflicting findings regarding its association with EI (e.g., Davies et al., 1998; Schutte et al., 1998). It was only minimally related to EI measures inasmuch as it correlated with only two EQi scale scores, empathy ($r = .23$) and reality testing ($r = .18$), and with the EIS ($r = .14$). Despite content differences, the order of magnitude of correlations between EI measures and the NEO-FFI overall were consistent with correlations previously reported for both EI measures in their associations with personality (Bar-On, 1997a; Schutte et al., 1998).

The two measures of EI were expected to be strongly associated given that they purport to measure the same construct, and are based on the overlapping theoretical accounts of EI provided by Salovey and Mayer (1990) and Bar-On (1997a). The EIS correlated with EQi-total ($r = .58$), and with all scale scores, with correlations ranging between $r = .29$ and $r = .50$ ($r_{\text{mean}} = .48$).

Exploratory Factor Analyses.

Prior to presenting the findings pertaining to the EI-personality relationship, two preliminary sets of analyses were conducted in order to explore the dimensionality of the EI measures themselves. The first set examined the separate factor structures of the two EI measures; the second set examined the factor structure of the two EI measures combined⁵. The findings are reported for each set in turn.

EQi. Item-level, scale-level (second-order) and composite-level (third-order) analyses were conducted. Exploratory factoring at the item level using parallel analysis suggested the retention of eight factors that accounted for 45% of the variance. Varimax rotation revealed that only the first seven factors, which accounted for 43% of the variance, had significant loadings. MAP suggested the retention of 13 components. Although MAP, when it errs, typically does so in the direction of underextracting (O'Connor, 2000), here it appeared to diffuse the items across a large factor space, resulting in several factors having few or no loadings (O'Connor, 2000; Wood, Tataryn, & Gorsuch, 1996; Zwick & Velicer, 1986). Thus, the seven-component solution was the more interpretable one. The components reflected a mixture of Bar-On's (1997) original factors.

This solution was generated from a total sample size of 368 using 117 variables (total EQi items excluding built-in response style items), thereby relying on a smaller sample size-to-variable ratio than the five cases per variable that has been recommended for factor analysis by Tabachnick and Fidell (2001). Accordingly, EQi scale validity was further assessed using item analysis. Each item was correlated with its own scale with the item removed (i.e., corrected item-total correlation), and this correlation was compared to the correlation coefficient of that item with the 14 other

⁵ The NEO-FFI was not factor analyzed due to its well-established construct validity (Costa & McCrae, 1992b).

scale scores. Items correlating similarly or more strongly with scales other than their own lack discriminant validity, and 70 items fell into this category. Rather than reporting each one of these, the number of items per scale is reported, along with scales with which they were correlated (see Table 5). As can be seen, a need for scale refinement is suggested, despite the presence of acceptable alpha coefficients as reported earlier (see Tables 3a-c).

A second order analysis on the EQi's 15 scales suggested the retention of two factors that accounted for 60% of the variance. Table 6 presents the rotated solution. The first component reflected aspects of adaptive functioning and accounted for 48% of the variance, whereas the second factor, reflecting interpersonal elements, accounted for 12% of the variance. A confirmatory factor analysis was also performed in order to test the data's fit to Bar-On's (1997a) five-composite model of the 15 scale scores. The AMOS statistical program (Arbuckle, 1994) provided some evidence of a moderate data-model fit in its goodness of fit indicators (CFI = .97, TLI = .95, RMSEA = 0.1), but also showed that a considerable amount of variance was left unexplained ($\chi^2 = 962.26$, $p < .001$).

A third order exploratory analysis of Bar-On's (1997a) five composite scales pointed to the retention of one component that accounted for 70% of the variance. The composites had the following loadings: adaptability (.90), intrapersonal (.89), general mood (.88), stress management (.81), and interpersonal (.70). A confirmatory analysis using AMOS (Arbuckle, 1994) tested Bar-On's (1997a) unidimensional model of the five composite scores. Goodness of fit indicators provided some support for a unidimensional solution (CFI = .99, TLI = .96, RMSEA = 0.26), but again, showed that a large amount of unexplained variance remained ($\chi^2 = 121.50$, $p < .001$).

The parameter estimates were generally lower and ordered differently than those presented by Bar-On (1997a).

EIS. Parallel analysis of the EIS suggested the retention of five components, accounting for 41% of the variance, whereas MAP suggested retaining three components that accounted for 31% of the variance. This discrepancy in findings was in keeping with typical procedural differences pertaining to over and under extraction (O'Connor, 2000), and a perusal of factor loadings suggested that the three-factor solution was the more interpretable one. The rotated solution showed that the first component accounted for 18% of the variance and was comprised of 10 items reflecting emotional regulation. The second factor, accounting for 7% of the variance, consisted of eight items representing emotional appraisal, and all six items on the third factor (6% of the variance) reflected emotional utilization. Although test developers (Schutte et al., 1998) reported a unidimensional solution, these findings support the validity of this relatively new measure of EI because the factor structure coincides very well with the original item content, which was said to reflect the three fundamental aspects of EI: emotional appraisal and expression, emotional regulation, and emotional utilization.

EQi and EIS. The relationship between the two measures of EI was examined using exploratory factoring at two levels: (1) scale-level (i.e., EIS total score and EQi scale scores), and (2) item-scale level (EIS items and EQi scale scores). The latter analysis was conducted in the exploratory spirit of this aspect of the study.

Preliminary factoring of the EIS raised the possibility that the scale might not be a unidimensional measure, so the question as to how the individual items of the EIS might distribute themselves across EQi scales was of interest. An analysis of this sort was viewed as providing more detailed information about the relationship between the

two EI measures. Factoring at the item-to-item level was not performed given the sample size to variable ratio.

(1) Scale-level factoring suggested the retention of two components that accounted for 59% of the variance. The rotated solution was identical to the scale level EQi solution (Table 6), with the EIS aligning itself with the second factor – the interpersonal component – with a loading of .61.

(2) Item-scale level parallel analysis suggested the retention of six components, whereas MAP suggested five, and the latter was more interpretable. The rotated solution showed that the first factor, which explained 23% of the variance, was a combination of EQi adaptive functioning elements and EIS items reflecting emotional regulation. The second factor, explaining 8% of the variance, consisted of the EQi “interpersonal scale” and a mixture of EIS items. The third and fourth factors (5% of the variance each) reflected EIS items of emotional appraisal and emotional utilization, respectively, and none of the EQi scales, and the fifth factor (4% of variance) represented EQi interpersonal aspects and none of the EIS items.

Both levels of factoring supported the findings of bivariate analyses. They demonstrated that the two measures were assessing the same thing, but only to a limited degree, inasmuch as each appeared to be tapping into different components of EI, which contributed uniquely to the explained variance.

EI and personality. Exploratory factoring involved the NEO-FFI and both measures of EI, and was conducted at (1) the scale level, and (2) using EIS items with EQi and NEO-FFI scales. As described above, the item-to-scale analysis was viewed as a way to maximize the exploratory aspect of the study.

(1) Scale level analyses suggested the retention of three components that explained 61% of the variance. The rotated solution (Table 7a) revealed that only

neuroticism and extraversion aligned themselves uniquely with EI scales: neuroticism loaded highly (-.81) on the first factor, which reflected elements of EQi adaptability (see Table 6) to review EQi scale level factoring). Extraversion and the EIS loaded moderately (.67) on the second factor that reflected EQi interpersonal elements. The EQi scale “impulse control” solely comprised the third factor with a high loading (.80), and the personality facets agreeableness and conscientiousness spread themselves almost equally over the three components with weaker loadings (.4-.5). Openness to experience failed to load significantly on any component.

(2). Item-Scale level analyses suggested the retention of six components that were in keeping with the findings of the factor analysis between the two EI measures, and the results of the previous factor analysis.

The six components explained 47% of the variance and the rotated solution emerged as follows (see Table 7b): The first component, which could be labelled *Adaptability*, was comprised of neuroticism (-.82), conscientiousness (.56), EQi scales denoting aspects of adaptive functioning, and four EIS items reflecting emotional regulation. The second factor, which could be called “Interpersonal Aspects”, consisted of extraversion (.72), the EQi “interpersonal scale”, and seven EIS items, mostly reflecting emotional aspects of dealing with others. The third and fourth factor included only EIS items representing emotional appraisal (eight items), and emotional utilization (seven items), respectively, and could be labelled “Emotional Appraisal” and “Emotional Utilization”. The personality domain agreeableness loaded onto the fifth factor (.66), along with the EQi scales “impulse control” and “social responsibility”, thus denoting aspects of “Responsible Emotional Behavior”. Openness to experience loaded on the sixth factor by itself (.47).

EI and Adaptability (Worker Sample Only)Bivariate Analyses

For these analyses total scores for both EI measures were used. Although the EQi offers scale scores as well as composite scores, the total score was employed for three reasons: (1) suspect validity of the scale scores, (2) significant correlations between composite scores and the total score ($r_s = .76$ to $.93$), and (3) the preliminary nature of the inquiry overall.

EI and other variables. EI was expected to be correlated with work demands, other work resources, and burnout. Specifically, negative associations were expected between EI and work demands, and between EI and burnout dimensions, and positive relationships were predicted between EI and other resource variables. As is evident from Table 8, these predictions were confirmed, with the exception of the relationship between EI and the work resource, PF ($r_s = .23$ and $.18$, n.s.). EI was inversely related to work demands, role ambiguity ($r = -.35$) and role conflict ($r = -.33$), but only for the EQi. The EIS was not related to either work demand ($r_s = -.19$ and $-.17$, n.s.). Both EI measures were positively related to one work resource, POS ($r_s = .54$ and $.36$), and correlated in expected directions with burnout dimensions, exhaustion ($r = -.34$; EIS was not related, $r = .14$, n.s.), cynicism ($r_s = .50$ and $.30$) and personal efficacy ($r_s = .48$ and $.38$).

In light of the earlier findings pointing to considerable shared variance between EI and personality, the degree to which FFM domains contributed to these relationships was determined. A series of regression analyses were conducted in which the significant bivariate associations reported above were assessed while controlling for the FFM domains. Four of the five domains were entered into the regression equation as a set and a p value of $.05$ was used given the exploratory nature

of the issue. Openness to experience was excluded because it was generally unrelated to EI. Analyses revealed that when the effects of the set of personality domains were held constant, only one association remained significant: EI, as measured by the EQi, explained a significant amount of variance in personal efficacy over and above FFM domains (R^2 change = .04, $p < .05$, $r_{\text{partial}} = .23$). Table 9 presents the specific bivariate associations and the partial correlations of the personality domains accounting for the association.

Personality and burnout. FFM domains were expected to be differentially related to burnout dimensions. Neuroticism was predicted to be more strongly associated with exhaustion and cynicism, whereas the other four domains were expected to correlate more strongly with cynicism and personal efficacy. Consistent with expectations (see Table 8), neuroticism was associated with exhaustion ($r = .44$) and cynicism ($r = .43$), and not related to personal efficacy ($r = -.19$ n.s.). Agreeableness and conscientiousness were both related to cynicism and personal efficacy (r_s .37 to .39) in expected directions, but not related to exhaustion ($r_s = -.19$ and .06 n.s.). Extraversion was related to all three burnout dimensions, but still in keeping with predictions, the smallest correlation was with exhaustion: cynicism ($r = -.52$), personal efficacy ($r = .45$), and exhaustion ($r = -.33$). Openness to experience was not related to any dimension.

Work demands, resources, and burnout. The COR model of burnout generated predictions about relationships among burnout and work demands and resource variables, respectively. Specifically, work demands were expected to be more strongly related to exhaustion and cynicism than to personal efficacy, with the strongest relationship existing between work demands and exhaustion. These predictions were only partially confirmed (Table 8). Work demands, role ambiguity

and role conflict, were related to exhaustion ($r_s = .34$ and $.45$, respectively) and cynicism ($r_s = .41$ and $.55$, respectively), but only for role conflict were these relationships stronger relative to associations with personal efficacy ($r = -.34$). Role ambiguity was equally related to exhaustion and personal efficacy ($r = .34$ vs. $r = -.33$). Furthermore, contrary to predictions, both work demands were more strongly related to cynicism than to exhaustion (for role ambiguity, $r = .41$ vs. $r = .34$; for role conflict, $r = .55$ vs. $r = .45$).

Resource variables were expected to be more strongly related to cynicism and personal efficacy than to exhaustion. The analyses supported these predictions (see Table 8). The resource POS was more strongly related to cynicism ($r = -.66$) and personal efficacy ($r = .55$), compared to exhaustion ($r = -.44$), as was the resource PF, which was related to cynicism ($r = -.41$) and personal efficacy ($r = .35$) and not at all to exhaustion ($r = -.18$, n.s.). As is clear from the section above, this pattern also occurred for the resource EI.

Based on the demonstrated relationships between personality and burnout, and the documented mediating role of personality in appraisal-outcome associations (e.g., Brief et al., 1988; Burke et al., 1993; Hart et al., 1995), the above relationships were reassessed for the extent to which they might be better explained by the FFM domains. Multiple regression analyses controlling for the FFM domains revealed that only two associations were better accounted for by personality domains. The relationship between role ambiguity and exhaustion was accounted for by neuroticism [$r_{\text{partial}} = .29$, $p < .01$] and extraversion [$r_{\text{partial}} = .22$, $p < .05$], and the role ambiguity - personal efficacy association was also better explained by neuroticism [$r_{\text{partial}} = .23$, $p < .05$] and extraversion [$r_{\text{partial}} = .28$, $p < .01$].

Burnout dimensions. Based on the proposed models of burnout discussed in the introduction (e.g., Hobfoll & Freedy, 1993; Leiter, 1993) exhaustion and cynicism were predicted to have the strongest relationship, and cynicism was also expected to be associated with personal efficacy. These predictions were only partially confirmed. Table 8 shows that, as expected, exhaustion was more strongly related to cynicism ($r = .59$) than to personal efficacy ($r = -.29$), and cynicism was correlated with personal efficacy ($r = -.67$). However, contrary to predictions, cynicism and efficacy had a stronger association than cynicism and exhaustion. As in the above analyses, these relationships were examined in regression analyses for the possible mediating effects of the FFM domains. The association between exhaustion and cynicism remained significant over and above any influences of personality ($r_{\text{partial}} = .46$), $p < .01$), as did the association between cynicism and personal efficacy ($r_{\text{partial}} = -.56$). The smaller correlation between exhaustion and personal efficacy was reduced to non-significance ($r_{\text{partial}} = -.16$, n.s.), being better explained by extraversion ($r_{\text{partial}} = .24$, $p < .05$), agreeableness ($r_{\text{partial}} = .20$, $p < .05$), and conscientiousness ($r_{\text{partial}} = .28$, $p < .05$).

Regression Analyses

EI was expected to moderate the significant relationships between perceptions of work and burnout depicted in Table 8. Moderating effects pertaining to work demands and burnout, and work resources and burnout are discussed in turn.

Work demands and burnout relationships. Individuals with high EI were expected to report less burnout in the presence of work demands compared to those with lower EI. A moderating effects was found for EI measures, but only for one work demand-burnout relationship: EQi scores and EIS scores moderated the main effects of role conflict on exhaustion ($R^2 = .210$, $F(2, 90) = 11.97$, $p < .001$; R^2

change = .060, $p < .01$; $R^2 = .205$, $F(2, 98) = 12.66$, $p < .001$, R^2 change = .044, $p < .02$, respectively).

The moderating effects were reassessed while controlling for potential mediating effects of personality. Findings revealed that neuroticism was the only domain that explained a significant portion of the variance in exhaustion for EQi scores ($r_{\text{partial}} = .24$, $p < .05$) and EIS scores ($r_{\text{partial}} = .30$, $p < .01$). However, the moderating effects persisted for both the EQi score (R^2 change = .047, $p < .05$, $r_{\text{partial}} = .26$), and for the EIS score (R^2 change = .044, $p < .02$, $r_{\text{partial}} = .25$).

Figures 1 and 2 show that the nature of the moderating effects did not conform to predictions. Workers with higher EI scores had greater increases in exhaustion as role conflicts increased, compared to individuals with moderate and lower EQi scores. Given that such findings were in direct opposition to expectations, an additional set of analyses were conducted in order to flush out the meaning of the moderating effect. These were aimed at comparing the three levels of EI for (1) mean levels of predictor and criterion variables, and (2) associations between predictor and criterion variables.

Workers were divided into groups based on EQi scores: low EQi (one standard deviation below the mean; $N = 31$), medium EQi (the mean score; $N = 19$), and high EQi (one standard deviation above the mean; $N = 43$). Mean levels of role conflict and exhaustion were calculated for each group, and compared through one-way ANOVAS. Correlations between role conflict and exhaustion were also calculated for each group. This procedure was repeated using EIS scores (low EIS, $N = 30$; medium EIS, $N = 23$; high EIS, $N = 48$).

One-way ANOVAS involving the EQi groups revealed that EQi level had a main effect on exhaustion ($F(2, 89) = 5.62$, $p < .01$) and role conflict ($F(2, 90) = 9.57$, $p < .01$). Post hoc testing (Tukey HSD, $p < .05$) showed that differences existed

between workers with high and low EQi scores for exhaustion. Those with high EI reported less exhaustion ($M = 8.23$) compared to workers with low EI ($M = 12.68$). For role conflict, significant differences were found between workers with high EQi (27.70) and low and medium EQi, respectively ($M_s = 35.90$ and 35.11). Correlational analyses for the three groups showed that for low and medium EI workers, role conflict and exhaustion were not related ($r_s = .16$ and $.26$, n.s.), but for high EI workers, there was an association between these two variables ($r = .43$, $p < .01$).

One-way ANOVAS involving the EIS groups revealed that EIS level did not have a main effect for exhaustion ($F(2, 99) = 1.67$, n.s.) or role conflict ($F(2, 98) = 2.09$, n.s.), suggesting that the groups did not differ in their mean levels of exhaustion and role conflict. Again, correlational analyses showed that for workers with low and medium EI, there was no association between role conflict and exhaustion ($r_s = .48$ and $.24$, n.s.), but for those with high EI, there was an association ($r = .59$, $p < .01$).

Thus, Figures 1 and 2 may be misleading inasmuch as they depict associations between role conflict and exhaustion for all levels of EI. Based on the above analyses, the important components of the figures are the mean levels of predictor and criterion variables, and the association between these variables for the high EI group.

Work resources and burnout. Individuals with high EI were expected to report less burnout in the presence of POS and PF compared to those with lower EI. Again, a moderating effect was found for both EI measures, but only for one work resource-burnout association. EQi scores and EIS scores moderated the main effects of POS on exhaustion ($R^2 = .220$, $F(2, 91) = 12.40$, $p < .001$; R^2 change = $.071$, $p < .01$; $R^2 = .200$, $F(2, 98) = 12.03$, $p < .01$, R^2 change = $.074$, $p < .01$, respectively). When reassessed while controlling for personality, the EQi's effects remained significant (R^2 change = $.065$, $p < .01$, $f_{\text{partial}} = -.29$), as did the effects of the EIS (R^2 change =

.069, $p < .01$, $r_{\text{partial}} = -.31$), despite unique contributions of neuroticism in both cases ($r_{\text{partials}} = .30$ and $.31$, $p < .01$, respectively).

As Figures 3 and 4 show, workers with high EI scores showed greater decreases in exhaustion with greater POS compared to workers with medium and low EI scores. These figures are also somewhat misleading because they do not accurately depict the differences in exhaustion among EQi groups as reported above. Also not depicted are the significant differences in POS that were found among groups based on both EQi and EIS scores ($F(2,89) = 16.61$, $p < .01$; $F(2,96) = 6.96$, $p < .01$, respectively). Workers with both high EQi and EIS scores reported significantly more POS ($M_s = 191.93$ and 185.33) than workers with medium POS ($M_s = 158.95$ and 162.52) and low POS ($M_s = 153.68$ and 159.63). However, the important information conveyed by the figures the greater declines in exhaustion for workers with high EI scores.

Supplementary Analyses

Additional analyses beyond those aimed at addressing a priori hypotheses were conducted in order to maximize valuable findings from the research. These ancillary analyses fell into four areas: (1) the process of burnout; (2) other potential moderating and mediating variables; (3) issues pertaining to response style; and (4) potential age and sex differences in EI measures.

The burnout process. Recent emphasis in the burnout literature is on understanding the process in which the burnout dimensions unfold in response to work demands, rather than just examining simple correlations (e.g., Leiter, 1991). Exploratory regression analyses revealed cynicism to be the central variable in the process for this group of workers.

Cynicism was first regressed onto exhaustion ($R^2 = .35$, $F(1, 100) = 54.31$, $p < .001$). Entering work demands (role ambiguity and role conflict) as a set did not explain any additional variance (R^2 change = .028, n.s.), suggesting that the relationships between work demands and exhaustion did not exist when cynicism was controlled. Cynicism was then regressed onto personal efficacy ($R^2 = .45$, $F(1, 100) = 82.76$, $p < .001$), and entering work demands failed to result in a significant R^2 change (R^2 change = .007, n.s.). This suggests that the work demand-personal efficacy association did not occur over and above cynicism. Finally, after regressing cynicism onto personal efficacy again ($R^2 = .444$, $F(1, 101) = 80.70$, $p < .001$), and then entering exhaustion, there was no significant R^2 change (R^2 change = .018, n.s.), implying that exhaustion and personal efficacy were related through cynicism.

Two additional points were considered: (1) The latter relationship (i.e., between exhaustion and personal efficacy) had previously been shown to be mediated by several personality (see above). Therefore, the last regression exercise was repeated controlling for personality. Cynicism was the only significant predictor ($\beta_{\text{partial}} = -.55$, $p < .01$). (2) Mean levels of cynicism differed significantly between the two groups, with police officers reporting more cynicism (as reported earlier). Thus, the set of regression analyses were repeated for officers and managers separately. The pattern reported above held for both groups.

Other potential moderating and mediating effects. Given COR's prediction that work resources offset resource loss resulting from work demands, three additional questions were posed: (1) Do other resource variables (POS, PF) moderate work demand-burnout relationships? (2) Do resource variables, other than personality and including EI, have a mediating effect on the work demand-burnout relationship? (3) Do the resources variables act on work demands to affect burnout?

Analyses addressing the first question failed to show moderating effects for any other resource. Analyses pertaining to the second question showed that the resource POS had a mediating effect on relationships between role ambiguity and all three burnout dimensions, and between role conflict and personal efficacy. None of these mediating effects could be explained by FFM domains. Table 10 shows the partial correlations for the mediator, and partial correlations while controlling for personality.

Given the evidence of cynicism's central role in the burnout process reported above, the mediating effects of POS reported in Table 10 were re-evaluated in order to test whether these were more aptly accounted for by cynicism's effects, whether cynicism's central role was better explained by these resources, or whether they each had unique contributions. Regression analyses revealed that cynicism could account for all the relationships. When cynicism's effects were held constant, POS no longer served a mediating role in any work demand-burnout relationship. When POS was held constant, cynicism's mediating effects remained for the specified bivariate relationships. The partial correlations for cynicism are reported in the last column of Table 10.

In light of cynicism's strong mediating effects it made sense to inquire about the predictors of cynicism. All work demands and resources were entered into a regression equation to determine unique contributions. POS was the strongest predictor ($r_{\text{partial}} = -.37$, $p < .001$), followed by extraversion ($r_{\text{partial}} = -.29$, $p < .001$), and finally, role conflict ($r_{\text{partial}} = .23$, $p < .05$).

Finally, analyses directed at the third question revealed that none of the resource variables, including personality, acting on work demands to affect burnout.

Response style. Although predictions were not made regarding response style, the self-report nature of the data made it an issue worth examining. For variables common to the student and worker samples (i.e., EQi total, composite, scale scores, EIS, NEO-FFI), correlations with social desirability were examined for similarities regarding magnitude and pattern (Table 11). This comparative exercise revealed the following similarities: (i) all variables were correlated with social desirability except for the personality domain openness to experience; (ii) all correlations were positive, except for the ones between neuroticism and desirability; (iii) demographic variables were unrelated to response style (iii) the magnitude of association was similar overall, and for each category of variable. The only noteworthy difference was between the correlations involving the two EI measures for the student sample ($r = .54$ for the EQi vs. $r = .28$ for the EIS). Correlations ranged between $r_s = .28$ to $.60$ for students, and $r_s = .22$ to $.54$ for workers, and mean correlations were in the moderate range ($r = .46$, students; $r = .41$, workers).

Associations between social desirability responding and variables specific to the sample of workers are reported in Table 12. As is evident, all variables except for PF were significantly correlated with response style, and magnitudes of association were relatively small, ranging from $r_s = -.22$ to $.33$. Based on significant associations reported in Table 11 and 12, bivariate and regression analyses were reassessed controlling for these effects. All of the previously reported relationships remained significant.

Subgroup differences: Age and sex effects. As a means of further examining the validity the EI measures, tests of sex and age effects were conducted. Findings in test development studies suggested that there may be sex and age differences in EI. For example, Schutte et al. (1998) reported that females obtained higher EIS scores

than males, and EQi studies (Bar-On, 1997a) showed that females had higher scores in empathy, interpersonal relationships, social responsibility, and emotional self-awareness whereas males demonstrated higher intrapersonal, adaptive, and stress managements scores (e.g., assertiveness, self-regard, independence, problem solving, flexibility, stress tolerance, and optimism). They also demonstrated that older individuals (e.g., 40–49) tend to score higher than younger ones. Both types of differences were reported to have very small effects.

Sex and age differences were assessed through a series of one-way anovas⁶ and the results are reported in Table 13 and 14, respectively, along with magnitude of effect (R^2). As can be seen, sex differences emerged for nine EQi scales and EQi-total, but effect sizes were small. Females scored higher on interpersonal relationships, social responsibility, and males scored higher on assertiveness, flexibility, independence, optimism, problem-solving, self-regard, stress tolerance, and EQi-total. EIS scores did not differ for males and females. Additionally, older individuals scored higher on eight EQi scales (impulse control, independence, optimism, problem-solving, reality testing, self-regard, social responsibility, stress tolerance), EQi-total, and on the EIS. Again, these effects were minimal. These findings generally conform to the existing evidence of the presence, nature, and magnitude of sex and age differences.

Summary of the Findings

EI and Personality

Both EI measures showed satisfactory internal consistency reliabilities. Exploratory factor solutions for the EQi diverged from those reported by Bar-On (1997a), and item analysis suggested that several scales lacked discriminant validity,

⁶ Age differences were assessed by dividing the sample into younger (age ≥ 16 and ≤ 30) and older workers (age > 30). This allowed for a reasonable number of subjects in each group.

given the substantial number of items that correlated more highly with other scales than their own. Furthermore, confirmatory procedures did not provide strong support for the scale's theoretical structure as outlined by Bar-On (1997a). The factor structure of the EIS is discussed in the context of its associations with the EQi and personality domains (below).

Total EI scores and mean EQi scale correlations fell in the moderate range, and the correlation between EQi-total and neuroticism and conscientiousness, respectively, fell in the strong range. Factor analysis produced a six-factor solution, in which four of the six factors corresponded to aspects of EI and personality. However, differences existed between the two EI measures in the way in which they related to personality. Several EIS items clustered into two components independent of both personality and the EQi, and these reflected two theoretical aspects of EI: emotional awareness and emotional utilization.

EI and Adaptability

EI and other variables. Correlational analyses revealed that EI was related to work demands, resources, and burnout according to predictions, although there were disparities in the way the two EI measures were associated with these variables. Both measures were inversely related to cynicism, positively related to personal efficacy and POS, and unrelated to the other resource PF, but only the EQi was related to work demands and exhaustion. Regression analyses showed that all but one of these associations (i.e., EQi and personal efficacy) were reduced to non-significance when the effects of personality were controlled.

COR predictions. Associations between work demands and burnout deviated from COR predictions. Work demands were more strongly related to cynicism rather than exhaustion, and only one work demand, role conflict, was more strongly related

to cynicism and exhaustion than personal efficacy. On the other hand, resource-burnout associations were in keeping with predictions. All resources (POS, PF, EI) were more strongly linked with cynicism and personal efficacy than exhaustion. Only two work demand-burnout associations were better explained by a combination of neuroticism and extraversion: the associations between role ambiguity and exhaustion and personal efficacy, respectively.

Burnout and other variables. The analyses showed that, except for openness to experience, all personality domains were associated with burnout, and the relationships were in keeping with expectations: neuroticism was associated with exhaustion and cynicism and not personal efficacy, and conscientiousness and agreeableness were related to cynicism and personal efficacy and not exhaustion. Extraversion was related to all three, but it associated to a lesser extent with exhaustion.

Relationships among the burnout dimensions themselves differed slightly from predictions. As expected, exhaustion was more strongly related to cynicism than personal efficacy. However, the latter two dimensions showed the strongest association, despite predictions that exhaustion and cynicism would have the strongest relationship. None of these associations were mediated by the FFM domains.

Moderated/mediated relationships. Regression analyses showed that EI had minimal moderating effects, given that only one work demand-burnout association (role conflict-exhaustion) and one resource-burnout relationship (POS-exhaustion) were involved. In both cases the moderating influence was consistent for both EI measures and was not mediated by the FFM of personality. Extra analyses aimed at aiding interpretations revealed that role conflict and exhaustion were only related for workers who had higher levels of EI. That is, workers with higher EI (as measured by

the EQi) had lower burnout and role conflict, but regardless of these levels, those with higher EI (on both measures) experienced more exhaustion as their role conflict increased. Groups based on EIS levels did not differ in their mean scores on role conflict and exhaustion. In the case of the resource-burnout relationship, workers with high EI scores reported more POS than workers with medium and low EI scores, and greater decreases in exhaustion in the face of increasing POS.

Supplementary Analyses

The burnout process. Regression analyses provided a more complex understanding of the relationships among burnout dimensions. Cynicism was shown to mediate the relationships between: (1) work demands and exhaustion, (2) work demands and personal efficacy, and (3) exhaustion and personal efficacy.

Other mediating and moderating effects. Another set of regression analyses addressed COR's contention that work resources offset the resource loss stemming from work demands. The analyses revealed that (1) none of the other resources acted as moderators of work demand-burnout relationships; (2) POS mediated relationships between role ambiguity and all burnout dimensions, and between role conflict and personal efficacy; and (3) none of the measures were related to burnout through work demands (i.e., work demands did not mediate relationships).

Response style. The pattern of associations between response style and EI and personality, respectively, was similar across student and worker samples, with mean correlations in the moderate range (e.g., $r_s = .41$ and $.46$). Associations between response style and work-type variables were weak, suggesting a minimal tendency for this sample of workers to engage in this response style when reporting their perceptions of work demands, resources, and burnout. Overall, analyses controlling

for the effects of social desirability responding produced findings were consistent with those without such controls.

Subgroup differences: Sex and age effects. Both EI measures differentiated on the basis of age, with older individuals scoring higher than younger ones on total scores and several EQi scale scores. The EQi also differentiated on the basis of sex, with females scoring higher on interpersonal scales, and males showing higher adaptive, intrapersonal, and total scores. These differences were theoretically meaningful and in accord with those reported in the EQi test manual. EIS scores did not differ on the basis of sex.

Discussion

This section is devoted to (1) a discussion of each set of findings summarized above in relation to predictions and existing research, and (2) a brief description of the study's limitations and implications. In keeping with the format used throughout, the section is organized according to the two main areas of inquiry: EI and personality, and EI and adaptability.

Elaboration of the Findings.

EI and Personality

One purpose of this study was to address the relationship between EI and personality using the FFM of personality and two relatively new measures of EI. Preliminary analyses had provided some evidence of discriminant validity for both measures in the form of moderate correlations with personality measures (e.g., Baron, 1997a; Schutte, 1998). However, conflicting findings existed regarding the relationships between self-report EI measures and the FFM (Davies et al., 1998; Schutte et al., 1998), and minimal attention had been directed to the relationship

between the EQi and FFM (e.g., Petrides & Furnham, 2001). Furthermore, the original validation studies of both measures did not use factor analysis to examine the relationship between EI and personality (Bar-On, 1997a; Schutte et al., 1998). Factor analyzing was considered to be important because the factoring of a variety of personality measures and other self-report EI measures had not provided favourable results for the discriminant validity of EI measures (Davies et al., 1998).

Both EI measures showed acceptable internal consistency reliabilities that were consistent with previous reports (Bar-On, 1997a; Dawda & Hart, 2000; Schutte et al., 1998), and this provided a rationale for continuing the examination of the scales. Davies et al. (1998) had to exclude several of the self-report EI measures used in their study due to unsatisfactory reliabilities.

Additional analytic procedures used to examine the EQi showed, unlike another recent study (e.g., Petrides & Furnham, 2001), that there may be a potential need for some scale and structural refinement. That is, exploratory and confirmatory factoring of the EQi failed to provide strong support for Bar-On's (1997a) 15-5-1 theoretical structure (15 scales, 5 composite scores, and one total score), and item analysis brought some question to bear on the composition of the scales. The factor solution of the EIS is more appropriately understood in the context of its relationship to the EQi and the NEO-FFI, which is discussed below.

Overall, EI-personality associations were in keeping with those reported by Davies et al. (1998). Factoring EI measures with the NEO-FFI resulted in six factors, four of which reflected a combination of EI and personality traits. This would suggest that the EQi and EIS may be similar to other self-report measures of EI inasmuch as many of their scales or items, respectively, shared considerable variance with FFM

domains. However, there was also a notable discrepancy. Two factors reflecting only EIS items emerged independent of the EQi and the FFM.

These two factors (the third and fourth factor) corresponded to items of emotional appraisal or awareness and emotional utilization, and provided the only evidence of discriminant validity⁷. The nine items loading onto one factor (the third) pertained to emotional awareness in the self and others, and interestingly, the EQi scale emotional self-awareness loaded weakly (.33) with these items. The seven emotional utilization items represented an individual's use of emotions to procure adaptive outcomes. The independence of these two components from personality domains offers partial and tentative support for Mayer and Salovey's (1990) conceptual model portraying the distinct EI abilities of monitoring, discriminating, and using emotional content of self and others.

Mayer and Salovey (1997) identified hierarchical aspects of EI starting with emotional awareness and appraisal, to understanding and reasoning about emotions, to, finally, the management of emotions in oneself and others. If the awareness component represents a more fundamental aspect of EI, it seems reasonable that it would be independent from EQi scales, which on the surface, appear to be assessing abilities at the upper end of the hierarchy⁶. This makes even more sense in light of the finding that emotional regulation items (i.e., a higher-order skill) clustered with EQi adaptive-type scales (discussed below). However, it is not clear why emotional

⁷ These results differ from Petrides and Furnham (2001) who found that one EQi factor loaded separately from the NEO-PI-R. However, these results were based on a modified version of the EQi.
⁶ Bar-On (1997b) identified some of the scales as being higher-order or resultant. However, he also described a subset of scales as being "core", and yet another, as being "auxiliary". Some of his resultant and auxiliary scales are included in those being labelled here as "adaptive", and emotional self-awareness was identified as a core ability. Thus, Bar-On's own descriptions add to the plausibility of the interpretation being offered. The labelling of EQi scales in the present study as higher-order is based on face presentation and the scales' distinction from aspects being assessed by the EIS.

utilization items emerged separately from these EQi scales, given that emotional utilization could also be conceptualized as a higher-order ability.

In one of a series of studies, Davies et al. (1998) reported a set of similar findings. They found that two factors corresponded to the appraisal and expression of emotion in the self (Emotional Clarity and Emotional Awareness) and that these were largely independent of personality. This finding was based on the factoring of several self-report EI measures and the Eysenck Personality Questionnaire-Revised; EPQ-R). However, in the second study of their series, in which EI measures were compared to several personality measures, these factors failed to emerge separately from personality measures. Thus, it is possible that the independent factors in the present study might cluster with personality if the latter was assessed using a variety of inventories. Alternatively, it may be that the EIS can be distinguished from other self-report measures in its ability to tap aspects of a unique EI construct. Clearly, the viability of the EIS awaits further psychometric analysis.

The composition of the remaining four factors was theoretically meaningful. The first factor encompassed neuroticism (inversely), EQi adaptive-type scales (e.g., assertiveness, flexibility, independence, optimism, problem-solving, reality testing, stress tolerance), and EI items reflecting emotional regulation (i.e., monitoring and acting to change one's mood state, ability to repair unpleasant moods). This is not surprising given that neuroticism is said to denote one's degree of adjustment or emotional stability, the ability to cope with stress, and susceptibility to psychological distress (Costa & McCrae, 1992). Interestingly, Davies et al. (1998) also found scales assessing emotional regulation to load highly with neuroticism. The composition of the factor, the relatively high loadings of neuroticism and EQi scales, and the simple correlation between neuroticism and the total EQi score ($r = -.70$), converge to

suggest the possibility of redundancy between the EQi and the NEO-FFI neuroticism scale.

The second factor corresponded to extraversion and the interpersonal elements of EI. Considering that extraversion is depicted as reflecting sociable and interpersonally active individuals (Costa & McCrae, 1992b), this clustering makes sense. It also converges with Davies et al.'s (1998) finding that extraversion encompassed measures of social intelligence.

Agreeableness aligned itself with social responsibility and impulsivity to form the fifth factor. Although one might have expected impulsivity to load with conscientiousness (discussed below), the loadings still bear out theoretically to the extent that agreeableness encompasses altruistic, sympathetic, and cooperative traits at one end, and egocentricity, antagonism, and disagreeableness at the other (Costa & McCrae, 1992b). Davies et al. also found that agreeableness and psychoticism, which is said to reflect aspects of agreeableness (Eysenck, 1994), corresponded with EI measures assessing impulsivity and empathy.

The only anomalous finding was that conscientiousness loaded significantly with EI, and that it loaded moderately (inversely) on the neuroticism factor. This raises two issues. First, the findings contradict those of Davies et al. (1998) in that their EI measures did not relate to conscientiousness. This discrepancy might be attributed to potential differences between the two EI measures used here and pre-existing ones, or to differences in inventories assessing the FFM (i.e., Davies et al. used the Trait-Self Description Inventory (TSDI); Christal, 1994). Second, the findings also diverge from Costa and McCrae's (1992b) description of the NEO-FFI as an inventory that assesses five unique domains. One possible explanation for this was the relatively high degree of shared variance among the domains. This has been

reported to occur with the NEO-FFI (e.g., Costa & McCrae, 1992b). Additionally, the findings may have been a function of sample size.

As mentioned, if conscientiousness were to cluster with EI measures, it might be expected to do so with impulse control and social responsibility scales.

Conscientiousness refers to the degree to which an individual resists impulses and exhibits self-control in order to plan, organize, and carry out tasks. At the high end, it also reflects a purposeful, determined, and reliable individual (Costa & McCrae, 1992b). Some of the adaptive functioning scales with which it did load (e.g., problem-solving, assertiveness, independence, reality testing) seem to reflect similar attributes. Nonetheless, inconsistent findings with respect to the status of conscientiousness in relation to EI point to the need for further examination of this issue.

The sixth factor was comprised solely of openness to experience, which was unrelated to EI measures. Davies et al. (1998) also failed to find any link between Openness and self-report EI measures, leading them to conclude that EI was clearly divergent from this personality domain. The present findings strongly corroborate this conclusion, given that similar results emerged while using different EI and openness measures. Interestingly, Davies et al. had expected openness to be related to EI, as have others (e.g., McCrae, 2000). They speculated that “the openness dimension may encompass the reflective aspect of mood experience included in the emotional intelligence framework” (p.1002). This seems reasonable given Costa and McCrae’s (1992b) description of openness as the degree to which an individual displays curiosity about, and attentiveness to, inner feelings and external activities, and experiences positive and negative emotions. Schutte et al.’s (1998) finding that openness was the only domain related to the EIS stands in stark contrast to the converging evidence against EI’s association with openness. Their finding might

have been attributable to their relatively small sample size ($N = 23$), or again to some unique quality of the measure.

Additional evidence supporting the potential uniqueness of the EIS came from the nature of the association between the two EI measures themselves. First, correlations between the EIS and the FFM were generally weaker compared to the associations between the EQi and the FFM (see Table 4). Second, the two measures were moderately to strongly associated, but with the exception of the correlation between the EQi and neuroticism ($r = -.70$), the correlations between the two measures were not much different from correlations between the EI measures and the FFM domains. Two inventories assessing the same construct would be expected to cluster together, and cluster separately from a distinct construct. As already discussed, this did not occur. The two measures clustered together in some instances, but they did so in conjunction with personality. Furthermore, EIS items failed to load onto one factor along with EQi and NEO-FFI scales (the fifth factor), and, more importantly, comprised two factors independent of both the EQi and personality. This might be evidence of Mayer, Salovey and Caruso (2000)'s claim that some EI models focus on abilities and some mix mental abilities with personality attributes.

EI and Adaptability

A second purpose of the study was to assess EI's concurrent validity (and by extension, its predictive validity) by examining its potential role as a resource against stress in the workplace. The rationale for this was established by (1) the definition of EI as an element of adaptation (e.g., Bar-On, 1997a; Mayer & Salovey, 1997); (2) preliminary evidence of its association with a number of indices of adaptive functioning (e.g., Bar-On, 1997a; Martinez-Pons, 1997; Schutte et al., 1998; 2001); (3) speculation regarding its potential as a stress resource in research on EI (e.g., Bar-

On et al., 2000; Cherniss, 2000; Ciarrochi et al., 2002), (4) the theoretical importance of individual attributes and ability to stress (e.g., Payne, 1991); and (5) the theoretical importance of intra- and interpersonal resources to burnout (e.g., Ashforth & Lee, 1997; Hobfoll & Freedy, 1993).

EI proved to have a minimal role as a predictor of work place perceptions and outcomes, with most associations being better accounted for by a worker's personality. The only way it added to predictions of burnout beyond the FFM domains was in contributing uniquely to the variance in the personal efficacy component of burnout ($r = .25$). Similarly, its status as an individual resource could be called questionable, given its limited moderating effects on work demand-burnout relationships, at least where these two EI measures are concerned. However, that being said, two findings emerged in which EI measures demonstrated some potential as a unique resource.

First, individuals with higher EI scores reported a stronger sense of personal efficacy at work, regardless of personality attributes. Second, both EI measures moderated the relationship between role conflict and exhaustion over and above the contributions of personality, and between POS and exhaustion beyond any effects of personality.

The nature of the interaction involving role conflict and exhaustion diverged somewhat from expectations, but may still be in keeping with theoretical accounts of EI as a resource. Workers with high EI, as measured by the EQi, perceived their work environment as less demanding and described themselves as experiencing less exhaustion compared to workers with low levels of EI. This corresponds with the view of EI as an effective resource against burnout. However, the more interesting effect was that only for workers with high levels of EI was more role conflict

associated with more exhaustion. For workers with lower and medium levels of EI, perceptions of role conflict were unrelated to their experience of burnout. The results were the same when EI was measured by the EIS, except that there were no differences in mean levels of work stressors and exhaustion for workers of differing levels of EI.

The question arises as to why this association might exist only for workers with greater EI. One possible explanation is that these workers may be better able to understand the link between their environment and their emotional state. Thus, their intra- and interpersonal skills might not necessarily protect them from becoming burned out in the face of an excessively demanding work environment, but at least they would be afforded insight into how their environment might be impacting their internal states. This would presumably provide them with a starting point from which to address workplace problems. On the other hand, the finding that workers with higher EI scores showed greater decreases in exhaustion with more POS suggests that such workers may be better able than other workers to (1) use their skills to form more positive perceptions about their work environment, and (2) use those perceptions as resources through which to offset the experience of burnout.

Overall, the nature of the interactions seem to be consistent with a report by Ciarrochi et al. (2002) that stressors may be associated with greater distress in individuals with greater emotional perception skills, and with the speculations of Payne (1991) outlined earlier that EI-like abilities might assist individuals in the formation of perceptions at work and choosing adaptive responses. If nothing else, the findings provide a basis for further inquiry into the mechanisms of EI's action as a workplace resource.

Other Findings

COR predictions. The COR model of burnout (Hobfoll & Freedy, 1993) predicted associations between burnout and work demands and resources, respectively. It maintains that job demands threaten or cause the loss of valued resources, and prevent resource gain, and that this leads primarily to strain in the form of exhaustion (strongest relationship), and secondarily, to a need to respond through defensive coping (cynicism). Resources, and gains in resources, are held to minimize the need to engage in such coping and heighten one's sense of personal accomplishment. The loss fostered by work demands are said to have more bearing on well-being than lack of gain (primacy of loss principle).

The present findings provided only partial support for the COR model of burnout. The pattern of associations between demands and burnout dimensions were not consistent with COR predictions. Worker's perceptions of their work demands were associated with all three burnout dimensions, but they did not consistently relate more strongly to exhaustion than personal efficacy as expected; nor did the stronger association expected between work demands and exhaustion occur. Workers reported a stronger tendency to engage in cynicism in relation to increasing work demands than to feel exhausted. This suggests a central role for cynicism in relation to perceptions of work environment, which is supported by other findings in this study (discussed below). Elaboration on this issue takes place in the context of these additional findings.

Associations between resources and burnout dimensions corresponded with COR predictions. Resources were more strongly linked with workers' feelings of personal efficacy and their cynicism than to their experience of exhaustion. Furthermore, the minimal association between resources and exhaustion (as predicted)

suggests that the presence of resources had less bearing on feelings of exhaustion compared to the loss resulting from work demands. This might seem to support the primacy of loss argument that workers are more sensitive to demands placed on them than to resources received (or not received). However, workers' strongest response to aspects of their work environment was cynicism not exhaustion. Given that resources and work demands similarly related to cynicism, one might argue that the workers in this sample were just as sensitive to demands placed upon them as they were to resources received.

Other resources. POS and PF demonstrated their potential viability as predictors of burnout beyond dispositional influences, and POS showed potential as a mediator between work demands and burnout, over and above personality. This supports other research demonstrating the potential importance of POS to work stress (e.g., Hutchison, 1997; Jones et al., 1995), and burnout (Ashforth & Lee, 1993a; 1993b). Together, such findings strengthen the view that these variables are important resources.

POS and PF are said to form the basis for reciprocal exchange between workers and their organization (Eisenberger et al., 1997). That is, when workers feel that the organization doesn't support them or treat them fairly, they are said to withdraw their investment (e.g., effort, commitment, organizational citizenship behavior). By extension, evidence of associations between these resources and burnout implies that workers who feel their investment is outweighing their rewards (e.g., lack of support or fair treatment) may in return, also burnout. Schaufeli, Van Dierendonck, and Van Gorp (1996) recently showed support for this notion that burnout may be related to a lack of experienced reciprocity. These are preliminary findings for what is clearly an important area of inquiry for organizational research.

Personality was also conceptualized as a resource (in addition to its relevance to EI). However, it was given distinct consideration here due to accounts of the mediating role of predisposition in stress analyses (e.g., Burke et al., 1993; Hart et al., 1995; Moyle, 1995; Watson & Pennebaker, 1989). Few of the appraisal-outcome relationships were found to be attributable to personality. However, when mediating effects did occur, neuroticism and extraversion each played a role, and this coincides with existing evidence of the mediating role of these two broad traits in stress appraisal-outcome relationships (e.g., Brief et al., 1988; Burke et al., 1993; Hart et al., 1995; Watson & Pennebaker, 1989). Additionally, most of the relationships between EI and other variables were better explained by the FFM overall, which, in light of the overlap between measures of EI and personality, is not surprising. Nonetheless, in general, workers' perceptions of their work demands and experience of burnout often occurred over and above predispositions to respond and feel in a certain way. This supports the theoretical position that work demands can result in burnout when they exceed workers' resources, or ability to replenish those resources (e.g., Leiter, 1991).

Burnout. A component of burnout research has focused on the issue of relationships among the dimensions themselves, and the sequencing of those dimensions. Conceptual and empirical fronts posit a central role for exhaustion in the burnout process (Ashforth & Lee, 1996; Hobfoll & Freedy, 1993; Leiter, 1993; Maslach, 1993). Cynicism is held to be a response to exhaustion - a means (albeit ineffective) of staving off the emotional depletion caused by an excessively demanding work environment - and personal efficacy is believed to develop independently. A diminished sense of efficacy is thought to emerge as a direct function of intrapersonal and environmental attributes (i.e., resources), yet still be minimally related to both exhaustion and cynicism.

In the present study, several pieces of evidence converged to challenge the applicability of the proposed model to this sample of workers. First, workers' cynicism was linked more strongly to a diminished sense of personal efficacy than to exhaustion. The effect was robust to the extent that it occurred regardless of predisposition, and was evidenced by a relatively large correlation ($r = -.67$). Thus, personal efficacy may not have been an independent development in this sample, something supported by the finding that at least one type of work demand (i.e., role ambiguity) was associated with personal efficacy in the same way that it related to the other burnout dimensions.

Second, cynicism, rather than exhaustion, appeared to play a central role. Tests of mediated pathways suggested that in the face of increasing work demands, workers experienced exhaustion and feelings of diminished personal effectiveness indirectly through a cynical response. Furthermore, any link between exhaustion and personal efficacy acted through the cynical response. Third, cynicism outweighed the mediating effects of POS in work demand-burnout relationships, which does not negate the role of POS, but changes its potential position in the process, given that it was the most significant contributor to cynicism itself.

Based on the evidence above, the following formulation of the burnout process for this sample of workers seems plausible: In the face of an increasingly demanding work environment, workers, regardless of their predisposition, may respond with cynical detachment, which might lead to a sense of diminished personal efficacy and, with continued cynicism, emotional depletion. The emergence of the cynical response appeared to depend on, in order of importance, perceptions of low organizational support, their own personality, specifically, lower extraversion, and an increasing amount of role conflict.

This formulation coincides with one offered by Golembiewski and Munzenrider (1989), which has received little support in the burnout literature. It has been criticized on conceptual grounds for not explaining why a worker develops a detached response in the first place, and why exhaustion would develop only after a worker has already attempted to contend with excessive demands through detachment and diminished personal efficacy (Ashforth & Lee, 1997). These criticisms appear to be at least partially addressed by the present findings: Personal and environmental attributes may culminate to foster cynical detachment from one's work in the first place, which can lead to a sense of diminished efficacy. Then, perhaps only with repeated use of this maladaptive attempt to distance oneself from one's work in the face of unchanging circumstances, one ultimately experiences exhaustion. In other words, the coping technique does not work. Obviously, the cross-sectional nature of the study only allows for speculation concerning the unfolding of a process. Nonetheless, such speculation can set the stage for future comparisons of burnout models. According to Ashforth and Lee (1997), until such direct model comparisons are made, the dynamics of the burnout process will remain elusive.

As a final point on this issue, it is important to consider the conceptualization of cynicism itself. Existing conceptual and empirical efforts have relied on a different conceptualization, namely depersonalization. Cynicism is depersonalization's counterpart in the MBI-GS, the MBI's offshoot designed for use among professionals who are not human service providers (Maslach et al., 1996). Cynicism is said to serve the same function as depersonalization, inasmuch as it reflects indifference or a distant attitude. However, of the three burnout dimensions, it is said to be the most distinct from its MBI counterpart. It represents a distancing from work in response to demanding and discouraging aspects of work, whereas depersonalization reflects a

distancing from the emotional demands of human service provision (Leiter & Schaufeli, 1996). It is possible that analyses using cynicism might result in different findings compared to research using depersonalization. Clarity on this point will undoubtedly emerge as the use of the MBI-GS increases.

Limitations

One limitation of the study was that self-reports were the source of all data. This creates potential problems of confounding by response-style or common-method variance. In other words, relationships may have emerged not because two variables were associated, but because respondents answered similarly whether they were describing perceptions, emotions, or behaviors. An attempt was made to address the confounds of social desirability responding. This is a response style in which all answers may be tainted by impression management efforts, or tendencies to perceive the self in a positive way (Crowne & Marlowe, 1960; Paulhus, 1984). Although this does not remedy the problem, it provides some appreciation for the extent of the effect. Correlations between response style and other variables suggested a minimal tendency for workers to engage in desirability responding, but that personality and EI measures may be moderately susceptible to it. Similar findings were reported by Dawda and Hart (2000). This doesn't necessarily negate associations between these variables and others, because it might be the case that response style is a substantive part of either construct. Nonetheless, future studies might address this issue in more detail in order to better understand its role in personality and EI assessments.

Another limitation that is linked to the issue of self-report was the make-up of the sample itself. It is possible that a particular subset of officers and managers participated in the study, and that these subsets had an identifiable response style. The exceptionally low response rate for both types of workers underscores the

possibility that only certain types of workers participated. Close-to-normal frequency distributions suggested that a range of responses were reflected, but it is possible that a large number of workers falling into extreme ranges were missing from the sample. Thus, there is a concern that the sample may not have accurately reflected either type of worker. Furthermore, the low response rates prevented subgroup analyses and necessitated the combining of worker samples. Although this was justified on the basis of minimal differences between types of workers, combining samples necessarily results in a loss of information.

A third limitation was the study's correlational and cross-sectional nature. This prevented any determinations of causality. Although inferences regarding the directions of associations can be made from tests of mediation, alternative interpretations may exist. For example, findings pertaining to the burnout sequence were interpreted as work demands leading to cynicism, which in turn, leads to other burnout dimensions. It could be that cynicism causes both perceptions of work demands and exhaustion. In the absence of direct experimental research, longitudinal approaches would be more more helpful when making inferences about the direction of such effects.

A final limitation that is related to the one above was that despite the inclusion of a relatively large number of variables, model-testing procedures (e.g., LISREL; Jöreskog & Sörbom, 1984) were not used. These procedures calculate a series of regression equations that permit tests of distinct contributions of various measures. This is important to this area of research, given that these measures often correlate with one another and may be related reflections of the same latent variable (Leiter, 1991). Unfortunately, such procedures are influenced by variable-to-sample size ratios. Tabachnick and Fidell (2001) recommended using 15 subjects for every

variable. The relatively small sample of workers compared to the number of variables precluded the use of such procedures in this study. Hence, determinations of unique contributions could not be determined. So as to not gloss over this issue entirely, multiple regression analyses were used to test moderated and mediated effects rather than relying solely on the results of simple bivariate associations.

Implications

Theoretical Implications

The overall purpose of the study was to investigate the validity of EI as a construct of intelligence. This is an issue of ongoing consideration in the EI literature (e.g., Bar-On, 1997a; Davies et al., 1998; Mayer et al., 2001; Petrides & Furnham, 2001; Roberts et al., 2001; Schutte et al., 1998). In order for EI to demonstrate validity in this regard, it has to distinguish itself from personality, and be related to, or predictive of, adaptability (Chiu et al., 1994). The present study offers theoretically relevant data that bears on both validity issues and these are presented below.

EI and personality. The considerable overlap between EI and personality measures supports conclusions regarding the suspect discriminant validity of self-report EI measures (Davies et al., 1998; Roberts et al., 2001). The fact that the findings were similar to others, despite the use of different measures, makes statements regarding the lack of distinction between EI and personality all the more plausible.

However, a basis for further inquiry on this issue was established by the demonstrated potential of the EIS (Schutte et al., 1998) to assess the construct independent of personality. Items of the EIS clustered separately to comprise two factors that corresponded with two of the abilities proposed by Mayer & Salovey (1997) to be the basis of EI: emotional awareness and emotional utilization. The

replication of such findings would establish a foundation for the existence of a unique construct of emotional processing, help to validate the proposals of EI theorists (e.g., Ciarrochi et al., 2001; Mayer & Salovey, 1997) and those of others who have called for further investigation (e.g., Ciarrochi et al., 2001; Pfeiffer, 2001), and demonstrate that the construct can be assessed through self-report.

The findings also underscore the need to use more rigorous statistical procedures when examining discriminant validity. Moderate correlations between EI and personality measures have been the basis for favourable conclusions regarding the discriminant validity of EI measures (e.g., Bar-On, 1997a; Schutte et al., 1998). Similar correlations were found here, but the use of factor analyses provided a different and more complex picture, which fostered a better understanding of the relationship.

Finally, the study contributes information to the psychometric properties of both EI measures, which adds to determinations of construct validity. The EIS, although not shown to be unidimensional, demonstrated adequate reliability and a factor structure in keeping with the theoretical composition of the items. The EQi also demonstrated satisfactory reliability, as shown by others (e.g., Bar-On, 1997a; Dwada & Hart, 2000), but some question was brought to bear on its 5 component-15 subscale conceptualization, and its scale composition. Additionally, the EQi was consistent in its ability to identify sex and age differences that are theoretically meaningful. Some question exists regarding the EIS in this regard, given that it differentiated on the basis of age, but not on the basis of sex as it did in test construction analyses (Schutte et al. 1998).

EI and adaptability. The study provided some evidence in support of EI as a viable workplace resource, thereby adding to existing evidence of its concurrent

validity (e.g., Bar-On, 1997a; Martinez-Pons, 1997; Schutte et al., 1998; 2000), and supporting the merit of further inquiry. Its potential as a personal resource was demonstrated in a number of findings.

First, EQi levels differentiated workers' reports of work demands and burnout, such that workers with high EI reported fewer work demands and less burnout. Given that EI did not mediate such relationships, it can be taken that EI was not simply acting as variable denoting a tendency to perceive and experience things in a certain way, as is the case with personality (e.g., Watson & Pennebaker, 1989).

Second, the nature of moderating effects were somewhat consistent with theoretical positions. Workers with higher EI were the only group for whom work demands were associated with exhaustion. Greater emotional processing skills would be expected to enhance one's ability to understand the link between environmental experiences and emotional states (e.g., Payne, 1991). However, the fact that EI moderated work demand-burnout relationships but did not serve as a buffer against burnout in the presence of excessive stressors, suggests a more complex mechanism of action than expected. This issue requires further exploration using analytical procedures beyond simple bivariate analyses.

Third, EI's potential as a resource is not negated by the mediating effects of personality. Not all EI associations were better explained by personality, and EI's moderating effects were not mediated by personality. To some extent, concurrent and predictive validity studies depend on the establishment of EI's discriminant validity with respect to personality. Until then, it seems prudent to include personality measures in validity studies. On a related point, it also seems wise to include more than one measure of EI until the measures themselves are better delineated. The

evidence here suggested that the two EI measures were differentially assessing aspects of EI.

Other issues. Three additional aspects of the study have theoretical relevance outside of the construct validity of EI. (1) The study provided a test of the COR framework of burnout using a set of minimally examined correlates. The data did not provide particularly strong support for the COR model, but as an individual endeavour, the study does not necessarily provide enough of a basis to be sceptical about the model's applicability. The findings may have been a function of the particular work correlates and type of workers examined, as has been suggested by Janssen et al. (1999). Determinations of a model's applicability seem better left to model testing and meta-analyses.

(2) The study attempted to examine burnout according to the recommendations made in previous burnout studies. In so doing, the study contributes to knowledge about the specific effects of theoretically relevant variables and the generalizability of the burnout phenomenon. Such recommendations include the use of samples outside the helping professions, but for which burnout might be particularly relevant because of their social nature (e.g., Ashforth & Lee, 1997; Lee & Ashforth, 1996; Leiter & Schaufeli, 1996), the use of the MBI-GS (Maslach et al., 1996) since it was specifically designed for use among non-helping professionals (e.g., Leiter & Schaufeli, 1996), the incorporation of a number of relevant work correlates (Leiter, 1991), particularly those that fall within the nominological net of stress in general (Kasl & Rapp, 1991) and burnout in particular (Ashforth & Lee, 1997), and the assessment of interaction effects (Lee & Ashforth, 1996).

(3) The study provided a comparison for competing models of the burnout process, and offered some support for the Golembiewski and Munzenrider (1989)

explanation of burnout. However, as mentioned earlier, these findings may have been a function of sample type and burnout assessment tool. Any definitive comment on the sequencing of the burnout process must await further analyses using both helping and non-helping professionals.

Practical Implications.

In addition to informing theoretical issues, the study has implications for practical organizational issues. The implications stem from three main findings: (1) the minimal role of personality on work demand-burnout associations (2) the mediating effects of cynicism, and (3) the effects of POS.

The main effects of work demands on burnout suggest that regardless of a workers' predisposition for perceiving and responding in a certain way, excessive demands can be overwhelming. Other research has reached similar conclusions (e.g., Kohan, 1997; Maslach & Leiter, 1996; Stearns & Moore, 1993), and the present findings suggested that even workers with high EI, who might generally report less burnout, were still susceptible to burnout in the presence of an increasingly demanding work environment. Collectively, such findings imply that organizations concerned about minimizing burnout in their workforce might direct their attention to the nature of the work environment as a first line of defence against burnout, rather than to the shortcomings of the individual worker.

Others have also espoused this sentiment. For example, Hobfoll and Freedy (1993) were clear in their advice to organizations: Perceptions are important, but don't focus solely on the individual worker when there is evidence to suggest that professions and occupations share common concerns. These researchers maintain that focusing solely on the worker is a short-term, albeit easier, strategy. It ignores the continuous and cyclical nature of occupational stressors that can wear away at any

superficial remediation, and dissolve the sense of mastery in anyone. They direct organizations to focus their attention on cycles of loss and the maximization of opportunities for resources.

Their statements are epitomized in the cynical response identified here as a potential mediator in the burnout process. Cynicism appeared to be the perpetrator of burnout, but the tendency to engage in such a response was only minimally predicted by personality. It was more a function of a lack of work resources (organizational support) and to a lesser extent, the presence of work demands (role conflict). Thus, an organization concerned about workers developing a cynical response to their work would be wiser to find methods of bolstering support for workers and minimizing role conflict than to focus all of their attention on hiring workers with appropriate personality traits. These recommendations might be particularly important for police organizations, given the higher levels of cynicism found here, and in other studies police (e.g., Chandler & Jones, 1979).

It remains to be stated why organizations should be concerned about workers developing a cynical response. According to Leiter and Schaufeli (1996) cynicism is more than just an active disengagement from work, inasmuch as it “encompasses a quality of cynical rejection” (p. 231). It is an indifference and cynical attitude about work used to gain distance from excessive demands, and as such, it also represents a dysfunctional coping technique. It is said to be dysfunctional because it depletes energy that would otherwise be used to effectively perform duties and solve problems, and diminishes the job’s potential to cultivate a sense of professional efficacy. If cynicism is the dimension that initiates and perpetuates the burnout process, at least for a subset of workers, efforts to interrupt its development would minimize the likelihood that a worker would progress through the entire burnout process. It might

be argued that once workers reach a state of exhaustion, they have really entered a state of diminished capacity, for which there are only deleterious correlates (e.g., Lee & Ashforth, 1996).

With all of this being said, it is still important to devote some attention to personality and individual-difference variables in stress analyses. As outlined in the introduction, there is a solid foundation for examining the role of individual differences (e.g., Bar-On, 1997a; Brief et al., 1988; Burke et al, 1993; Hart et al., 1995; Hobfall & Freedy, 1993; Kasl, 1998; Payne, 1991; Watson & Pennebaker, 1989), and this provided the basis for the concurrent validity portion of the present study. Furthermore, the conclusions reached here suggest the merit of further inquiry in this regard. Overall, the findings provide evidence that work environments and individual attributes are both important considerations for understanding burnout. This simply bolsters the commonly held position (e.g., Ashforth & Lee, 1997; Lee & Ashforth, 1996; Leiter, 1991; Maslach, 1993) that the study of burnout warrants the inclusion of a comprehensive set of variables in order to facilitate the testing of interactions within and between levels of analysis.

References

- Anastasi, A. (1988). Psychological Testing (6th ed.). New York: Macmillan.
- Arbuckle, J. L. (1994). AMOS. Chicago: Smallwaters.
- Ashforth, B. E., & Lee, R. T. (1997). Burnout as a process: Commentary on Cordes, Dougherty and Blum. Journal of Organizational Behavior, 18, 703-708.
- Aspinwall, L. G., & Taylor, S. E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. Journal of Personality and Social Psychology, 63, 989-1003.
- Baba, V. V., Jamal, M., & Tourigny, L. (1999). Work and mental health: A decade of Canadian Research. Canadian Psychology, 39, 94-107.
- Bandura, A. (1986). The social learning perspective: Mechanisms of aggression. In H. Toch (Ed.) Psychology of crime and criminal justice (pp. 198-236). Prospect Heights, IL: Waveland Press.
- Bar-On, R. (1997a). EQi: Bar-On Emotional Quotient Inventory: A measure of emotional intelligence: Technical manual. Toronto, ON: Multi-Health Systems.
- Bar-On, R. (1997b, August). Development of the Bar-On EQ-i: A measure of emotional intelligence. Paper presented at the annual convention of the American Psychological Association, Chicago, IL.
- Bar-On, R., Brown, J. M., Kirkcaldy, B. D., & Thome, F. P. (2000). Emotional expression and implications for occupational stress: An application of the Emotional Quotient Inventory (EQi). Personality and Individual Differences, 28, 1107-1118.

- Baron, R. A., & Greenberg, J. (1990). Behavior in organizations: Understanding and managing the human side of work (3rd ed.). Needham Heights, MA: Allyn & Bacon.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, *51*, 1173-1182.
- Berry, D. S., & Pennebaker, J. W. (1993). Nonverbal and verbal emotional expression and health. Psychotherapy & Psychosomatics, *59*, 11-19.
- Billings, A. G., & Moos, R. H. (1984). Coping, stress, and social resources among adults with unipolar depression. Journal of Personality and Social Psychology, *46*, 877-891.
- Blau, P. (1964). Exchange and power in human life. New York: Wiley.
- Brown, L. T., & Anthony, R. G. (1990). Continuing the search for social intelligence. Personality and Individual Differences, *11*, 463-470.
- Brief, A. P., Burke, M. J., George, J. M., Robinson, B. S., & Webster, J. (1988). Should negative affectivity remain an unmeasured variable in the study of job stress? Journal of Applied Psychology, *73*, 193-198.
- Brockner, J., Tyler, T. R., & Cooper-Schneider, R. (1992). The influence of prior commitment to an institution on reactions to perceived unfairness: The higher they are, the harder they fall. Administrative Science Quarterly. Special Issue: Process and Outcome: Perspectives on the Distribution of Rewards in Organizations, *37*, 241-261.
- Burke, R. J. (1993a). Toward an understanding of psychological burnout among police officers. Journal of Social Behavior and Personality, *8*, 425-438.

- Burke, R. J. (1993b). Work-family stress, conflict, coping, and burnout in police officers. *Stress Medicine*, *9*, 171-180.
- Burke, R. J. (1994). Stressful events, work-family conflict, coping, psychological burnout, and well-being among police officers. *Psychological Reports*, *75*, 787-800.
- Burke, M. J., Brief, A. P., & George, J. M. (1993). The role of negative affectivity in understanding relations between self-reports of stressors and strains: A comment on the applied psychology literature.
- Burke, R. J., & Deszca, G. (1986). Correlates of psychological burnout phases among police officers. *Human Relations*, *3*, 261-273.
- Burke, R. J., Shearer, J., & Deszca, G. (1984a). Burnout among men and women in police work: An examination of the Cherniss model. *Journal of Health and Human Resources Administration*, *7*, 162-188.
- Burke, R. J., Shearer, J., & Deszca, G. (1984b). Correlates of burnout phases among police officers. *Group and Organization Studies*, *9*, 451-466.
- Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A., & Kaemmer, B. (1989). *Minnesota Multiphasic Personality Inventory – 2 (MMPI-2) manual for the administration and scoring*. Minneapolis, MN: University of Minnesota Press.
- Cahoon, A. R., & Rowney, J. I. (1985). O.D. for managers: Some fall-out from empirical results. *Organization Development Journal*, *3*, 53-56.
- Cattell, R. B. (1987). *Intelligence: Its structure, growth and action*. Amsterdam: North Holland.

- Cattell, R. B., Eber, H. W., & Tatsuoka, M. (1970). Handbook for the Sixteen Personality Factor Questionnaire (16PF). Champaign, IL: Institute for Personality and Ability Testing.
- Chandler, E. V., & Jones, C. S. (1979). Cynicism--An inevitability of police work? Journal of Police Science and Administration, 7, 65-68.
- Cherniss, C. (2000). Social and emotional competence in the workplace. In R. Bar-On & J. D. A. Parker (Eds.). The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace (pp. 136-167). San Francisco, CA: Jossey-Bass.
- Chiu, D., Hong, Y., & Dweck, C. S. (1994). Toward an integrative model of personality and intelligence: A general framework and some preliminary steps. In R. J. Sternberg & P. Ruzgis (Eds.), Personality and Intelligence (pp. 104-134). New York: Cambridge University Press.
- Christal, R. E. (1994). Non-cognitive research involving systems of testing and learning (final research and development report). Brooks Air Force Base, TX: Armstrong Laboratory.
- Ciarrochi, J., Chan, A., Caputi, P., & Roberts, R. (2001). Measuring emotional intelligence. In J. Ciarrochi & J. P. Forgas (Eds.). Emotional intelligence in everyday life: A scientific inquiry (pp. 25-45). Philadelphia, PA: Psychology Press/Taylor & Francis.
- Ciarrochi, J., Dean, F. P., & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. Personality and Individual Differences, 32, 197-209.
- Cohen, J., & Cohen, P. (1983). Applied multiple regression/correlation analysis for the Behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

- Cooper, C. L. & Payne, R. (1994). Causes, coping and consequences of stress at work. New York: John Wiley & Sons.
- Cooper, R. K., & Sawaf, A. (1997). Executive EQ: Emotional intelligence in leadership and organizations. New York: Grosset/Putnam.
- Cordes, C. L., & Dougherty, T. W. (1993). A review and an integration of research on job burnout. Academy of Management Review, 18, 621-656.
- Costa, P. T. Jr., & McCrae, R. R. (1990). Personality: Another 'hidden factor' in stress research. Psychological Inquiry, An International Journal of Peer Commentary and Review, 1, 22-24.
- Costa, P. T., Jr., & McCrae, R. R. (1992a). Four ways five factors are basic. Personality and Individual Differences, 13, 653-665.
- Costa, P. T. Jr., & McCrae, R. R. (1992b). Revised Neo Personality Inventory (NEO-PI-R) and Neo Five-Factor Inventory (NEO-FFI): Professional manual. Odessa, FL: Psychological Assessment Resources.
- Cota, A. A., Longman, R. S., Holden, R. R., Fekken, G. C., & Xinaris, S. (1993). Interpolating 95th percentile eigenvalues from random data: An empirical example. Educational and Psychological Measurement, 53, 585-596.
- Cox, T., & Ferguson, E. (1991). Individual differences, stress, and coping. In C. L. Cooper & R. Payne (Eds.), Personality and stress (pp. 7-30). Chichester: John Wiley and Sons.
- Crowne, D. P. & Marlowe, D. (1960). A scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 24, 349-354.
- Dailey, R. C., & Kirk, D. J. (1992). Distributive and procedural justice as antecedents of job dissatisfaction and intent to turnover. Human Relations, 45, 305-317.

- Davies, M., Stankov, L., & Roberts, R. D. (1998). Emotional intelligence: In search of an elusive construct. Journal of Personality and Social Psychology, *75*, 989-1015.
- Dawda, D., & Hart, S. D. (2000). Assessing emotional intelligence: Reliability and validity of the Bar-On Emotional Quotient Inventory (EQi) in university students. Personality and Individual Differences, *28*, 797-812.
- Derksen, J., Kramer, I, & Katzko, M. (2002). Does a self-report measure for emotional intelligence assess something different than general intelligence? Personality and Individual Differences, *32*, 37-48.
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. Annual Review of Psychology, *41*, 417-440.
- Dietrich, J., & Smith, J. (1986). The nonmedical use of drugs including alcohol among police personnel: A critical literature review. Journal of Police Science and Administration, *14*, 300-306.
- Dohrenwend, B. S., Krasnoff, L., Askenasy, A. R., & Dohrenwend, B. P. (1978). Exemplification of a method for scaling life events: The PERI life events scale. Journal of Health and Social Behavior, *19*, 205-229.
- Dolan, S. L., & Renaud, S. (1992). Individual, organizational and social determinants of managerial burnout: A multivariate approach. Journal of Social Behavior and Personality, *7*, 95-110.
- Edwards, J. R. (1992). A cybernetic theory of stress, coping, and well-being in organizations. Academy of Management Review, *17*, 238-274.
- Eisenberger, R., Cummings, J., Armeli, S., & Lynch, P. (1997). Perceived organizational support, discretionary treatment, and job satisfaction. Journal of Applied Psychology, *82*, 812-820.

- Eisenberger, R., Rasolo, P., Davis-LaMastro, V. (1990). Perceived organizational support and employee diligence, commitment, and innovation. Journal of Applied Psychology, 75, 51-59.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. Journal of Applied Psychology, 71, 500-507.
- Eysenck, H. J. (1994). Personality and intelligence: Psychometric and experimental approaches. In R. J. Sternberg (Ed.), Personality and intelligence (pp. 3-31). New York: Cambridge University Press.
- Eysenck, H. J., & Eysenck, S. B. G. (1975). Manual for the Eysenck Personality Questionnaire. Sand Diego, CA: EdITS/Educational and Industrial Testing Service.
- Farber, B. A. (1983). Introduction: A critical perspective on burnout. In B. A. Farber (Ed.), Stress and burnout in the human services professions (pp.1-20). New York: Pergamon Press.
- Fasolo, P. (1995). Procedural justice and perceived organizational support: Hypothesized effects on job performance. In R. Cropanzano & K. M. Kacmar (Eds.), Organizational politics, justice, and support: Managing social climate and work (pp. 185-195). Westport, CT: Quorum Press.
- Folger, R., & Konovsky, M. A. (1989). Effects of procedural and distributive justice on reactions to pay raise decisions. Academy of Management Journal, 32, 115-130.
- Ford, M., & Tisak, M. (1983). A further search for social intelligence. Journal of Educational Psychology, 75, 196-206.
- Freedy, J. R., & Hobfoll, S. E. (1994). Stress inoculation for reduction of burnout: A conservations of resources approach. Anxiety, Stress, and Coping, 6, 311-325.

- French, J. R. P., Caplan, R. D., & Harrison, R. V. (1982). The mechanisms of job stress and strain. London: Wiley.
- Freudenberger, H. J., & Richelson, G. (1980). Burnout: The high cost of high achievement. Garden City, NY: Anchor Press.
- Frith, H., & Britton, P. (1989). Burnout, absence and turnover amongst British nursing staff. Journal of Occupational Psychology, 62, 55-59.
- Ganster, D. C., & Schaubroeck, J. (1991). Work stress and employee health. Journal of Management, 17, 235-271.
- Gardner, H. (1983). Frames of mind. New York: Basic Books.
- Glorfeld, L. W. (1995). An improvement on Horn's parallel analysis methodology for selection the correct number of factors to retain. Educational & Psychological Measurement, 55, 377-393.
- Goleman, D. (1995). Emotional Intelligence. New York: Bantam Books.
- Golembiewski, R. T., & Munzenrider, R. F. (1989). Burnout as an indicator of gamma change II: State-like differences between phases. Journal of Health and Human Resource Administration, 12, 245-260.
- Gonzalez-Roma, V., & Lloret, S. (1998). Construct validity of Rizzo et al.'s (1970) Role Conflict and Ambiguity Scales: A multisample study. Applied Psychology: An International Review, 47, 535-545.
- Greenberg, J. (1986). Determinants of perceived fairness of performance evaluations. Journal of Applied Psychology, 71, 340-342.
- Guzzo, R. A., Noonan, K. A., & Elron, E. (1994). Expatriate managers and the psychological contract. Journal of Applied Psychology, 79, 617-626.

- Hargrave G. E., & Hiatt, D. (1989). Use of the California Psychological Inventory in law enforcement officer selection. Journal of Personality Assessment, *53*, 267-277.
- Harris, M. M. (1991). Role conflict and role ambiguity as substance versus artifact: A confirmatory factor analysis of House, Schuler, and Levanoni's (1983) Scales. Journal of Applied Psychology, *76*, 122-126.
- Hart, P. M., Wearing, A. J., & Headey, B. (1993). Assessing police work experiences: Development of the police daily hassles and uplifts scales. Journal of Criminal Justice, *21*, 553-572.
- Hart, P. M., Wearing, A. J., & Headey, B. (1995). Police stress and well-being: Integrating personality, coping and daily work experiences. Journal of Occupational and Organizational Policy, *68*, 133-156.
- Headey, B., Wearing, A. (1989). Personality, life events, and subjective well-being: Toward a dynamic equilibrium model. Journal of Personality and Social Psychology, *57*, 731-739.
- Hedlund, J., & Sternberg, R. J. (2000). Too many intelligences? Integrating social, emotional, and practical intelligence. In R. Bar-On & J. D. A. Parker (Eds.). The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace (pp. 136-167). San Francisco, CA: Jossey-Bass.
- Hobfoll, S. E. (1989). Conservation of Resources: A new attempt at conceptualizing stress. American Psychologist, *44*, 513-524.
- Hobfoll, S. E., & Freedy, J. (1993). Conservation of resources: A general stress theory applied to burnout. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.),

- Professional burnout: Recent development in theory and research (pp. 115-129). Washington, DC: Taylor & Francis.
- Horn, J. L. (1988). Thinking about human abilities. In J. R. Nesselroade & R. B. Cattell (Eds.), Handbook of multivariate experimental psychology (2nd ed., pp. 645-685). New York: Plenum.
- Hutchison, S. (1997). A path model of perceived organizational support. Journal of Social Behavior and Personality, *12*, 159-174.
- Hutchison, S., & Garstka, M. (1996). Sources of perceived organizational support: Goal setting and feedback. Journal of Applied Social Psychology, *26*, 1351-1366.
- Jackson, S. E., Schwab, R. L., & Schuler, R. S. (1986). Toward an understanding of the burnout phenomenon. Journal of Applied Psychology, *71*, 630-640.
- Jackson, S. E., Turner, J. A., & Brief, A. P. (1987). Correlates of burnout among public service lawyers. Journal of Occupational Behavior, *8*, 339-349.
- Janssen, P. P. M., Schaufel, W. B., & Houkes, I. (1999). Work-related and individual determinants of three burnout dimensions. Work and Stress, *13*, 74-86.
- Jones, B., Flynn, D. M., & Kelloway, E. K. (1995). Perception of support from the organization in relation to work stress satisfaction, and commitment. In S. L. Sauter & L. R. Murphy (Eds.), Organizational risk factors for job stress (pp. 61-80). Washington, DC: American Psychological Association.
- Jöreskog, K. G., & Sörbom, D. (1984). LISREL VI: Analysis of linear structural relationships by the method of maximum likelihood and least squares method (3rd ed.). Chicago: National Education Resources.
- Kahill, S. (1988). Symptoms of professional burnout: A review of the empirical evidence. Canadian Psychology, *29*, 284-297.

- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). Organizational stress: Studies in role conflict and ambiguity. New York: Wiley.
- Kanner, A. D., Coyne, J. C., Schaefer, C., & Lazarus, R. S. (1981). Comparisons of two modes of stress measurement: Daily hassles and uplifts versus major life events. Journal of Behavioral Medicine, 4, 1-39.
- Kaplan, H., & Sadock, B. J. (1991). Comprehensive glossary of psychiatry. Baltimore, MD: Williams & Wilkins.
- Karasak, R. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. Administrative Science Quarterly, 24, 285-306.
- Kasl, S. V. (1978). Epidemiological contributions to the study of work stress. In C. L. Cooper & R. Payne (Eds.), Stress at work (pp. 3-48). New York: Wiley.
- Kasl, S. V. (1998). Measuring job stressors and studying the health impact of the work environment: An epidemiologic commentary. Journal of Occupational Health Psychology, 34, 390-401.
- Kasl, S. V., & Rapp, S. R. (1991). Stress, health, and well-being: The role of individual differences. In C. L. Cooper & R. Payne (Eds.). Personality and stress: Individual differences in the stress process: Wiley series on studies in occupational stress (pp. 269-284). New York: John Wiley & Sons.
- Kaufman, A. S., & Kaufman, J. C. (2001). Emotional intelligence as an aspect of general intelligence: What would David Wechsler say? Emotion, 1, 258-264.
- Kelloway, E. K., & Barling, J. (1990). Item content versus item wording: Disentangling role conflict and role ambiguity. Journal of Applied Psychology, 75, 738-742.

- Kohan, A. (1997). Police work experiences and their relationship to burnout and organizational citizenship behavior. Unpublished master's thesis, Lakehead University, Thunder Bay, Ontario, Canada.
- Kohan, A. & O'Connor, B. (in press). Police officer job satisfaction in relation to mood, well-being, and alcohol consumption. Journal of Psychology.
- Konovsky, M. A., & Cropanzano, R. (1991). Perceived fairness of employee drug testing as a predictor of employee attitudes and job performance. Journal of Applied Psychology, 76, 698-707.
- Landy, F., Quick, J. C., & Kasl, S. (1994). Work, stress, and well-being. International Journal of Stress Management, 1, 33-73.
- Lazarus, R. S. (1990). Theory-based stress measurement. Psychological Inquiry, An International Journal of Peer Commentary and Review, 1, 3-13.
- Lazarus, R. S., & Folkman, S. (1984). Stress, Appraisal, and Coping. New York: Springer.
- Lee, R. T., & Ashforth, B. E. (1993a). A longitudinal study of burnout among supervisors and managers: Comparisons between Leiter and Maslach (1988) and Golembiewski et al. (1986) models. Organizational Behavior and Human Decision Processes, 54, 369-398.
- Lee, R. T., & Ashforth, B. E. (1993b). A further examination of managerial burnout: Toward an integrated model. Journal of Organizational Behavior, 14, 3-20.
- Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of burnout. Journal of Applied Psychology, 81, 123-133.

- Leiter, M. P., & Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. Journal of Organizational Behavior, 9, 297-308.
- Leiter, M. P. (1991). The dream denied: Professional burnout and the constraints of human service organizations. Canadian Psychology, 32, 547-555.
- Leiter, M. P. (1993). Burnout as a developmental process: Consideration of models. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), Professional burnout: Recent development in theory and research (pp. 115-129). Washington, DC: Taylor & Francis.
- Leiter, M. P., & Schaufeli, W. B. (1996). Consistency of the burnout construct across occupations. Anxiety, Stress, and Coping, 9, 229-243.
- Marlowe, H., & Bedell, J. (1982). Social intelligence: Evidence for the independence of the construct. Psychological Reports, 51, 461-462.
- Martinez-Pons, M. (1997). The relation of emotional intelligence with selected areas of personal functioning. Imagination, Cognition, and Personality, 17, 3-13.
- Maslach, C. (1982). The cost of caring. Englewood Cliffs, NJ: Prentice-Hall.
- Maslach, C. (1993). Burnout: A multidimensional perspective. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), Professional burnout: Recent development in theory and research (pp. 115-129). Washington, DC: Taylor & Francis.
- Maslach, C., & Jackson, S. E. (1982). Burnout in the health professions: A social psychological analysis. In G. Sanders & J. Suls (Eds.), Social psychology of health and illness. Hillsdale, NJ: Erlbaum.
- Maslach, C., & Jackson, S. E. (1984). Burnout in organizational settings. In S. Oskamp (Ed.), Applied social psychology annual: Applications in organizational settings, vol. 5 (pp.133-153). Beverly Hills, CA: Sage.

- Maslach, C., & Jackson, S. E. (1985). The role of sex and family variables in burnout. Sex Roles, 12, 837-851.
- Maslach, C., & Jackson, S. E. (1986). The Maslach Burnout Inventory. Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). The Maslach Burnout Inventory Manual (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., & Schaufeli, W. B. (1993). Historical and conceptual development of burnout. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), Professional burnout: Recent development in theory and research (pp. 115-129). Washington, DC: Taylor & Francis.
- Matthews, G., & Zeidner, M. (2000). Emotional intelligence, adaptation to stressful encounters, and health outcomes. In R. Bar-On & J. D. A. Parker (Eds.), The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace (pp. 136-167). San Francisco, CA: Jossey-Bass.
- Mayer, J. D., Caruso, D. R., & Salovey, P. (1997). Emotional intelligence meets traditional standards for an intelligence. Unpublished manuscript, University of New Hampshire, Department of Psychology, Durham, NH.
- Mayer, J. D., & Geher, G. (1996). Emotional intelligence and the identification of emotion. Intelligence, 22, 89-113.
- Mayer, J. D., & Salovey, P. (1993). The intelligence of emotional intelligence. Intelligence, 17, 433-442.
- Mayer, J. D., & Salovey, P. (1995). Emotional intelligence and the construction and regulation of feelings. Applied and Preventive Psychology, 4, 197-208.

- Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), Emotional development and emotional intelligence: Educational implications. New York: Basic Books.
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2000). Models of emotional intelligence. In R. J. Sternberg (Ed.), Handbook of intelligence (pp. 396-420). New York: Cambridge University Press.
- Mayer, J. D., Salovey, P., Caruso, D. R., & Sitarenious, G. (2001). Emotional intelligence as a standard intelligence. Emotion, 1, 232-242.
- McCrae, R. R. (2000). Emotional intelligence from the perspective of the five-factor model of personality. In R. Bar-On & J. D. A. Parker (Eds.), The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace (pp. 136-167). San Francisco, CA: Jossey-Bass.
- McCrae, R. R., & Costa, P. T. Jr. (1986). Personality, coping, and coping effectiveness in an adult sample. Journal of Personality, 54, 385-405.
- McFarlin, D. B., & Sweeney, P. D. (1992). Distributive and procedural justice as predictors of satisfaction with personal and organizational outcomes. Academy of Management Journal, 35, 626-637.
- McGee, G. W., Ferguson, C. E., & Seers, A. (1989). Role conflict and role ambiguity: Do the scales measure these two constructs? Journal of Applied Psychology, 74, 815-818.
- Michela, J. L., Lukaszewski, M. P., & Allegrante, J. P. (1995). Organizational climate and work stress: A general framework applied to inner-city schoolteachers. In S. L. Sauter & L. R. Murphy (Eds.), Organizational risk

- factors for job stress (pp. 61-80). Washington, DC: American Psychological Association.
- Moorman, R. H. (1991). Relationship between organizational justice and organizational citizenship Behaviors: Do fairness perceptions influence employee citizenship? Journal of Applied Psychology, 76, 845-855.
- More, H. W., & Unsinger, P. C. (1987). The police assessment center. Springfield, US: Charles C. Thomas.
- Morey, L. C. (1991). The Personality Assessment Inventory professional manual. Odessa, FL: Psychological Assessment Resources.
- Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. Journal of Vocational Behavior, 14, 224-247.
- Moyle, P. (1995). The role of negative affectivity in the stress process: Tests of alternative models. Journal of Organizational Behavior, 16, 647-668.
- Munton, A. G, & Forster, N. (1990). Job relocation: Stress and the role of family. Work and Stress, 4, 75-81.
- Newsome, S., Day, A. L., Catano, V. M. (2000). Assessing the predictive validity of emotional intelligence. Personality and Individual Differences, 29, 1005-1016.
- O'Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. Behavior Research Methods, Instruments, & Computers, 32, 396-402.
- O'Sullivan, M., & Guilford, J. (1975). Six factors of Behavioral cognition: Understanding other people. Journal of Educational Measurement, 12, 255-271.

- Paton, D. & Violanti, J. M. (1996). Traumatic stress in critical occupations: Recognition, consequences, and treatment. Springfield, US: Charles C Thomas.
- Paulus, D. L. (1984). Two-component models of social desirability responding. Journal of Personality and Social Psychology, 46, 598-609.
- Paulus, D. L. (1988). Assessing self-deception and impression management in self reports: the Balanced Inventory of Desirability Responding. Department of Psychology, University of British Columbia.
- Payne, R. (1991). Individual differences in cognition and the stress process. In C. L. Cooper & R. Payne (Eds.). Personality and stress: Individual differences in the stress process. Wiley series on studies in occupational stress (pp. 181-210). New York: John Wiley & Sons.
- Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. European Journal of Personality, 15, 425-448.
- Pfeiffer, S. I. (2001). Emotional intelligence: Popular but elusive construct. Reoper Review. Special Issue: Intelligence Theories on Gifted Education, 23, 138-142.
- Pines, A. M., & Aronson, E. (1981). Burnout: From tedium to personal growth. New York: Macmillan.
- Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. Administrative Science Quarterly, 15, 150-163.
- Roberts, R. D., Zeidner, M., & Matthews, G. (2001). Does emotional intelligence meet traditional standards for an intelligence? Some new data and conclusions. Emotion, 1, 196-231.

- Salovey, P., & Mayer, J. D. (1990). Emotional Intelligence. Imagination, Cognition, and Personality, 9, 185-211.
- Salovey, P., & Mayer, J. D. (1994). Some final thoughts about personality and intelligence. In R. J. Sternberg (Ed.), Personality and intelligence (pp. 303-318). New York: Cambridge University Press.
- Salovey, P., Mayer, J. D., Goldman, S., Turvey, C., & Palfai, T. (1995). Emotional attention, clarity, and repair: Exploring emotional intelligence using the Trait Meta-Mood Scale. In J. W. Pennebaker (Ed.), Emotion, disclosure, and health (pp. 125-154). Washington, DC: American Psychological Association.
- Sanchez, V., & Lewinsohn, P. M. (1980). Assertive behavior and depression. Journal of Consulting and Clinical Psychology, 48, 119-120.
- Schappe, S. P. (1998). The influence of job satisfaction, organizational commitment, and fairness perceptions on organization citizenship behavior. Journal of Psychology, 132, 277-290.
- Schaufeli, W. B., Maslach, C., & Marek T. (1993). Professional burnout: Recent development in theory and research. Washington, DC: Taylor & Francis.
- Schaufeli, W. B., Van Dierenconck, D., & Van Gorp, K. (1996). Burnout and reciprocity: Towards a dual level social exchange model. Work and Stress.
- Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. Cognitive Therapy and Research. Special Issue: Cognitive Perspectives in Health Psychology, 16, 201-228.
- Schutte, N. S., Malouff, J. M., Bobik, C., Coston, T. D., Greeson, C., Jedlicka, C., Rhodes, E., & Wendorf, G. (2001). Emotional intelligence and interpersonal relations. Journal of Social Psychology, 141, 523-536.

- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggarty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. Personality and Individual Differences, 25, 167-177.
- Schutte, N., Toppinen, S., Kalimo, R., & Schaufeli, W. (2000). The factorial validity of the Maslach Burnout Inventory-General Survey (MBI-GS) across occupational groups and nations. Journal of Occupational and Organizational Psychology, 73, 53-66.
- Seligman, M. E., Abramson, L. Y., Semmel, A., & von Baeyer, C. (1984). Depressive attributional style. Southern Psychologist, 2, 18-22.
- Settoon, R. P., Bennett, N., & Liden, R. C. (1996). Social exchange in organizations: Perceived organizational support, leader-member exchange, and employee reciprocity. Journal of Applied Psychology, 81, 219-227.
- Shore, L. M., & Tetrick, L. (1991). A construct validity study of the Survey of Perceived Organizational Support. Journal of Applied Psychology, 76, 637-643.
- Shostrom, E. L. (1974). Personal Orientation Inventory: An inventory for the measurement of self-actualization. San Diego, CA: Educational Industrial Testing Service.
- Simmons, S., & Simmons, J. C. (1997). Measuring emotional intelligence. Arlington, TX: Summit Publishing Group.
- Sternberg, R. J. (1988). Advances in the psychology of human intelligence (Vol.4). Hillsdale: Lawrence Erlbaum Associates.
- Sternberg, R. J., & Ruzgis, P. (1994). Personality and Intelligence. New York: Cambridge University Press.

- Stearns, G. M., & Moore, R. J. (1993). The physical and psychological correlates of job burnout in the Royal Canadian Mounted Police. Canadian Journal of Criminology, *35*, 127-147.
- Tabachnick, B. G., & Fidell, L. S. (2001). Using multivariate statistics (4th ed.). Boston: Allyn & Bacon.
- Tapia, M. (2001). Measuring emotional intelligence. Psychological Reports. Special Issue, *88*, 353-364.
- Taris, T. W., Schreurs, P. J. G., & Schaufeli, W. B. (1999). Construct validity of the Maslach Burnout Inventory-General Survey: A two-sample examination of its factor structure and correlates. Work and Stress, *13*, 223-237.
- Thoits, P. A. (1984). Explaining distributions of psychological vulnerability: Lack of social support in the face of life stress. Social Forces, *63*, 453-481.
- Violanti, J. M. (1983). Stress patterns in police work: A longitudinal study. Journal of Police Science and Administration, *11*, 211-216.
- Violanti, J. M., & Aron, F. (1993). Sources of police stressors, job attitudes, and psychological distress. Psychological Reports, *72*, 899-904.
- Violanti, J. M., & Marshall, J. R. (1983). The police stress process. Journal of Police Science and Administration, *11*, 389-394.
- Violanti, J. M., Marshall, J. R., & Howe, B. (1985). Stress, coping, and alcohol use: The police connection. Journal of Police Science and Administration, *13*, 106-110.
- Watson, D., & Clark, L. A. (1992). On traits and temperament: General and specific factors of emotional experience and their relation to the five-factor model. Journal of Personality, *60*, 441-476.

- Watson, D., & Pennebaker, J. W. (1989). Health complaints, stress and distress: Exploring the central role of negative affectivity. Psychological Review, *96*, 234-254.
- Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. Academy of Management Journal, *40*, 82-111.
- Weschler, D. (1958). The measurement and appraisal of adult intelligence (4th ed.). Baltimore, MD: The Williams and Wilkins Company.
- Wood, J. M., Tataryn, D. J., Gorsuch, R. L. (1996). Effects of under- and overextraction on principal axis factor analysis with varimax rotation. Psychological Methods, *1*, 354-365.
- Zeidner, M., Matthews, G., & Roberts, R. D. (2001). Slow down, you move too fast: Emotional intelligence remains an “elusive” intelligence. Emotion, *1*, 265-275.
- Zwick, W. R., & Velicer, W. F. (1986). Comparison of five rules for determining the number of components to retain. Psychological Bulletin, *99*, 432-442.

Appendix A

General Information for Retail Managers and Police Officers**QUESTIONNAIRE**

I understand that my participation is voluntary, and that my responses will be anonymous and confidential. (please check the box).

There are no right, wrong, good, or bad answers to any of the questions below. Please just give the most accurate, truthful response for you. Although some of the sentences may not give you all the information you would like to receive, choose the response that seems the best, even if you are not sure. Answer openly and honestly by indicating how you *actually are* and *not* how you would like to be or how you would like to be seen. If a statement does not apply to you, respond in such a way that will give the best indication of how you *would* possibly feel, think, or act.

If you find any of the questions too personal, you do not have to respond, although it would be most helpful to us if you answered every question. To ensure anonymity, please do not put your name on this questionnaire. **REMEMBER, responses are pooled and analyzed as a group, not individually.** For each question, your first impression is probably correct.

1. Please indicate your sex: _____ male _____ female
2. How old are you? _____ years.
3. What is your marital status? _____
4. What is your level of education? _____
5. How long have you been a manager with the company _____ years.
6. Please indicate your level of management
 _____ junior manager _____ senior manager

Appendix B

General Information for University Students

QUESTIONNAIRE

I understand that my participation is voluntary, and that my responses will be anonymous and confidential. (please check the box).

There are no right, wrong, good, or bad answers to any of the questions below. Please just give the most accurate, truthful response for you. Although some of the sentences may not give you all the information you would like to receive, choose the response that seems the best, even if you are not sure. Answer openly and honestly by indicating how you *actually are* and *not* how you would like to be or how you would like to be seen. If a statement does not apply to you, respond in such a way that will give the best indication of how you *would* possibly feel, think, or act.

If you find any of the questions too personal, you do not have to respond, although it would be most helpful to us if you answered every question. To ensure anonymity, please do not put your name on this questionnaire. **REMEMBER, responses are pooled and analyzed as a group, not individually.** For each question, your first impression is probably correct.

1. Please indicate your gender: _____ male _____ female
2. How old are you? _____ years.
3. What is your marital status? _____
4. What is your program of study? _____
5. What year of university are you in? _____

Appendix C

Bar-On Emotional Quotient Inventory (EQi)

The following statements provide you with an opportunity to describe yourself by indicating the degree to which each statement is true of the way you feel, think, or act most of the time and in most situations. Read each statement carefully and, using the 1-to-5 scale below, indicate the degree to which each statement best describes you.

1	2	3	4	5
Very Seldom or Not True of Me	Seldom True of Me	Sometimes True of Me	Often True of Me	Very Often True of Me or True of Me

- _____ My approach in overcoming difficulties is to move step by step.
- _____ It's hard for me to enjoy life.
- _____ I prefer a job in which I'm told pretty much what to do.
- _____ I know how to deal with upsetting problems.
- _____ I like everyone I meet.
- _____ I try to make my life as meaningful as I can.
- _____ It's fairly easy for me to express feelings.
- _____ I try to see things as they really are, without fantasizing or daydreaming about them.
- _____ I'm in touch with my emotions.
- _____ I'm unable to show affection.
- _____ I feel sure of myself in most situations
- _____ I have a feeling that something is wrong with my mind.
- _____ It is a problem controlling my anger.
- _____ It's difficult for me to begin new things.
- _____ When faced with a difficult situation, I like to collect all the information about it I can
- _____ I like helping people.
- _____ It's hard for me to smile.
- _____ I'm unable to understand the way other people feel.
- _____ When working with others, I tend to rely more on their ideas than my own.
- _____ I believe that I can stay on top of tough situations.
- _____ I really don't know what I'm good at.
- _____ I'm unable to express my ideas to others.
- _____ It's hard for me to share my deep feelings with others.
- _____ I lack self-confidence.
- _____ I think I've lost my mind.
- _____ I'm optimistic about most things I do.
- _____ When I start talking, it is hard to stop.
- _____ It's hard for me to make adjustments in general.
- _____ I like to get an overview of a problem before trying to solve it.
- _____ It doesn't bother me to take advantage of people, especially if they deserve it.
- _____ I'm a fairly cheerful person.
- _____ I prefer others to make decisions for me.
- _____ I can handle stress without getting too nervous.
- _____ I have good thoughts about everyone.
- _____ It's hard for me to understand the way I feel.
- _____ In the past few years, I've accomplished little.
- _____ When I'm angry with others, I can tell them about it.
- _____ I have had strange experiences that can't be explained.
- _____ It's easy for me to make friends.
- _____ I have good self-respect.

- When I'm angry with others, I can tell them about it.
- I have had strange experiences that can't be explained.
- It's easy for me to make friends.
- I have good self-respect.
- I do very weird things.
- My impulsiveness creates problems.
- It's difficult for me to change my opinion about things.
- I'm good at understanding the way other people feel.
- When facing a problem, the first thing I do is stop and think.
- Others find it hard to depend on me.
- I am satisfied with my life.
- It's hard for me to make decisions on my own.
- I don't hold up well under stress.
- I don't do anything bad in my life.
- I don't get enjoyment from what I do.
- It's hard to express my intimate feelings.
- People don't understand the way I think.
- I generally hope for the best.
- My friends can tell me intimate things about themselves.
- I don't feel good about myself.
- I see these strange things that others don't see.
- People tell me to lower my voice in discussions.
- It's easy for me to adjust to new conditions
- When trying to solve a problem, I look at each possibility and decide on the best way.
- I would stop and help a crying child find his/her parents, even if I had to be elsewhere at the same time.
- I'm fun to be with.
- I'm aware of the way I feel.
- I feel that it's hard for me to control my anxiety.
- Nothing disturbs me.
- I don't get that excited about my interests.
- When I disagree with someone, I'm able to say so.
- I tend to fade out and lose contact with what happens around me.
- I don't get along well with others.
- It's hard for me to accept myself just the way I am.
- I feel cut off from my body.
- I care what happens to other people.
- I'm impatient.
- I'm able to change old habits.
- It's hard for me to decide on the best solution when solving problems.
- If I could get away with breaking the law in certain situations, I would.
- I get depressed.
- I know how to keep calm in difficult situations.
- I have not told a lie in my life.
- I'm generally motivated to continue, even when things get difficult.
- I try to continue and develop those things that I enjoy.
- It's hard for me to say "no" when I want to.
- I get carried away with my imagination and fantasies.
- My close relationships mean a lot to me and to my friends.
- I'm happy with the type of person I am.
- I have strong impulses that are hard to control.
- It's generally hard for me to make changes in my daily life.
- Even when upset, I'm aware of what's happening to me.
- In handling situations that arise, I try to think of as many approaches as I can.
- I'm able to respect others.
- I'm not that happy with life.
- I'm more of a follower than a leader.
- It's hard for me to face unpleasant things.
- I have not broken a law of any kind.
- I enjoy those things that interest me.

- ___ It's fairly easy for me to tell people what I think.
- ___ I tend to exaggerate.
- ___ I'm sensitive to the feelings of others.
- ___ I have good relations with others.
- ___ I feel comfortable with my own body.
- ___ I am a very strange person.
- ___ I'm impulsive.
- ___ It's hard for me to change my ways.
- ___ I think it's important to be a law-abiding citizen.
- ___ I enjoy weekends and holidays.
- ___ I generally expect things will turn out alright, despite setbacks from time to time.
- ___ I tend to cling to others.
- ___ I believe in my ability to handle most upsetting problems.
- ___ I have not been embarrassed for anything that I've done.
- ___ I try to get as much as I can out of those things that I enjoy.
- ___ Others think that I lack assertiveness.
- ___ I can easily pull out of daydreams and tune into the reality of the immediate situation.
- ___ People think that I'm sociable.
- ___ I'm happy with the way I look.
- ___ I have strange thoughts that no one can understand.
- ___ It's hard for me to describe my feelings.
- ___ I've got a bad temper.
- ___ I generally get stuck when thinking about different ways of solving problems.
- ___ It's hard for me to see people suffer.
- ___ I like to have fun.
- ___ I seem to need other people more than they need me.
- ___ I get anxious.
- ___ I don't have bad days.
- ___ I avoid hurting other people's feelings.
- ___ I don't have a good idea of what I want to do in life.
- ___ It's difficult for me to stand up for my rights.
- ___ It's hard for me to keep things in the right perspective.
- ___ I don't keep in touch with friends.
- ___ Looking at both my good points and bad points, I feel good about myself.
- ___ I tend to explode with anger easily.
- ___ It would be hard for me to adjust if I were forced to leave my home.
- ___ Before beginning something new, I usually feel that I'll fail.
- ___ I responded openly and honestly to the above statements.

Note. See Bar-On (1997a) for scale composition.

Appendix D

Emotional Intelligence Scale (EIS)

The following is a list of statements that may or may not describe you as a person. Using the 1-to-5 scale below, indicate the extent to which each statement describes you. Answer by placing the appropriate number in the blank (" ___ ") beside the question.

1	2	3	4	5
Strongly Disagree	Slightly Disagree	Neutral	Slightly Agree	Strongly Agree

- ___ I know when to speak about my personal problems to others.
- ___ When I am faced with obstacles, I remember times I faced similar obstacles and overcame them.
- ___ I expect that I will do well on most things I try.
- ___ Other people find it easy to confide in me.
- ___ I find it hard to understand the non-verbal messages of other people.
- ___ Some of the major events of my life have led me to re-evaluate what is and is not important.
- ___ When my mood changes, I see new possibilities.
- ___ Emotions are one of the things that make life worth living.
- ___ I am aware of my emotions as I experience them.
- ___ I expect good things to happen.
- ___ I like to share my emotions with others.
- ___ When I experience a positive emotion, I know how to make it last.
- ___ I arrange events others enjoy.
- ___ I seek out activities that make me happy.
- ___ I am aware of the non-verbal messages I send to others.
- ___ I present myself in a way that makes a good impression on others.
- ___ When I am in a positive mood, solving problems is easy for me.
- ___ By looking at their facial expressions, I recognize the emotions people are experiencing.
- ___ I know why my emotions change.
- ___ When I am in a positive mood, I am able to come up with new ideas.
- ___ I have control over my emotions.
- ___ I easily recognize my emotions as I experience them.
- ___ I motivate myself by imaging a good outcome to tasks I take on.
- ___ I compliment others when they have done something well.
- ___ I am aware of the non-verbal messages other people send.
- ___ When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself.
- ___ When I feel a change in emotions, I tend to come up with new ideas.
- ___ When I am faced with a challenge, I give up because I believe I will fail.
- ___ I know what other people are feeling just by looking at them.
- ___ I help other people feel better when they are down.
- ___ I use good moods to help myself keep trying in the face of obstacles.
- ___ I can tell how people are feeling by listening to the tone of their voice.
- ___ It is difficult for me to understand why people feel the way they do.

- _____ Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.[°]
- _____ I'm hard-headed and tough-minded in my attitudes.[°]
- _____ Sometimes I'm not as dependable or reliable as I should be.[°]
- _____ I am seldom sad or depressed.[°]
- _____ My life is fast-paced.[°]
- _____ I have little interest in speculating on the nature of the universe or the human condition.[°]
- _____ I generally try to be thoughtful and considerate.[°]
- _____ I am a productive person who always gets the job done.[°]
- _____ I often feel helpless and want someone else to solve my problems.[°]
- _____ I am a very active person.[°]
- _____ I have a lot of intellectual curiosity.[°]
- _____ If I don't like people, I let them know it.[°]
- _____ I never seem to be able to get organized.[°]
- _____ At times I have been so ashamed I just wanted to hide.[°]
- _____ I would rather go my own way than be a leader of others.[°]
- _____ I often enjoy playing with theories or abstract ideas.[°]
- _____ If necessary, I am willing to manipulate people to get what I want.[°]
- _____ I strive for excellence in everything I do.[°]

Note. [°] Neuroticism. [°] Extraversion. [°] Openness to Experience. [°] Agreeableness.
[°]Conscientiousness.

Appendix F

Role Conflict and Role Ambiguity Scales

The following is a list of statements which describe some workplace conditions. Using the 1-to-7 point scale below, indicate the extent to which each condition exists for you. Answer by placing the appropriate number in the blank (" ___ ") beside the question.

Very False 1 2 3 4 5 6 7 Very True

- ___ I feel secure about how much authority I have.^a
- ___ I have to do things that should be done differently.
- ___ Clear planned goals and objectives exist for my job.^a
- ___ I receive an assignment without the manpower to complete it.
- ___ I know that I have divided my time properly.^a
- ___ I have to buck a rule or policy to carry out an assignment.
- ___ I know what my responsibilities are.^a
- ___ I work with two or more groups who operate quite differently.
- ___ I have too much work to do, to do everything well.
- ___ I know exactly what is expected of me.^a
- ___ I receive incompatible requests from two or more people.
- ___ Explanation is clear of what has to be done.^a
- ___ The amount of work I am asked to do is fair.
- ___ I do things that are apt to be accepted by one person and not accepted by others.
- ___ I never seem to have enough time to get everything done.
- ___ I receive an assignment without adequate resources and materials to execute it.
- ___ I work on unnecessary things.

Note. ^a Role ambiguity items.

Appendix G

Survey of Perceived Organization Support (SPOS)

The following is a set of statements that may or may not describe your feelings about your organization. Using the 1-to-7 scale below, indicate the degree to which you agree or disagree with each statement as a descriptor of your organization/company. Answer by placing the appropriate number in the blank (" ___ ") beside the question.

1	2	3	4	5	6	7
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neutral	Slightly Agree	Mostly Agree	Strongly Agree

- ___ The organization values my contribution to its well-being.
- ___ If the organization could hire someone to replace me at a lower salary it would do so.
- ___ The organization fails to appreciate any extra effort from me.
- ___ The organization strongly considers my goals and values.
- ___ The organization would ignore any complaint from me.
- ___ The organization disregards my best interest when it makes decisions that affect me.
- ___ Help is available from the organization when I have a problem.
- ___ The organization really cares about my well-being.
- ___ The organization is willing to extend itself in order to help me perform my job to the best of my ability.
- ___ Even if I did the best job possible, the organization would fail to notice.
- ___ The organization is willing to help me when I need a special favour.
- ___ The organization cares about my general satisfaction at work.
- ___ If given the opportunity, the organization would take advantage of me.
- ___ The organization shows very little concern for me.
- ___ The organization cares about my opinions.
- ___ The organization takes pride in my accomplishments at work.
- ___ The organization tries to make my job as interesting as possible.
- ___ The organization would understand a long absence due to my illness.
- ___ The organization would fail to understand my absence due to a personal problem.
- ___ If the organization found a more efficient way to get my job done they would replace me.
- ___ The organization would forgive an honest mistake on my part.
- ___ It would take only a small decrease in my performance for the organization to want to replace me.
- ___ The organization feels there is little to be gained by employing me for the rest of my career.
- ___ The organization provides me little opportunity to move up the ranks.
- ___ The organization would grant a reasonable request for a change in my working conditions.
- ___ If I were laid off, the organization would prefer to hire someone new rather than take me back.
- ___ If I decided to quit, the organization would try to persuade me to stay.
- ___ The organization feels that hiring me was a definite mistake.
- ___ The organization cares more about making a profit (i.e., gaining somehow) than about me.
- ___ The organization would understand if I were unable to finish a task on time.
- ___ If the organization earned a greater profit, it would consider increasing my salary.
- ___ The organization feels that anyone could perform my job as well as I do.
- ___ The organization is unconcerned with paying me what I deserve.
- ___ The organization wishes to give me the best possible job for which I am qualified.
- ___ If my job were eliminated, the organization would prefer to lay me off rather than transfer me.
- ___ My supervisors are proud that I am part of this organization.

Appendix H

Perceived Fairness Scale

The questions in this section ask you how you feel about the procedures used to make decisions in your organization/company. Indicate the extent to which you agree or disagree with each statement using the following scale:

1	2	3	4	5	6	7
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree

The procedures used to make decisions in your organization

- ___ allow supervisors to get away with using an inconsistent approach in making decisions.
- ___ are consistently applied from one time to the next.
- ___ are consistently applied across different employees.
- ___ make sure than any biases supervisors have will not affect the decisions they make.
- ___ are unbiased.
- ___ dictate that the decisions made will not be influenced by any personal biases people have.
- ___ make sure that the decisions made are based on as much accurate information as possible.
- ___ take into account all the relevant information that should be considered when decisions are made.
- ___ maximize the tendency for decisions to be based on highly accurate information.
- ___ increase the likelihood that improper decisions will be changed.
- ___ make it very probable that improper decisions will be reviewed.
- ___ provide an opportunity for the reversal of improper decisions.
- ___ do not take into consideration the basic concerns, values, and outlook of employees.
- ___ do not take into consideration the basic concerns, values, and outlook of management.
- ___ guarantee that all involved parties can have their say about what outcomes are received.
- ___ ensure that all involved parties can influence decisions.
- ___ are consistent with basic ethical standards.
- ___ are not consistent with my own values.
- ___ are unethical.

With regard to your supervisor carrying out the procedures at your organization, your supervisor ("your supervisor" refers to the person to whom you directly report):

- ___ considers your viewpoint.
- ___ provides you with timely feedback about decisions and their implications.
- ___ treats you with kindness and consideration.
- ___ considers your rights as an employee.
- ___ takes steps to deal with you in a truthful manner.
- ___ provides reasonable explanation for the decisions he or she makes.
- ___ gives adequate reasons for the decisions he or she makes.
- ___ attempts to describe the situational factors affecting the decisions he or she makes.

Appendix I

Maslach Burnout Inventory-General Survey (MBI-GS)

The following are statements of job-related feelings. Please read each statement carefully and decide if you have ever felt this way ABOUT YOUR JOB. If you have NEVER had this feeling, write a "0" (zero) in the space before the statement. If you have had this feeling, indicate HOW OFTEN you have felt it by writing the number (from 1-to-6) that best describes how frequently you have felt that way.

0	1	2	3	4	5	6
Never	A Few Times a Year or Less	Once a Month or Less	A Few Times a Month	Once a Week	A few Times a Week	Everyday

- I feel emotionally drained from my work.^a
 I feel used up at the end of the workday.^a
 I feel tired when I get up and have to face another day on the job.^a
 Working all day is really a strain for me.^a
 I can effectively solve the problems that arise in my work.^c
 I feel burned out from my work.^a
 I feel I am making an effective contribution to what this organization does.^c
 I have become less interested in my work since I started this job.^b
 I have become less enthusiastic about my work.^b
 In my opinion, I am good at my job.^c
 I feel exhilarated when I accomplish something at work.^c
 I have accomplished many worthwhile things in this job.^c
 I just want to do my job and not be bothered.^b
 I have become more cynical about whether my work contributes anything.^b
 I doubt the significance of my work.^b
 At my work, I feel confident that I am effective at getting things done.^c

^a Exhaustion. ^b Cynicism. ^c Personal Efficacy.

Appendix J

Balanced Inventory of Desirability Responding (BIDR)

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

	1-----2-----3-----4-----5-----6-----7	
Not True	Somewhat	Very
True		True

My first impression of people usually turns out to be right.
 It would be hard for me to break any of my bad habits.
 I don't care to know what other people really think of me.
 I have not always been honest with myself.
 I always know why I like things.
 When my emotions are aroused, it biases my thinking.
 Once I've made up my mind, other people can seldom change my opinion.
 I am not a safe driver when I exceed the speed limit.
 I am fully in control of my own fate.
 It's hard for me to shut off a disturbing thought.
 I never regret my decisions.
 I sometimes lose out on things because I can't make up my mind soon enough.
 The reason I vote is because my vote can make a difference.
 My parents were not always fair when they punished me.
 I am a completely rational person.
 I rarely appreciate criticism.
 I am very confident of my judgments.
 I have sometimes doubted my ability as a lover.
 It's alright with me if some people happen to dislike me.
 I don't always know the reasons why I do the things I do.
 I sometimes tell lies if I have to.
 I never cover up my mistakes.
 There have been occasions when I have taken advantage of someone.
 I never swear.
 I sometimes try to get even rather than forgive and forget.
 I always obey laws, even if I'm unlikely to get caught.
 I have said something bad about a friend behind his or her back.
 When I hear people talking privately, I avoid listening.
 I have received too much change from a salesperson without telling him or her.
 I always declare everything at customs.
 When I was young I sometimes stole things.
 I have never dropped litter on the street.
 I sometimes drive faster than the speed limit.
 I never read sexy books or magazines.
 I have done things that I don't tell other people about.
 I never take things that don't belong to me.
 I have taken sick-leave from work or school even though I wasn't really sick.
 I have never damaged a library book or store merchandise without reporting it.
 I have some pretty awful habits.
 I don't gossip about other people's business.

Table 1

EQi Scale Structure (Bar-On, 1997b)

Core Facets	Auxiliary Facets	Resultant Facets
Emotional SA	Self-Regard	Problem-Solving
Assertiveness	Independence	Interpersonal Relations
Empathy	Social Responsibility	Self-Actualization
Reality Testing	Optimism	Happiness
Impulse Control	Flexibility	

Note. Emotional SA = Emotional Self-Awareness

Table 2

EQi Composite Structure (Bar-On, 1997a; 197b)

Intrapersonal Composite	Interpersonal Composite	Adaptability Composite	Stress Management Composite	General Mood Composite
Emotional SA	Empathy	Reality Testing	Stress Tolerance	Optimism
Assertiveness	Social Responsibility	Flexibility	Impulse Control	Happiness
Self-Regard	Interpersonal	Problem-Solving		
Self-Actualization				
Independence				

Note. Emotional SA = Emotional Self-Awareness

Table 3(a)

Means, Standard Deviations, and Reliabilities for Student Sample

Scales	Means	SD	Cronbach's Alpha
EQi-Total	436.64	46.34	.95
EIS	126.77	11.89	.84
EQi SCALES			
Assert	24.51	4.48	.78
Emotional SA	28.90	5.28	.82
Empathy	33.36	3.67	.73
Flexibility	26.89	4.88	.78
Happiness	36.92	5.10	.83
Independence	24.58	5.00	.84
Interpersonal	44.18	5.95	.84
Impulse control	32.51	5.23	.74
Optimism	30.40	4.57	.82
Problem-Solving	28.54	4.32	.75
Reality Testing	35.95	5.13	.75
Self-Actualization	36.30	4.96	.78
Self-Regard	32.59	7.06	.91
Social Responsibility	41.75	4.61	.74
Stress Tolerance	30.37	5.75	.84
EQi COMPOSITES			
Interpersonal	97.90	9.95	.86
Intrapersonal	147.04	20.27	.93
Adaptability	91.42	11.37	.86
Stress Management	62.92	8.71	.81
General Mood	67.33	8.77	.89
NEO-FFM			
Neuroticism	22.29	8.26	.85
Extraversion	31.68	6.82	.82
Agreeableness	33.02	5.64	.71
Conscientiousness	31.15	6.43	.81
Openness	26.12	5.74	.63
SDR	10.97	4.99	.72

Note. SDR = Social Desirability Responding. Emotional SA = Emotional Self-Awareness.

Table 3(b)

Means, Standard Deviations, and Reliabilities for Police Sample

Scales	Means	SD	Cronbach's Alpha
EQi-Total	471.05	48.44	.96
EIS	131.10	12.82	.88
EQi SCALES			
Assert	26.65	3.91	.72
Emotional SA	29.93	5.32	.86
Empathy	32.53	4.06	.81
Flexibility	28.98	4.90	.81
Happiness	38.68	4.82	.86
Independence	28.69	3.95	.81
Interpersonal	43.38	6.55	.86
Impulse control	35.15	5.27	.76
Optimism	33.33	3.30	.74
Problem-Solving	32.75	4.07	.91
Reality Testing	41.26	5.14	.85
Self-Actualization	37.43	4.86	.84
Self-Regard	38.23	4.66	.89
Social Responsibility	42.28	4.78	.74
Stress Tolerance	37.23	4.25	.80
EQi COMPOSITES			
Interpersonal	97.00	11.51	.91
Intrapersonal	160.59	18.36	.94
Adaptability	103.00	12.31	.93
Stress Management	72.38	8.74	.86
General Mood	72.00	7.61	.89
NEO-FFM			
Neuroticism	13.00	6.50	.82
Extraversion	31.03	6.07	.77
Agreeableness	31.72	6.44	.77
Conscientiousness	36.55	6.07	.86
Openness	22.03	5.53	.66
SDR	16.74	6.52	.83
Role Ambiguity	15.43	5.70	.78
Role Conflict	34.03	10.11	.83
Exhaustion	10.60	6.19	.85
Cynicism	13.68	9.51	.94
Personal Efficacy	29.08	6.04	.80
POS	162.63	39.23	.96
PF	124.89	27.86	.93

Note. SDR = Social Desirability Responding. Emotional SA = Emotional Self-Awareness.

Table 3 (c)

Means, Standard Deviation, and Reliabilities for Retail Managers

Scales	Means	SD	Cronbach's Alpha
EQi-Total	472.49	40.20	.94
EIS	131.16	11.84	.85
EQi SCALES			
Assert	27.68	3.60	.84
Emotional SA	29.76	7.76	.86
Empathy	32.76	3.98	.74
Flexibility	29.52	4.67	.81
Happiness	38.42	4.11	.74
Independence	29.51	3.19	.73
Interpersonal	44.07	5.27	.75
Impulse control	34.67	4.87	.75
Optimism	33.87	3.33	.73
Problem-Solving	32.00	3.80	.79
Reality Testing	40.27	4.72	.75
Self-Actualization	37.36	4.41	.76
Self-Regard	36.27	5.20	.84
Social Responsibility	42.61	4.39	.79
Stress Tolerance	36.08	4.69	.79
EQi COMPOSITES			
Interpersonal	98.40	9.20	.83
Intrapersonal	160.69	17.75	.93
Adaptability	101.97	10.52	.87
Stress Management	70.77	7.66	.78
General Mood	72.20	6.62	.83
NEO-FFI			
Neuroticism	14.97	7.00	.80
Extraversion	34.21	5.42	.74
Agreeableness	31.57	5.05	.62
Conscientiousness	36.74	4.43	.73
Openness	24.21	5.60	.65
SDR	16.00	6.33	.80
Role Ambiguity	15.37	4.62	.74
Role Conflict	30.05	8.80	.80
Exhaustion	10.03	6.16	.88
Cynicism	6.60	6.46	.56
Personal Efficacy	31.41	3.88	.69
POS	177.71	30.13	.94
PF	133.79	26.01	.95

Note. SDR = Social Desirability Responding. Emotional SA = Emotional Self-Awareness.

Table 4

Pearson Correlations for EI and Personality Measures

SCALES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	N	E	A	C	O		
1 EQI-Total		.56	.65	.66	.46	.73	.77	.69	.66	.50	.81	.72	.77	.77	.77	.51	.76	.70	.92	.90	.78	.86	-.70	.46	.36	.57	<u>.88</u>		
2 EIS			.29	.49	.46	.36	.48	.29	.48	.26	.50	.46	.36	.50	.42	.40	.36	.54	.53	.46	.38	.47	-.34	.44	.21	.38	.14		
3 Assertiveness				.51	.16	.44	.39	.64	.40	<u>.88</u>	.51	.41	.46	.44	.47	.18	.56	.34	.77	.54	.42	.49	-.49	.28	<u>-.83</u>	.28	<u>-.82</u>		
4 Emotional SA					.39	.41	.50	.35	.82	.25	.41	.42	.49	.48	.43	.30	.39	.57	.71	.53	.39	.47	-.36	.29	.25	.27	<u>.11</u>		
5 Empathy						.19	.35	<u>.82</u>	.57	.19	.28	.33	.27	.36	<u>.12</u>	.75	.14	.63	.28	.33	.20	.36	<u>-.88</u>	.30	.38	.17	.23		
6 Flexibility							.45	.55	.40	.43	.55	.45	.51	.49	.49	.25	.60	.36	.61	.60	.63	.54	-.52	.35	.32	.35	<u>.11</u>		
7 Happiness								.41	.69	.26	.66	.41	.51	.70	.66	.37	.50	.61	.70	.57	.48	.92	-.59	.58	.36	.36	<u>-.83</u>		
8 Independence									.26	.17	.56	.45	.46	.43	.56	<u>.12</u>	.65	.22	.77	.60	.52	.54	-.60	.28	<u>-.81</u>	.41	<u>-.82</u>		
9 Interpersonal										.20	.46	.34	.35	.63	.42	.46	.27	.66	.60	.44	.29	.63	-.29	.63	.44	.25	<u>.18</u>		
10 Impulse Control											.27	.39	.55	.26	.32	.31	.35	.30	.26	.57	.79	.29	-.36	.00	.44	.36	<u>.81</u>		
11 Optimism												.59	.56	.64	.73	.32	.75	.44	.74	.70	.64	.90	-.68	.40	.24	.49	<u>.88</u>		
12 Problem-Solving													.56	.51	.40	.56	.44	.61	.80	.59	.55	-.44	.19	.17	.57	.57	<u>.88</u>		
13 Reality Testing														.46	.54	.42	.63	.44	.63	.66	.72	.59	-.60	.18	.29	.54	-.18		
14 Self-Actual															.61	.46	.44	.63	.77	.59	.43	.74	-.46	.46	.33	.43	<u>.88</u>		
15 Self Regard																.20	.60	.35	.63	.62	.56	.76	-.67	.36	.20	.44	<u>-.83</u>		
16 Social Responsibility																	.47	.81	.32	.44	.29	.37	<u>-.12</u>	.27	.47	.37	<u>.12</u>		
17 Stress Tolerance																			.27	.66	.73	.65	.68	-.77	.21	<u>.12</u>	.44	<u>-.81</u>	
18 Interpersonal (Comp)																				.54	.52	.34	.58	-.23	.54	.52	.35	.54	
19 Intrapersonal (Comp)																					.75	.61	.70	-.67	.44	.18	.48	.53	
20 Adaptability (Comp)																						.79	.69	-.64	.29	.32	.60	<u>-.81</u>	
21 Stress Mgt.(Comp)																							.61	-.68	-.66	.32	.49	.38	
22 General Mood(Comp)																								-.69	.53	.33	.47	.54	
23 N																									-.33	-.24	-.43	<u>.18</u>	
24 E																										.27	.19	<u>-.84</u>	
25 A																												.18	<u>.18</u>
26 C																													<u>-.12</u>
27 O																													

Note. Non-significant correlations are depicted in underlined boldface. N = Neuroticism. E = Extraversion. A = Agreeableness. C = Conscientiousness. O = Openness to Experience.

Table 5
EQi Item-Analysis

EQi Scale	Total No. of Items	No. of Items Correlating With Other Scales \geq Item-Totals	Other Scales Involved
Assertiveness	7	5	ESA, Flexibility, Independence, Optimism Self-Actualization, Self-Regard Stress Tolerance
Empathy	8	7	Esa, Interpersonal, Problem-Solving, Reality Testing, Social Responsibility
Emotional Self-Awareness	8	4	Empathy, Impulse Control, Interpersonal Happiness, Optimism, Problem-Solving Reality Testing, - Self-Actualization Self-Regard, Social Responsibility Stress Tolerance
Flexibility	8	2	Independence, Optimism
Happiness	9	7	Independence, Interpersonal, Optimism Reality Testing, Self-Actualization Self-Regard, Stress Tolerance, Social Responsibility
Impulse Control	9	3	Reality Testing
Independence	7	1	Stress Tolerance
Interpersonal	11	6	ESA, Empathy, Happiness, Self-Actualization, Social Responsibility
Optimism	8	7	Empathy, Happiness, Independence Interpersonal, Problem-Solving, Reality Testing, Self-Actualization, Self-Regard, Stress Tolerance
Problem-Solving	8	2	Assertiveness, Flexibility, Independence Optimism, Reality Testing, Self-Regard Stress Tolerance
Reality Testing	10	6	Assertiveness, ESA, Flexibility, Happiness Impulse Control, Independence, Optimism Self-Regard, Stress Tolerance
Self-Actualization	9	6	Happiness, Interpersonal, Optimism Self-Regard
Self-Regard	9	2	Independence, Optimism, Stress Tolerance
Social Responsibility	10	7	Empathy, Interpersonal, Problem-Solving, Reality Testing, Self-Regard
Stress Tolerance	9	5	Independence, Optimism, Problem-Solving

Table 6

Rotated Solution for EQi Scales

SCALE	COMPONENTS	
	1	2
Assertiveness	<u>.69</u>	.14
Emotional SA	.45	.52
Empathy	-.01	<u>.88</u>
Flexibility	<u>.69</u>	.25
Independence	<u>.83</u>	-.09
Interpersonal	.31	<u>.75</u>
Impulse Control	.32	.33
Happiness	.59	.52
Optimism	<u>.80</u>	.29
Problem Solving	<u>.62</u>	.38
Reality Testing	<u>.67</u>	.37
Self-Actualization	.56	.57
Self-Regard	<u>.78</u>	.21
Social Responsibility	.07	<u>.84</u>
Stress Tolerance	<u>.86</u>	.08

Note. Salient loadings are depicted in underlined boldface. Emotional SA = Emotional Self-Awareness.

Table 7(a)

Rotated Factor Solution for EQi, EIS, NEO-FFI (scale-level)

SCALES	COMPONENTS		
	1	2	3
EIS	.39	<u>.53</u>	.24
<u>EQi SCALES</u>			
Assertiveness	<u>.71</u>	.19	-.09
Emotional SA	.43	.50	.17
Empathy	-.02	<u>.73</u>	.41
Flexibility	<u>.62</u>	.20	.30
Happiness	.62	.54	.11
Independence	<u>.82</u>	-.02	.09
Interpersonal	.33	<u>.82</u>	.09
Impulse Control	.19	-.04	<u>.80</u>
Optimism	<u>.80</u>	.26	.18
Problem Solving	.57	.17	.48
Reality Testing	.62	.05	.59
Self-Actualization	.56	.55	.20
Self-Regard	<u>.78</u>	.21	.12
Social Responsibility	.03	.57	.61
Stress Tolerance	<u>.84</u>	-.04	.24
<u>NEO-FFI SCALES</u>			
Agreeableness	.04	.43	<u>.56</u>
Neuroticism	<u>-.81</u>	-.01	-.18
Extraversion	.36	<u>.67</u>	-.18
Conscientiousness	.49	.04	.51
Openness	-.13	.31	-.02

Note. Salient loadings are in underlined boldface. Emotional SA = Emotional Self-Awareness. See "Data Reduction and Analyses" section for item-retention criteria.

Table 7(b)

Rotated Factor Solution For EIS (item-level), EQi and NEO-FFI (scale level)

SCALES	COMPONENTS					
	1	2	3	4	5	6
Assertiveness	<u>.67</u>	.22	.16	-.16	-.16	.29
Emotional SA	.43	.44	.33	-.07	.12	.32
Empathy	.07	.41	.28	.09	.59	.30
Flexibility	<u>.64</u>	.18	.13	-.04	.18	-.06
Happiness	.60	.57	-.04	.05	.21	-.11
Independence	<u>.79</u>	.10	.04	-.03	-.15	.08
Interpersonal	.31	<u>.76</u>	.11	-.07	.30	.12
Impulse Control	.34	-.18	.20	-.02	<u>.69</u>	-.18
Optimism	<u>.82</u>	.21	-.03	.18	.11	.05
Problem Solving	<u>.66</u>	-.08	.20	.23	.33	.14
Reality Testing	<u>.79</u>	-.04	.14	-.05	.39	-.03
Self-Actualization	.58	.46	-.01	.12	.29	.08
Self-Regard	<u>.78</u>	.29	-.03	.11	.05	-.11
Social Responsibility	.16	.26	.09	.15	<u>.74</u>	.23
Stress Tolerance	<u>.86</u>	-.02	.14	-.02	.01	-.02
Agreeableness	.08	.23	.06	-.12	<u>.66</u>	-.14
Neuroticism	<u>-.82</u>	-.09	-.05	.03	-.01	.19
Extraversion	.27	<u>.72</u>	.06	.08	.04	-.18
Conscientiousness	<u>.66</u>	.02	-.01	.24	.36	-.12
Openness	-.08	.09	.09	.11	.05	<u>.47</u>
EIS 1	.26	.05	.20	.03	.08	.30
EIS 2	.41	.03	.04	.46	.12	.09
EIS 3	<u>.64</u>	.01	.06	.32	-.01	-.06
EIS 4	.06	<u>.46</u>	.07	.02	.22	.14
EIS 5	.17	.08	<u>.69</u>	-.24	.06	.04
EIS 6	-.02	-.02	-.13	<u>.44</u>	.05	.39
EIS 7	-.15	-.19	.06	<u>.66</u>	-.11	.13
EIS 8	-.07	.06	.23	<u>.44</u>	.07	.22
EIS 9	.14	.13	<u>.49</u>	.18	-.03	.18
EIS 10	<u>.43</u>	.25	.03	.29	.05	-.22
EIS 11	.04	<u>.51</u>	.15	.02	-.09	.31
EIS 12	.26	<u>.43</u>	.25	.35	-.05	-.12
EIS 13	.12	<u>.45</u>	.16	.27	-.18	-.08
EIS 14	.16	<u>.43</u>	.18	.20	-.02	-.32
EIS 15	.01	.10	<u>.64</u>	.02	-.04	-.24
EIS 16	.15	<u>.49</u>	.17	.15	.26	-.38
EIS 17	.25	.07	.14	.35	.09	-.18
EIS 18	.06	.11	<u>.67</u>	.28	.10	.04
EIS 19	.34	-.01	.38	.33	.06	.15
EIS 20	.16	.14	.21	<u>.67</u>	.04	-.14
EIS 21	<u>.42</u>	.03	.25	.23	.09	-.33
EIS 22	.20	.08	<u>.69</u>	.20	.22	-.03
EIS 23	.21	.19	-.07	<u>.49</u>	.20	-.02
EIS 24	.15	.32	.01	.23	.31	.07
EIS 25	.07	.02	<u>.79</u>	.11	.09	.02
EIS 26	-.17	.32	.13	.39	-.03	-.03
EIS 27	.07	.16	.19	<u>.49</u>	-.11	-.05
EIS 28	<u>.62</u>	.08	.06	.02	.09	-.01
EIS 29	-.09	.15	<u>.62</u>	.12	-.03	-.08
EIS 30	-.04	<u>.69</u>	.09	.15	.26	.08
EIS 31	.11	.33	-.02	<u>.46</u>	.19	-.05
EIS 32	.09	.09	<u>.41</u>	.28	.27	.10
EIS 33	.09	-.03	<u>.49</u>	-.16	.24	.27

Note. Salient loadings are depicted in underlined boldface. Emotional SA = Emotional Self-Awareness.

Table 8

Pearson Correlations for Sample of Workers

SCALE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 EQI-Total		.66	-.35	-.33	-.34	-.50	.48	.54	<u>.23</u>	-.60	.56	.46	.55	<u>.06</u>
2 EIS			<u>-.19</u>	<u>-.17</u>	<u>-.14</u>	.29	.38	.36	<u>.18</u>	<u>-.17</u>	.44	.29	.42	<u>.23</u>
3 Role Ambiguity				.40	.34	.41	-.33	-.53	-.49	.41	-.21	-.23	-.38	<u>.24</u>
4 Role Conflict					.45	.55	-.34	-.61	-.45	.31	-.27	-.40	<u>-.14</u>	<u>.20</u>
5 Exhaustion						.59	-.29	-.44	<u>-.18</u>	.44	-.33	-.20	<u>-.19</u>	<u>.06</u>
6 Cynicism							-.67	-.66	-.41	.43	-.52	-.37	-.37	<u>-.06</u>
7 Personal Efficacy								.55	.35	<u>-.19</u>	.45	.37	.39	<u>.16</u>
8 POS									.63	-.39	.43	.41	.42	<u>-.18</u>
9 PF										-.26	<u>.21</u>	.29	<u>.21</u>	<u>-.23</u>
10 N											-.30	<u>-.23</u>	-.28	<u>.16</u>
11 E												.41	.32	<u>.16</u>
12 A													<u>.21</u>	<u>.07</u>
13 C														<u>-.13</u>
14 O														

Note. Non significant correlations are depicted in underlined boldface. N = Neuroticism. E = Extraversion. A = Agreeableness. C = Conscientiousness. O = Openness to Experience.

Table 9

EI Relationships Mediated by FFM Domains For Workers

EI Measure	Dependent Variable	Bivariate Association	Mediator	Partial Correlation
EQi-Total	Role Ambiguity	-.35	C	-.30
EQi-Total	Role Conflict	-.33	A	-.31
EQi-Total	POS	.54	C	.24*
			A	.22*
EQi-Total	Exhaustion	-.34	N	.30
EQi-Total	Cynicism	.50	E	-.31
			N	-.23*
EIS	POS	.36	N	-.25*
			C	.25*
			A	.22*
EIS	Cynicism	.30	E	-.34
			N	-.28
EIS	Personal Efficacy	.38	E	.28*
			C	.23*

Note. * $p < .05$. ** $p < .01$. C = Conscientiousness. A = Agreeableness. N = Neuroticism. E = Extraversion.

Table 10

Mediated Work Demand-Burnout Relationships for Workers

IDV	DV	Mediator	Bivariate Association	Partial Correlation	Partial Correlation (FFM constant)	Partial POS Correlation (Cynicism constant)	Partial Correlation Cynicism
Role Ambiguity	E	POS	.34	-.32	-.21*	.15*	.47
Role Ambiguity	CY	POS	.41	-.58	-.49	—	
Role Ambiguity	PE	POS	-.33	.46	.33	.16*	-.48
Role Conflict	PE	POS	-.34	-.46	.55	.22*	-.51

Note. * Non-significant correlation. All other correlations are significant ($p < .01$).
 IDV = Independent Variable. DV = Dependent Variable. E = Exhaustion.
 CY = Cynicism. PE = Personal Efficacy.

Table 11

Social Desirability Correlations (Combined Sample Variables)

Scale	Social Desirability Scores	
	Students	Workers
Age	<u>.13</u>	<u>-.01</u>
Sex	<u>-.03</u>	<u>-.06</u>
Marital Status	<u>.06</u>	<u>.04</u>
Education (workers)	—	<u>-.11</u>
Years Worked (workers)	—	<u>-.06</u>
Study Program (students)	<u>-.02</u>	—
Year of Study (students)	<u>.07</u>	—
EQI-Total	.57	.54
EIS	.41	.28
Assertiveness	.39	.29
Emotional SA	.33	.23
Empathy	.36	.27
Flexibility	.33	.35
Happiness	.32	.33
Independence	.28	.33
Interpersonal	.39	.22
Impulse Control	.48	.35
Optimism	.49	.45
Problem-Solving	.52	.43
Reality Testing	.56	.45
Self-Actualization	.38	.37
Self-Regard	.39	.35
Social Responsibility	.50	.40
Stress Tolerance	.57	.43
Agreeableness	.32	.33
Conscientiousness	.43	.50
Extraversion	.29	ns
Neuroticism	-.33	-.41
Openness	<u>.10</u>	<u>.02</u>

Note. Non-significant correlations are depicted in underlined boldface.
Emotional SA = Emotional Self-Awareness.

Table 12

Social Desirability Correlations (Workers Sample Variables)

Scale	SDR
Role Ambiguity	-.29
Role Conflict	-.30
Exhaustion	<u>-.22</u>
Cynicism	-.30
Personal Efficacy	.27
POS	.38
PF	<u>.18</u>

Note. Non significant correlations are depicted in underlined boldface.

Table 13

Sex Differences in EI Scores

Scale	Means		df	F	R ²
	Males	Females			
EQi-Total	454.73	444.09	2,365	5.68	.03
Assertiveness	26.15	24.78	2,392	4.64	.02
Flexibility	28.44	27.04	2,390	6.74	.03
Independence	27.77	24.82	2,390	15.70	.05
Interpersonal	42.76	44.66	2,390	5.41	.01
Optimism	32.58	30.60	2,390	8.93	.03
Problem-Solving	30.65	28.97	2,390	6.82	.03
Self-Regard	36.51	32.40	2,390	7.36	.06
Social Responsibility	40.12	42.76	2,388	16.31	.02
Stress Tolerance	34.73	30.65	2,388	22.82	.08

Note. All F values are significant ($p < .01$).

Table 14

Age Differences in EI Scores

Scale	Means		df	F	R ²
	age = 17 to 30	age > 30			
EQi-Total	439.33	466.57	2,365	13.88	.04
EIS	127.02	131.06	2,391	3.93	.02
Impulse Control	32.73	34.24	2,392	5.43	.01
Independence	24.84	28.80	2,390	28.85	.09
Optimism	30.50	33.85	2,392	19.76	.07
Problem-Solving	28.73	32.07	2,390	22.46	.08
Reality Testing	36.18	40.43	2,391	25.45	.09
Self-Regard	32.97	36.29	2,391	8.42	.03
Social Responsibility	41.56	43.15	2,388	4.75	.01
Stress Tolerance	30.87	35.60	2,388	23.43	.09

Note. All F values are significant ($p < .01$).

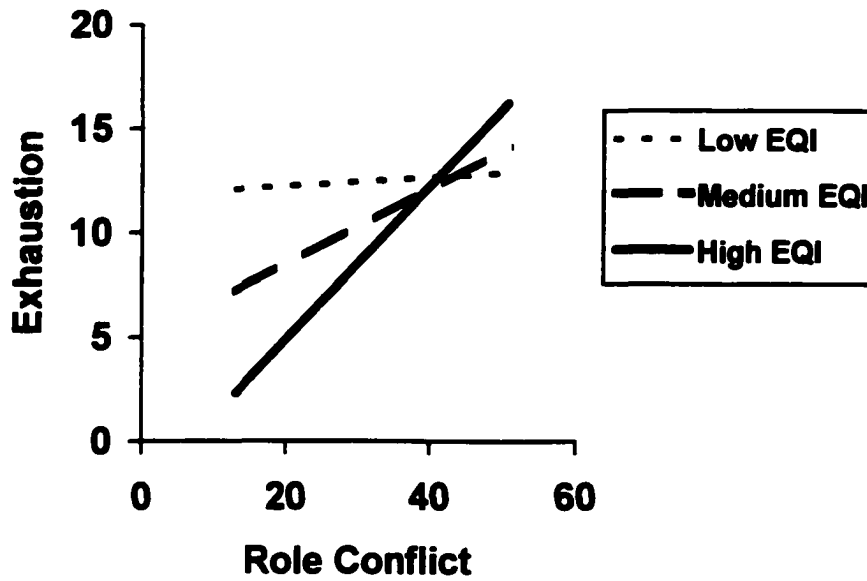


Figure 1. The relationship between role conflict and exhaustion moderated by EQI-Total scores

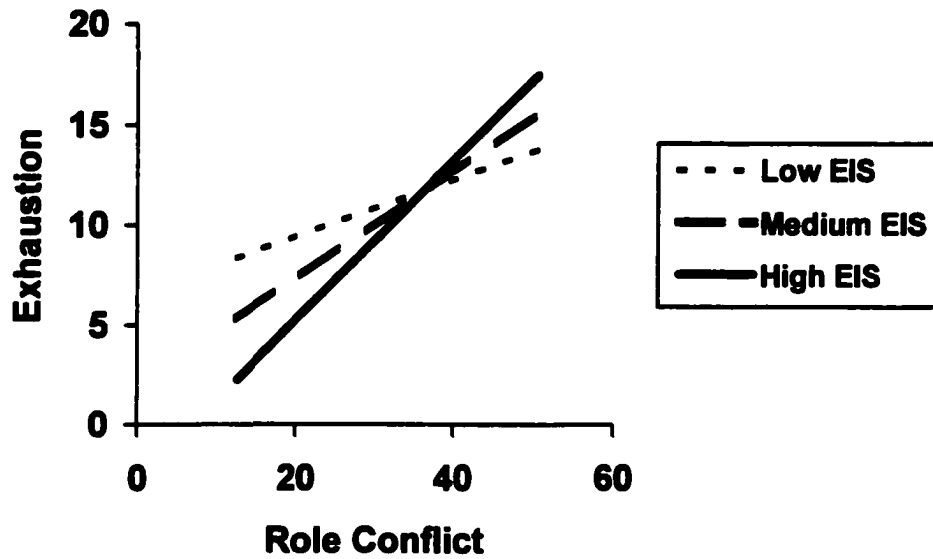


Figure 2. The relationship between role conflict and exhaustion moderated by EIS scores.

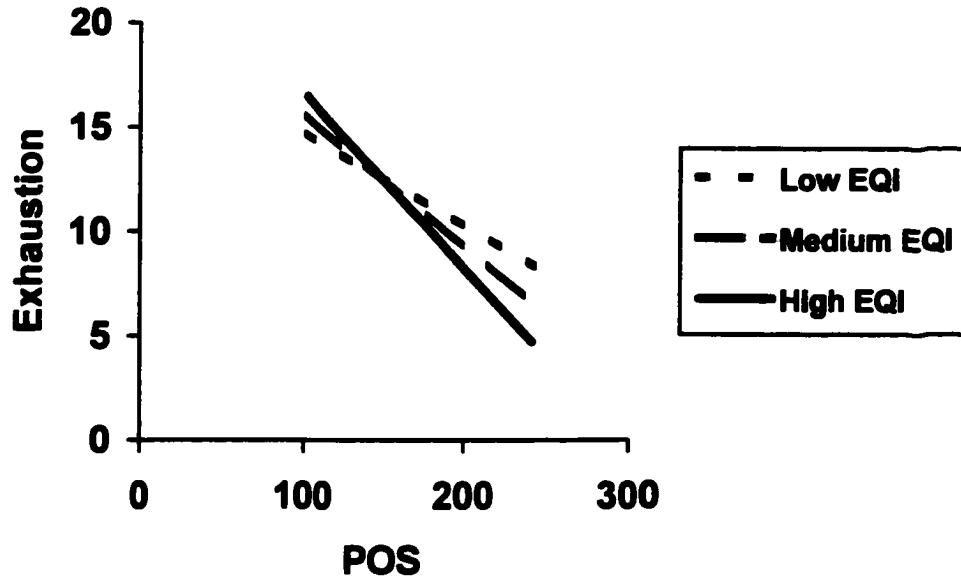


Figure 3. The relationship between POS and exhaustion moderated by EQI-Total scores.

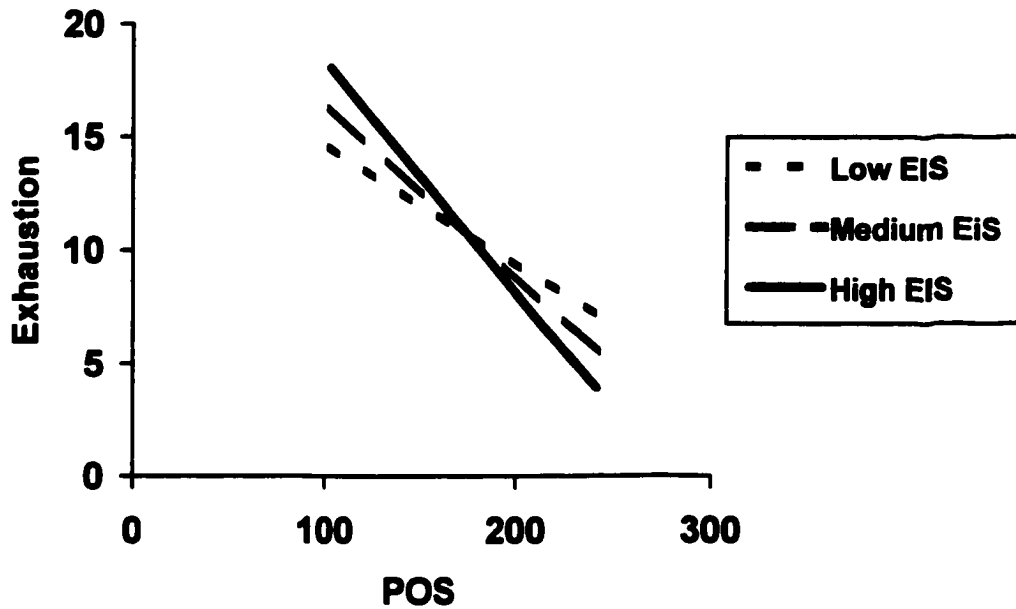


Figure 4. The relationship between POS and exhaustion moderated by EIS scores.