

EMOTIONAL INTELLIGENCE

AND

PSYCHOLOGICAL WELL-BEING

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I: THE PROBLEM

Introduction

Several divergent models of emotional intelligence have been presented (Goleman, 1995; BarOn, 1997) since the concept was introduced by Mayer & Salovey, (1990).

Divergent models of emotional intelligence may be classified into 1) mixed models (Goleman, 1995; BarOn, 1997) and 2) mental ability models (Mayer, Salovey & Caruso, in press). Mixed models combine mental abilities with non-ability traits considered aspects of personality, such as warmth or optimism. Mental ability models are based on a unitary set of mental abilities fulfilling traditional criteria of intelligence. Mixed models and mental ability models have operationalized different measures of emotional intelligence to reflect their relative components.

The Problem

An empirical validation of the relationship between a mental ability model of emotional intelligence and an emotional stability index of psychological well-being has not been performed. This study will employ a mental ability model of emotional intelligence to examine the relationship between emotional intelligence and an index of psychological well-being (or emotional stability).

Problem Background

The study of emotion is advancing beyond the belief that emotions are disorganizing forces on cognition (Hilgard, 1980) toward theories of emotions as organizing responses (Leeper, 1948; Bower, 1981; LeDoux, 1996; Damasio, 1994). With

the waning of the cognitive revolution (Beck, 1985; Lazarus, 1984), the importance of emotions as functional sources of information having equal or greater impact on mental functions has been increasing (LeDoux, 1996; Damasio, 1994). The idea that emotion and cognition are interactive aspects of mental functioning contributed to the development of the concept of emotional intelligence (Mayer & Salovey, 1990; 1997; Mayer & Geher, 1996).

Emotional intelligence is a hybrid personality trait integrating abilities from cognitive and affective domains of mental functions (Mayer & Salovey, 1989; Mayer, Salovey & Caruso, in press; Goleman, 1995). The four branch theory of emotional intelligence (Mayer & Salovey, 1997) integrated mood, emotion and intelligence research into a unitary mental ability model of emotional intelligence. Other researchers have proposed mixed models of emotional intelligence combining mental abilities with non-ability traits.

Models of emotional intelligence

The variety of models purporting to represent emotional intelligence may be classified within 1) mixed models (BarOn, 1997; Goleman, 1995) and 2) mental ability models (Mayer, Salovey & Caruso, in press).

Mixed models of emotional intelligence. BarOn (1997) proposed a model of emotional intelligence which combines mental ability skills such as emotional self-awareness with non-ability personality traits such as assertiveness, self-regard and mood. BarOn (1997) defines emotional intelligence as “an array of personal, emotional and social competencies and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (p.3).

In BarOn's test of emotional intelligence, the EQi, emotional intelligence factors do not correlate with cognitive intelligence (Bar-On, 1997, p. 4; p. 72). BarOn's operationalization of emotional intelligence yields an Emotional Intelligence Quotient (EQ) that is scored and standardized to compare with the Wechsler Adult Intelligence Scale (WAIS, 1958). The WAIS yields an intelligence quotient (IQ) with a mean of 100 and a standard deviation of 15. The fact that no correlations between IQ and EQ were reported (BarOn, 1997) is noteworthy, since a small but significant correlation with emotional intelligence and cognitive ability or academic achievement has been reported (Mayer, Salovey & Caruso, in press; Pelliteri, 1999; Schutte et al 1998). The EQi may be more similar to a personality inventory than a test of emotional intelligence since it is 1) based on self-report; 2) aimed at measuring coping ability and 3) uncorrelated with intelligence but highly correlated with personality measures of behavior and attitude (EQi manual).

Goleman's (1995) model of emotional intelligence includes several broad areas such as knowing one's own emotions, managing emotions, delaying gratification, and the ability to enter flow states (Goleman, 1995, p. 43). Goleman's operationalization of an emotional intelligence measure is based on self-report. Validity and reliability ratings were not reported.

Goleman (1995) proposed that individuals possessing emotional intelligence are emotionally stable and psychologically healthy. Men with high emotional intelligence are described as poised, outgoing and cheerful, free of anxiety, committed to people or causes, ethical, and sympathetic and caring. Emotionally intelligent women are described as assertive and expressive, extraverted, positive and well-adapted to stress

(p. 45).

The assumptions of BarOn and Goleman are couched in an invalid argument form of reasoning referred to in philosophy as “affirming the consequent” (Conway & Munson, 1990). An example of affirming the consequent is Goleman and BarOn’s argument that people who possess particular attributes are assumed to possess the set of mental abilities associated with these attributes.

The consequent, i.e., emotional intelligence is affirmed by the manifestation of certain personality traits. People who possess these personality traits are assumed to possess the mental abilities of emotional intelligence. These assumptions of a direct relationship between emotional intelligence and psychological well-being have not been empirically examined and warrant further investigation. This study is designed to examine these assumptions.

Mental ability models of emotional intelligence. A mental ability model of emotional intelligence is “a set of abilities that accounts for how people’s emotional reports vary in their accuracy and how the more accurate understanding of emotion leads to better problem solving in an individual’s emotional life” (Mayer, Salovey & Caruso, in press, p. 3).

This model describes several discrete emotional abilities which are divided into four hierarchical classes or branches. The four branch theory begins with basic skills involving emotion perception and appraisal. The second branch involves integrating emotion into cognition and evaluating and comparing different emotions against sensations and thoughts, and trusting emotions to direct attention. The third branch involves understanding emotions sufficiently to recognize their effects and to use reasoning ability

to restore emotional equilibrium. The fourth branch requires the highest level of skill in management and regulation of emotion in oneself and others.

The mental ability model of emotional intelligence asserts that emotional intelligence is a subset of social intelligence, which is itself a subset of general intelligence. If emotional intelligence is an intelligence it must meet criteria of an intelligence: 1) mental problems must be correct or incorrect; 2) the set of mental abilities must be measurable and intercorrelated; and, 3) skills must increase with age. The four branch mental ability model of emotional intelligence appears to meet these criteria. Personality traits such as warmth, extraversion and empathy are not considered components of the mental ability model of emotional intelligence (Mayer, Salovey & Caruso, in press).

Empirical research in emotional intelligence

Emotional intelligence research is an emerging field with little empirical data from which to build hypotheses at this point in time. Relevant research findings are summarized below.

Emotional intelligence and cognitive ability. Emotional intelligence was correlated moderately and positively with a measure of verbal intelligence, supporting a relationship with cognitive ability (Mayer, Caruso and Salovey (in press). This finding has been supported recently (Pelliteri, 1999; Schutte et al, 1998). BarOn (1997) failed to find a relationship between cognitive ability and emotional intelligence.

Emotional intelligence and non-ability personality features. Some support for a relationship between emotional intelligence mental abilities and non-ability personality features comes from researchers (Schutte et al, 1997; Mayer, Salovey & Caruso, in press)

who report that subjects obtaining high emotional intelligence scores also scored high on the Openness domain of the NEO PI-R and on measures of empathy.

Gender differences in emotional intelligence were reported (Mayer, Caruso & Salovey, in press; Schutte et al, 1998) with females scoring consistently higher than males. Emotional intelligence was positively related to retrospective self-report of parental warmth, and negatively associated with reading self-improvement literature (Mayer, Caruso & Salovey, in press).

Emotional intelligence and defense mechanisms. A study of the relationship between defense mechanisms and a mental ability test of emotional intelligence (Pelliteri, 1999) reported adaptive defense style was related to the emotional knowledge component of emotional intelligence, after cognitive reasoning was partialled out. Adaptive defense mechanisms are related to emotional stability. Since emotional intelligence correlated significantly with adaptive defense mechanisms, (albeit only in subtests measuring the ability to synthesize emotions and integrate emotional knowledge), the relationship between emotional intelligence and emotional stability may be demonstrating some initial support. When emotions enter into conscious awareness, individuals are able to call up cognitive responses to modulate the intensity of the emotion episode by utilizing adaptive defense mechanisms. However, when emotion experiences come from the emotional unconscious, individuals are “blind” to their effects and are therefore unable to perceive, nor regulate their responses since they are unavailable to conscious awareness. Adaptive defense mechanisms may help individuals cope with stressors which are consciously experienced. The maladaptive defense mechanisms such as projection, intellectualization and turning against the self operate at the unconscious level of awareness. Emotional

intelligence abilities may therefore be limited to emotions that are within conscious awareness.

Emotional intelligence and psychological well-being. An initial validation of the independence of the emotional intelligence construct reported that “the status of the emotional intelligence construct is limited by measurement properties of its tests” (Davies, Stankov & Roberts, 1998, p. 989). Mixed model operationalizations of emotional intelligence were used to test the emotional intelligence construct.

The authors concluded that self-report rating scales of emotional intelligence do not add unique variance that personality tests already measure. This finding is not surprising however, since self-reported abilities are typically unreliable. The question remains whether emotional intelligence measured as an ability is unique from traditional personality traits. Davies et al (1998) employed a variety of heterogeneous measures of emotional intelligence composed mainly of self-report tests, and only one mental ability subtest of emotion perception. The one mental ability subtest used in this study, Emotion Perception, was reported to support the validity of a distinct factor of emotional intelligence.

Literature Review

The notion of emotions as disorganizing forces on cognition has a long history in psychology and psychiatry (Hilgard, 1980; Radden, 1996). In the mid part of this century, theories proposing that emotions are organizing responses (Leeper, 1948; Bower, 1981) challenged the dominant influences of the cognitive revolution (Lazarus, 1980).

Researchers in brain physiology (LeDoux, 1996) propose that emotions are primary, since neural connections from the emotional systems to the cognitive systems are stronger than

connections from the cognitive systems to the emotional systems. Emotions are powerful motivators of moment-to-moment actions and future behaviors, but they can be both useful and counterproductive. Emotional health facilitates mental health; emotional disorder affects the capacity to resolve mental problems. When emotion systems break down, anxiety and depression are common sequelae. Psychotherapy has been the treatment through which patients can learn to influence neocortical responses over the more primitive emotional systems found in the evolutionarily older part of the brain. The struggle to integrate emotion and cognition may not imply the dominance of one system over another, but an integration of emotion and cognition permitting individuals to understand and manage their conscious emotions (LeDoux, 1996, p. 21).

When we accept the premise that emotions can facilitate thought, four premises follow: 1) personality is a function of cognitive/intellective and affective/non-intellective components termed *personality traits*; 2) psychological well-being, is a function of interactions of personality traits within affective subsystems of personality; 3) intelligence is a function of interactions of personality traits within cognitive subsystems of personality; and 4) an independent socio-emotional subsystem of intelligence related to psychological well-being, termed *emotional intelligence*, is a function of interactive elements of cognitive and affective subsystems (Salovey & Mayer, 1990; Mayer & Salovey, 1997).

Trait Schema of Personality

The trait schema of personality includes intellective ability traits and non-intellective temperaments and dispositions which tend to be manifested consistently over time and situation (Cattell, 1971; Pervin & Oliver, 1997; Salovey & Mayer, 1990;

Wechsler, 1958). Traits may be functional or maladaptive mental abilities and emotional dispositions underlying global personality dimensions.

Intellective personality traits have been classified into abilities such as reasoning, memory, and spatial organization. Intelligence tests have been developed to measure mental abilities (Binet and Simon, 1916; Wechsler, 1958). Standard criteria for intelligence test measurements are 1) objective performance-based measures of mental abilities 2) measurement of an intercorrelated set of ability traits and 3) incremental developmental pattern of abilities (Wechsler, 1958).

Non-intellective personality traits encompass dispositions and temperament tendencies such as extraversion, conscientiousness and empathy (Cattell, 1971; McCrae & Costa, 1991a). Personality traits reflect characteristic features of individuals' behavior which contribute to their individuality and imbues them with a characteristic style by which they are identifiable and distinct from others. Trait models of personality employ factor analysis to statistically reduce numerous traits into orthogonal factors, each of which subsumes traits sharing common characteristics. The personality researcher names a factor according to its overriding characteristic. The factor then comes to represent a dimension of personality according to the theoretical system of the personality researcher.

Trait models of personality have been synthesized into five basic personality dimensions (Goldberg, 1993; Digman, 1990; Costa & McCrae, 1991).

Personality inventories based in trait models are comprised of questions developed to tap personality factors, such that individuals' responses will reflect their standing on each factor. From their responses, a personality profile is obtained. Personality inventories such as the 16PF (Cattell, 1971) and the NEO PI-R (Costa & McCrae, 1992) employ a

dimensional approach to personality traits and incorporate factors such as Emotional Stability or Neuroticism as measures of psychological well-being. The NEO-4, a version of the NEO PI-R used for professional development purposes, employs a four factor model (omitting the Neuroticism factor).

Psychological well-being

Psychological well-being may be understood as a functional state of mental health or psychological well-being (McCrae & Costa, 1991b). Personality inventories derived from five-factor theories of personality compare respondents' results to a comparison group. For example, above average ratings on the NEO PI-R may reflect higher levels of features of neuroticism such as anxiety, depression, or angry hostility. Ratings below the average range are more ambiguous, since they may reflect emotional stability or, paradoxically, may reflect suppression of emotional experiencing. This is a problematic aspect of dimensional approaches to personality traits, which the researcher must keep in mind when interpreting test data.

Both intelligence and emotional flexibility reflect successful adaptation to environmental demands. Individuals who possess higher levels of intellectual and socio-emotional aptitudes would be expected to possess greater levels of psychological well-being than those manifesting lower levels (Mayer, Caruso and Salovey, in press). These aptitudes are not measured by traditional intelligence tests.

Multiple subsystems of intelligence

A multi-dimensional view of intelligence involves intellectual and performance based abilities, as well as intelligences omitted from traditional measures of intelligence. Personal intelligences (Gardner, 1993) involve interpersonal and intrapersonal abilities

related to virtually all aspects of daily life. Social and personal contexts necessitate socio-emotional behavioral intelligences to maintain equilibrium in psychological well-being. Adaptive socio-emotional responses are abilities, temperaments and dispositional components of a subsystem of intelligence called emotional intelligence.

Emotional Intelligence

Emotional intelligence is a personality trait integrating abilities from both cognitive and affective domains of mental functioning. Several definitions of emotional intelligence have now been proposed (Goleman, 1995; BarOn, 1997) based on mixed models of self-reported emotional functioning. A definition employing an objective mental ability model similar to traditional standards of intelligence, is the definition selected for this study. This definition (Mayer & Salovey, 1997) states:

emotional intelligence involves the ability to perceive accurately, appraise and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth (p.5).

This definition is the basis of the four branch theory of emotional intelligence, a hierarchical information-processing approach in which incoming emotionally laden information is decoded and integrated at successively complex levels of organization. This mental ability model conforms to traditional standards of an intelligence: 1) improvement with age-maturational development, 2) measurable abilities by objective performance testing, and 3) a set of abilities demonstrating moderate intercorrelations (Mayer, Salovey & Caruso, in press).

Emotional intelligence and psychological well-being

The expectation exists that emotionally intelligent individuals should be able to identify and attend to emotion fluctuations in themselves and others, be better informed about their own and others' emotional states and more frequently engage in emotional self-regulation. In spite of media assumptions of the relationship between emotional intelligence and psychological well-being, no research literature to date has examined this premise. The relationship between these two variables of interest may be more complex than a simple linear relationship.

Summary

Emotional intelligence integrates emotion and cognition into a set of interrelated mental abilities. A four branch theory of emotional intelligence proposes a set of abilities unfolding hierarchically with age. Researchers have reported emotional intelligence is related to cognitive ability, adaptive defense mechanisms, and empathy, while the relationship between emotional intelligence and emotional stability has been speculative. An empirical exploration of these variables is warranted.

Purpose of the Study

The relationship between emotional intelligence and emotional stability remains unvalidated at this time. A unitary mental ability model of emotional intelligence conforming to traditional standards of intelligence tests will be employed to examine the relationship between emotional intelligence and emotional stability as an index of psychological well-being.

If we consider that negative emotional traits such as depression, anxiety and angry hostility are personality traits reflecting emotional instability and therefore, poor psychological well-being, individuals possessing higher levels of emotional intelligence

would be anticipated to manage stressful life events better than individuals who possess lower levels of this trait.

Research Questions

The main objective of this study is to explore the relationship between emotional intelligence and emotional stability as an index of psychological well-being. If a significant relationship exists between these variables, we may infer that these variables operate together, and explore the reasons for this relationship. Several potentially intervening influences on the relationship between emotional intelligence and an emotional stability index of psychological well-being must be identified. Potentially confounding variables identified are 1) mood at completion of emotional intelligence test 2) socially desirable responding and 3) demographic variables. The present study is an initial attempt to identify simple linear relationships between the two variables of interest, emotional intelligence and psychological health.

The influence of mood at time of testing will be controlled for in the data analysis. Mood has been reported to interfere with cognitive involvement (Mayer and Volanth, 1985). Responses on measures of emotional intelligence and/or indices of emotional stability may be influenced by mood at time of completion of test measures (Watson & Clark, 1988). To control for the possibility of mood confounding the research results, mood at the time of testing will be measured in this study.

Another confounding variable may be subjects' tendency to provide socially desirable responses (Crowne & Marlowe, 1960). The effect of response biased by social desirability in self-report scales has been contested (McCrae & Costa, 1983). This issue has not been raised with respect to a mental ability measure of emotional intelligence. For

this reason, a measure of socially desirable responding will be administered and accounted for in the final analysis.

Demographic features such as gender and age may contribute to the relationship between the two variables of interest. Support for a relationship between emotional intelligence and personality facets comes from researchers (Schutte et al, 1997; Mayer, Salovey & Caruso, in press) who report that subjects obtaining high emotional intelligence scores also scored high on the Openness domain of the NEO and on measures of empathy.

The conceptual research questions are partitioned to a main analysis and a secondary analysis.

In the main analysis the two principal questions are:

1. What is the relationship between emotional intelligence and each of the NEO-4 factors?
2. When mood, socially desirable responding and demographic variables are controlled for (in multiple regression analysis) what is the relationship between a mental ability measure of emotional intelligence and an emotional stability index of psychological well-being?
3. When mood, socially desirable responding and demographic variables are controlled for (in multiple regression analysis), which subscale or combination of subscales on a mental ability measure of emotional intelligence predict the emotional stability index of psychological well-being?

In the secondary analysis, the research question asks what is the personality profile on the four remaining personality factors (Extraversion, Openness, Agreeableness and Conscientiousness) of subjects obtaining high versus low scores on a mental ability measure of emotional intelligence.

Limitations

The major limitation of performing research in an emerging field of study is the scarcity of existing data from which to build hypotheses. This study is the first to examine the relationship between emotional intelligence and psychological well-being, therefore the nature of the research is largely exploratory.

Another limitation of the study is reliance on volunteer participants. The quasi-experimental method limits investigation to pre-existing groups within the population. This limitation decreases experimental control, and may interfere with generalizability and internal validity. Subjects may self-select for many reasons 1) because they feel confident they will perform reasonably well, 2) because they desire to improve themselves in an area of perceived weakness, or 3) on the basis of an unknown factor.

Since subjects will complete the test materials at different times, test conditions may not be consistent for all subjects. However, experimental control of test conditions is not considered to seriously contaminate the measures used in this study. The factor of convenience may compensate for less experimental control by increasing the availability and retention of subjects.

Definitions

The following definitions apply to important terms used in this study. For purposes of clarity, the terms, emotional intelligence, psychological well-being, emotional stability, and social desirability are defined.

The definition of emotional intelligence offered by Mayer and Salovey (1997) states,

emotional intelligence involves the ability to perceive accurately

appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth (p. 10).

Psychological well-being (Costa & McCrae, 1992) is a construct which has been used interchangeably with morale, mental health, life-satisfaction, and subjective well-being. Costa and McCrae (1992) define psychological well-being operationally by performance on the Neuroticism domain of the NEO PI-R. This domain contrasts adjustment with maladjustment. Individuals obtaining highest scores on the Neuroticism domain are considered to be more maladjusted than those obtaining lower scores. Individuals high in Neuroticism are “prone to have irrational ideas, to be less able to control their impulses and to cope poorly with stress” (p. 14). Costa & McCrae’s (1980) model of psychological well-being posits that positive affects are related to Extraversion, negative affects to Neuroticism and happiness to standing on both.

Emotional stability may be defined as “a state of mental health reflecting relatively good adjustment, feelings of well-being, and actualization of one’s potentials and capacities” (Wolman, 1989, p. 214).

The terms *mood*, *affect*, *feeling* and *feeling state* are used interchangeably to refer to transient global and affect states, such as transient states of happiness or sadness (Erber, 1987).

Social desirability refers to response distortion on personality test items (Edwards, 1957) to present oneself in a favorable light (Crowne & Marlowe, 1960).

Importance of the Study

The main goal of the study is to examine the relationship between emotional intelligence and psychological well-being. It is important to determine whether such a relationship exists, because media publicity about emotional intelligence continues to encourage dissemination and implementation of training programs in the absence of empirical validation of the basic constructs involved.

If emotional intelligence is a viable construct, it should have clinical utility. In psychotherapy settings, emotional intelligence screening may yield information enabling clinicians to differentiate individuals who may benefit most from psychotherapy based on higher emotional intelligence scores. Individuals with high scores on emotional intelligence, although experiencing high levels of negative emotionality may have better potential for improvement in psychotherapy settings than their emotionally negative counterparts who obtain low scores on emotional intelligence measures. Psychotherapists may be better informed in developing treatment plans directed toward areas of strength and weakness in emotional development based on emotional intelligence assessment and personality profiles.

In organizational settings, individual and group emotional intelligence trainings may be developed to improve interpersonal and intrapersonal emotional skills required of leadership roles and team performance. Analysis of personality profiles of the four NEO factors excluding emotional stability, may yield information relevant to development of specific skill sets in training emotional intelligence skills. Cognitive-behavioral training programs may be more suitable to organizational settings, and these types of behavioral interventions may be valuable assets to organizations where supervisory and managerial

soft skills in need of improvement. Regardless of the training focus, training programs should be developed from empirically derived data.

Summary

An empirical exploration of the relationship between a mental ability measure of emotional intelligence and psychological well-being has not been performed to the present time, although assumptions have proliferated in the mass media. It is important to determine whether such a relationship exists, because media publicity about emotional intelligence continues to encourage dissemination and implementation of training programs in the absence of empirical validation of the basic constructs involved.

CHAPTER II: REVIEW OF THE LITERATURE

Introduction

In the mid part of this century, the study of emotion advanced when a theory of emotions as organizing responses challenged prevailing conceptions of emotions as disorganizing forces on cognition (Leeper, 1948). Subsequent empirical studies reported emotions organize thought and memory to deal with emotion-evoking events (Bower, Montiero & Gilligan, 1978; Bower, 1981). As the cognitive revolution waned, researchers debated the primacy of cognition over affect (Lazarus, 1984; Zajonc, 1980).

At this time, the subject of emotions as organized responses continues to receive considerable theoretical and empirical attention (Frijda, 1988; Izard, 1993; Tomkins, 1962). The notion that emotions can facilitate thought introduces four premises: 1) personality is a function of cognitive/intellective and affective/non-intellective components termed *personality traits*; 2) psychological well-being, which is determined in part by biological and hereditary factors, is a function of interactions of personality traits within affective subsystems of personality; 3) intelligence is a function of interactions of personality traits within cognitive subsystems of personality; and 4) an independent socio-emotional subsystem of intelligence related to psychological well-being, termed *emotional intelligence*, is a function of combined elements of cognitive and affective subsystems (Salovey & Mayer, 1990; Mayer & Salovey, 1997). These four premises encompass the key themes of this literature review: 1) trait schema of personality; 2) psychological well-being; 3) multiple intelligences; and 4) emotional intelligence.

This literature review branches into several subdisciplines of psychology, such as personality, psychological assessment, affect and cognition, counseling and psychotherapy, and social psychology. An integral part of this review involves a structural demarcation of the key areas of exploration.

The first part of this chapter introduces a trait schema of personality in which cognitive/intellective and affective/non-intellective personality traits are examined. The pros and cons of trait models of personality are presented and classificatory and dimensional approaches to personality assessment are compared. Finally, a five-factor dimensional approach to personality assessment is examined.

The second part of this chapter links personality assessment to psychological well-being. Various definitions of psychological well-being and its assessment are examined and applications of the five-factor trait model to personality assessment are presented. There is also an examination of Goldberg's (1993) five-factor model to assess psychological well-being.

The third part of this chapter explores multiple intelligences. The relationship between multiple intelligences, personality and intelligence as measured by intelligence quotient (IQ) tests is made. Multiple intelligences, successful intelligence and social intelligence are discussed. The relationship between multiple intelligences, psychological well-being and personality traits is made.

The fourth part of this chapter discusses emotional intelligence. Empirical studies on the primacy of emotion and cognition are evaluated. A definition of emotional intelligence is presented and competing models of emotional intelligence are reviewed. A model of emotional intelligence, based on normal utilization of higher mental processes is

examined. Arguments for and against the viability of a mental ability model of emotional intelligence are considered, and the relationship between emotional intelligence, personality traits and psychological well-being is examined.

Trait Schema of Personality

Personality may be conceptualized as a group of components operating together and systematically (Pervin & Oliver, 1997). In the trait schema of personality, these components are referred to as personality traits. Traits are the basic structural components of personality which contribute to individual differences (Cattell, 1971; Costa & McCrae, 1980; Eysenck, 1967). Traits tend to be manifested consistently over time and situation (Pervin & Oliver, 1997) and include intellectual abilities and non-intellectual temperaments and dispositions. (Traditionally, conative/motivational tendencies have formed a third part of the system. For organizational purposes, this review considers motivation affectively evoked, and therefore subsumed within the non-intellectual domain). Thus, personality traits reflect cognitive/intellectual and affective/non-intellectual abilities and dispositional tendencies (Cattell, 1971; Heim, 1975; Salovey & Mayer, 1990; Wechsler, 1958).

Traits refer to functional or maladaptive emotional dispositions and mental abilities underlying global personality dimensions. Mental ability traits are components of the cognitive domain of personality while dispositional and emotional tendencies connote traits in the affective domain.

Intellectual Personality Traits

Intellectual traits have been classified into subcomponents such as reasoning ability, memory, sequencing ability and spatial organization. Intelligence refers to the ability to adapt to one's environment through learning.

Binet and Simon's (1916) measurement of individual differences in performance abilities on intellectual tasks of comprehension, reasoning and judgment set a standard for intelligence tests (Spearman, 1927; Wechsler, 1975). Standard criteria for the measurement of an intelligence involve 1) objective performance-based measures of mental abilities 2) measurement of an inter-correlated set of ability traits and 3) an incremental developmental pattern of abilities (Wechsler, 1975).

Intelligence tests have proven to be reliable predictors of academic achievement, accounting for approximately 20% of the variance of academic success. Correlations between IQ, SAT scores, and grade point average have consistently supported the predictive validity of intelligence tests (Mayer, Salovey & Caruso, in press).

Intelligence is operationally measured by intelligence tests. The Wechsler scales (Wechsler, 1958) are widely used intelligence tests measuring cognitive/intellectual Verbal and Performance abilities, each of which is further classified into five dimensions. For example, the Verbal section of the Wechsler Adult Intelligence Scale (WAIS) measures the ability to learn new information, numerical problem solving, abstracting ability, judgment and vocabulary.

Non-intellectual Personality Traits Dispositional traits are non-intellectual aspects of personality, and may be described along dimensions such as tense-calm, impulsive-cautious, and talkative-shy. Thus, personality traits are characteristics of personality which reflect idiosyncratic differences among individuals. Just as a famous painter's works may be identified in artistic style, or a musician's compositions may be identified by the imprint of musical style, personality may be conceptualized as sets of components

operating in unique ways that represent emblematic themes of particular individuals (Adler, 1956).

These component traits are stable over time and are manifested consistently irrespective of different situations.

Trait Models of Personality

Trait models of personality are based on factor analysis, a statistical method of reducing large numbers of variables into aggregates of similar variables. Personality dimensions are composed of large numbers of traits. When large numbers of traits are aggregated, factor analysis statistically reduces these traits into orthogonal factors. Each factor subsumes traits sharing common or overlapping characteristics. These factors are given names which represent facets, or dimensions of personality. The factor analytic approach is among the most widely used statistical procedure for reducing traits into personality dimensions.

Trait theory places emphasis on descriptions of emotions. It does not elaborate on developmental aspects of emotions, nor on the mechanisms by which emotions are connected to other parts of personality (Pervin, 1993).

Problems of Trait Models. Although the trait model has shown significant predictive validity for cognitive domains, in the personality domain the effectiveness of the trait model has been questioned (Mumford, Stokes & Owens, 1990). Until recently, the trait and factor models of personality have had poor empirical validation for explanatory power and predictive validity across various situations (Mischel, 1969; Sechrest, 1974). Mischel (1969) commented that personality measures based on trait models have poor reliability over time intervals of 2 to 5 years, and even over short-term intervals. Although

the trait model has been employed in developing personality measures for the past sixty years, other approaches to the measurement of personality may be warranted, e.g., biodata measures (Mumford, Stokes & Owens, 1990) and act frequencies (Buss & Craik, 1983).

Biodata measures are an alternative form of personality measurement. Like the trait theory approach, biodata measures attempt to understand personality by describing behaviors. Biodata however, emphasize descriptions of the ecological context of daily life. The biodata approach involves construction of objective questions of individuals' life history, item counts of personal possessions within the life space, behavioral and act frequencies, and historical data. In spite of its promise of improved reliability and validity due to the potential objective validation of responses as compared to non-verifiable self-report measures, applications to personality measurement remain exploratory (Mayer, Carlsmith & Chabot, 1998).

The act frequency approach identifies dispositional traits using frequency counts of behaviors (Buss & Craik, 1983). This methodology isolates constructs of interest by means of interviews with individuals who have knowledge of the domain. Once the behaviors are assessed for prototypicality, a list of items is constructed.

A general criticism of the trait approach is the reliance on self-report inventories to assess personality. The validity of self-reports is questioned on the premise self-assessment is more reflective of subjects' beliefs about their feelings and thoughts than their actual feelings and thoughts; that is, their perceptions are actually being reported. These criticisms may in fact support the argument for self-reported beliefs and behaviors. The personality profile offers an organization of emotion and behavior reflected in scale ratings. Since behavior can be understood as an outcome of an emotional valence in

response to any given event, (Mayer & Salovey, 1988; Zajonc, 1984) all behavior can be understood in a framework of affect-motivated behavior. Mood studies have identified two basic dimensions of mood as Pleasantness-Unpleasantness and Arousal-Calm (Mayer & Gaschke, 1988); others have reported two independent dimensions in the structure of affect are positive and negative mood (Watson, Clark, & Tellegen, 1988). Tomkins (1962) and Izard (1993) have conceptualized behavior within two fundamental domains of positive and negative affect. Emotional activation, in their view, stems from like-dislike evaluations of the total ecological surround. That is, individuals constantly evaluate the environment based on positively or negatively valenced evaluations at conscious and unconscious levels of awareness. These evaluations influence their feelings and beliefs and motivate their choice of actions in their environment. Therefore, subjects' self-reports can only reflect their biased self-perceptions; these however, are accurate reflections of their self-appraisal.

Although alternative methods of conceptualizing and measuring personality objectively rather than subjectively may be valuable, there remain considerable obstacles to implementation of these innovative methods. Problems with behavioral validation, ethics of confidentiality, and lack of available resources post considerable obstacles. Overall, biodata and act frequency methods remain clumsy, and therefore, do not lend themselves easily to personality assessment at this time.

Assets of Trait Models. Recent reformulations of the trait model (Costa & McCrae, 1986a) have gathered consensus that personality may be effectively described in terms of five basic factors (Digman, 1990; Goldberg, 1993; Norman, 1963). The popularity of self-report measures such as the Neo Personality Inventory (NEO PI-R) may

be due to ease of administration and interpretation, clarity, and adequate reliability and validity. Self-report measures are useful in clinical settings, while biodata are more applicable to survey, research and organizational development settings.

Situationists, interactionists and trait theorists argue the point of stability of behavior over time. Recent empirical studies affirm the long term stability of personality dimensions, contrary to previous criticisms (Mischel, 1969; Sechrest, 1974). Several longitudinal studies have reported the stability of personality dimensions over time (Costa & McCrae, 1986b; 1988).

Trait models are compatible with classificatory and dimensional assessment systems. An early system of personality assessment was based on the Kraepelinian method of diagnostic classification. The contemporary version of the Kraepelinian system is the DSM-IV classificatory approach.

Classificatory and Dimensional Approaches to Personality

Classificatory Approach. The classificatory approach is based in a medical model of symptomology. In the medical model, the influence of psychiatry led to a typology and classification of frequency and severity of symptoms compiled in the Diagnostic and Statistical Manual (DSM-IV, 1994). The classificatory approach converts symptoms into quantifiable frequencies and duration; a decision is made on the basis of a cut-off point along a designated scale. Advantages of a categorical approach include 1) an agreed upon common shorthand language for ease of communication among diagnosticians; and 2) inter-rater consistency in clinical decision-making. However, a long-standing difficulty with DSM-IV diagnoses has been poor inter-rater reliability in classifying personality

disorders. The debate between personality classifications performed categorically or dimensionally has not been resolved (Blashfield, 1984).

Dimensional Approach. The dimensional approach may be classified as a non-medical model since it considers personality traits continuously distributed and manifested in individual differences. Some individuals may possess a trait to a small degree, or not at all, while others may possess the same trait very strongly. Among those individuals who possess a particular trait, the strength of the trait will vary along a continuum. Individual differences may be measured at both extremes of the continuum, as well as in the middle, or average range. The high extreme indicates the strongest presence of that trait, while the low extreme indicates a weak presence. A dimensional rating relies on degrees of severity rather than a final determination whether a disorder is present.

Both normal and abnormal personality are encompassed in the dimensional approach to traits. In the normal range, traits reflect individual differences in adaptation. In the upper and lower ranges, abnormal response patterns may be inferred. Abnormal, or personality dysfunctions are characterized by inflexible responses to environmental impingements, causing psychic distress or aberrant behavior. This perspective of normal/abnormal personality existing on a continuum of traits commonly observed in personality variation represents an integration of classificatory and trait models of personality assessment (Clark, Vorhies, & McEwen, 1992).

Emotion-Activated Personality Traits

Individual differences in emotion activation thresholds lead to differences in the frequency of emotion experiences. Frequent experiences of a particular emotion tend to organize particular types of cognition and action, and recurring patterns of emotion-

cognition-action sequences lead to the development of a characteristic way of responding. With repetition over time, these characteristic responses are consolidated into personality traits. For example, people with low thresholds for positive emotions are characteristically happy, and their positive emotionality tends to be stable over time. Positive mood lowers the threshold for social interaction, thus, positive emotionality in childhood increases the likelihood of the emergence of the personality dimension of extroversion. Similarly, low thresholds for negative emotions foster development of the personality dimension of negative emotionality or neuroticism.

Studies have empirically examined the relations between indices of emotion experience and dimensions of personality as assessed by the five-factor model (McCrae & Costa, 1987). This leads to measures of extroversion, neuroticism, openness to experience, agreeableness and conscientiousness. Positive emotionality and extroversion are positively correlated; while negative emotionality and neuroticism are correlated. Emmons & Diener (1985) suggest that activation of emotions associated with a personality trait is facilitated by situations congruent with that trait. People who scored high on extroversion were happier when allowed to choose to be with others than when they were required to be alone. This seems to support the notion that emotions evoke traits and trait related behaviors.

Summary

The trait schema of personality considers both cognitive/intellective and affective/non-intellective abilities and dispositions personality traits. Personality traits have demonstrated stability over time and consistency of trait manifestation across situations. Comparison between classificatory and dimensional approaches to personality

diagnosis supports the dimensional approach for reasons of efficiency, clarity and greater accuracy of ratings along factor dimensions.

Psychological well-being

Personality Traits and Psychological well-being

Personality theorists at the turn of the century claimed the domain of psychological well-being while focusing on psychological disorders. Freud's famous dictum about the need for love and work in a satisfying life, (*liebe und arbeit*), and Adler's requirement of social interest (*gemeinschaftesgefühl*), encompassed the three great life tasks. Functional deficits in these life tasks were directly related to psychological maladjustments.

Contemporary personality theorists conceptualize well-adjusted personalities by the functional nature of personality components that work well together, communicate freely and cooperatively to produce good outcomes (Assagioli, 1976; Bowen, 1978; Csikszentmihalyi, 1993; Maslow, 1968), consequently balancing emotional and intellectual systems.

An equilibrium between intellectual and emotional systems has been hypothesized to facilitate psychological well-being. Several constructs connoting affective and cognitive equilibrium have been proposed: *self-differentiation* (Bowen, 1978), *constructive thinking* (Epstein, 1993), and *personal intelligence* (Gardner, 1993). These constructs conceptualize mutually exclusive cognitive and affective subsystems of personality. In fact, the historical tradition in psychology has upheld the conceptual division between cognitive and affective domains of mind (Hilgard, 1980). In this tradition, one may respond to environmental demands using either the cognitive/intellective or affective/non-intellective subsystem.

Contemporary personality researchers continue to seek out traits indicative of individuals possessing psychological well-being. For example, individuals capable of maintaining psychological well-being in the face of elevated levels of stressors were said to possess a trait labeled *hardiness* (Kobasa, 1979).

Definitions of Psychological well-being

In the era when functional states of emotionality were referred to as *mental health* (Patty and Johnson, 1953) personality disorders were referred to as *mental illness*. As these terms fell out of favor, the study of mental health branched into subcategories such as psychological and subjective well-being, happiness and life satisfaction (Bradburn, 1969; Campbell, 1976; Neugarten, Havighurst & Tobin, 1961). These functional states have been interpreted by researchers to connote mental health (Moriwaki, 1974; Robinson, 1969). The current literature finds a lack of consensus in terminology referring to healthy psychological functioning. For purposes of clarity, this review will refer to healthy psychological functioning within the normal range, as *psychological well-being*.

Assessment of Psychological well-being

The assessment of personality and psychological well-being has a long history (Mayer & Sutton, 1996), beginning with Hippocrates' theory of bodily humors to classify individual differences in personality. Individual differences among biological and genetic predispositions (Buss & Plomin, 1984) temperament factors (Kagan, 1994) and environmental influences shape and influence individuals' functional level of psychological well-being. Contemporary diagnostic systems such as ICD- 9 and DSM-IV are classificatory systems to diagnose individual differences in personality and general adaptive functioning levels indicative of psychological well-being.

In the psychiatric tradition, the assessment interview is used to assess personality disorders. In psychology, the predominant tool is the personality inventory. This approach reduces numerous self-report statements via factor analysis into factors subsuming personality traits (Cattell, 1971; Costa & McCrae, 1980; Eysenck & Eysenck, 1975; Pervin & Oliver, 1997).

Personality inventories are based on factors identified by the personality theorist. They are administered to assess psychological well-being and/or level of pathology. The presence of psychological well-being implies normal personality functioning, effective adjustment to one's environment, subjective and psychological well-being, and the potential to fulfill one's goals (Millon, 1994). Conversely, distorted perceptions and maladaptive responses augment psychological distress and limit psychological growth. When the range of movement is constricted by emotional instability, maladaptive patterns may appear. Maladaptive patterns are reflected along dimensions of self-report personality inventories such as the NEO (Costa & McCrae, 1992).

An alternative approach to assessment of psychological well-being considers psychological well-being the dependent variable predicted by the discrepancy between scores of positive and negative affect (Bradburn, 1969). Negative affect is associated with emotional instability (Eysenck, 1975; Guilford, Zimmerman & Guilford, 1976; Watson & Clark, 1984; Costa & McCrae, 1992), with frequent experiencing of negatively valenced emotions such as anger, disgust, sadness, and fear. The high correlations between Eysenck's, Guilford's and the five-factor model personality inventories as reported (Costa & McCrae, 1992; Digman, 1990), infers that these personality scales measure overlapping constructs. Measurement of affect experienced on a continuum locates the most negative

affects associated with psychological dysfunction at one extreme, while the more positive affects such as enthusiasm, agreeableness, optimism, and calm are associated with psychological well-being.

Five-Factor Assessment Model of Psychological well-being. McCrae (1991)

defines the five-factor model of personality as “a version of trait theory which holds that the many ways in which individuals differ in their enduring emotional, interpersonal, experiential, attitudinal and motivational styles can be summarized in terms of five basic factors” (p. 399). The five-factor model of personality was integrated by Costa & McCrae (1980) into a personality assessment measure called the NEO; it was revised and renamed the NEO Personality Inventory (1992). The validity of the five factor approach has been evaluated and compared with several well-validated and widely used self-report personality inventories (Digman, 1990; Goldberg, 1993); numerous empirical studies exist to support this approach. It is based in the factor analytic approach to aggregating traits, and is distinguished by its foundation in a lexical terminology (Goldberg 1993). Goldberg evaluated his own and other researchers’ quest for global descriptors underlying personality, concluding that five personality dimensions appear consistently in his own and in the work of several personality researchers. In the five-factor model, each of the five factors subsumes a number of particular traits. The five factors are considered “superfactors” for this reason. They are: *Neuroticism (N)*, *Extroversion (E)*, *Openness (O)*, *Agreeableness (A)*, and *Conscientiousness (C)*. These factors are briefly described below. Scores in the average range on all factors reflect normality, or psychological well-being.

Neuroticism reflects negative affect. It is the dimension beneath experience of chronic emotional distress, in emotions such as frustration, guilt and fear. The clinical concomitants for these emotions are generally depression and anxiety. High scores on the Neuroticism continuum reflect neurotic traits such as excessive worry and negative affect, average scores reflect emotional stability and low scores may indicate lack of emotional responding.

Extroversion reflects energy, observed behaviorally as sociability, and temperamental predispositions toward high levels of enthusiasm and optimism. High scores reflect social interest and positive affect, while low scores reflect disinterest in social participation, reclusive tendencies or shyness.

The Openness dimension reflects openness to experience, creativity, and intellectual curiosity. Characteristics on the high end of the continuum include aesthetic sensibility, intellectual curiosity and a tolerant, liberal attitude. On the low end, individuals tend to be closed, conventional or narrow-minded in attitude and interests.

The Agreeable dimension, reflects altruism, trust and cooperation, along with a generally accommodating attitude, with antagonism, pessimism and insensitivity at the low end of the continuum.

The Conscientiousness dimension reflects constraint, and encompasses dutifulness, competence, and self-discipline, while lack of organization, low need for achievement and impulsivity fall at the low end of this dimension.

For each dimension, trait adjectives are associated with ratings in the high, average or low. For example, at the low end of the Neuroticism dimension, low scores would suggest adjectival descriptors such as calm, relaxed, self-satisfied, unemotional, and

contented. At the high end of the Neuroticism dimension, high scores are interpreted to reflect emotional instability, along with a range of neurotic emotions, including sadness, anxiety, irritability and nervous tension. The use of adjectival descriptors facilitates an idiographic understanding of the individual's personality, in contrast with the more nomothetic classificatory diagnostic system. This contributes to extrapolation of subtleties in individual differences of personality. Stereotyping is diminished by providing more precise information (Widiger and Frances, 1994).

The profile of ratings along the five personality dimensions yields a gestalt, or snapshot of the personality. Patterns of dimensional ratings have been related to DSM-III and DSM-IV personality disorders (Widiger, Trull, Clarkin, Sanderson & Costa, 1992).

Detractors of the five-factor model have criticized it for its reliance on descriptions of personality dimensions while failing to account for the sources of these traits (McAdams, 1992). Others expressed concerns regarding: 1) the limitations of five independent dimensions to explain personality development; and 2) the risk of over-reliance on any one model of personality (Block, 1995); and 3) the adequacy of the five-factor model for clinical assessments (Ben-Porath & Waller 1992).

Although the NEO was not designed to measure psychopathology, (McCrae and Costa, 1991) a five-factor translation of personality disorders is receiving recognition (Schroeder, Wormworth and Livesley, 1994; Clark, Vorhies & McEwen, 1992). For counseling and psychotherapy applications, psychotherapeutic models of clinical utility using the Five-Factor Model of personality have been proposed (McCrae & Costa, 1991; Miller, 1991).

Psychological well-being and Intelligence

Psychological well-being does not infer an absence of negative affect. Rather, it is individuals' *perceptions of both positive and negative affects that influence psychological well-being* (Adler, 1927; Adler, 1932/1979). That is, the accurate labeling of both positive and negative affects in oneself and others, the ability to assimilate and accommodate to these affects, and to manage their duration distinguishes psychologically healthy individuals from those in whom psychological well-being is more precarious.

Psychological well-being involves the ability to perceive, identify and assimilate incoming emotional information using personality traits involved in both cognitive and affective subsystems of personality. Individuals who have learned to access higher mental processes to resolve non-personal as well as interpersonal and intrapersonal difficulties may be said to have acquired skills of adaptation to a variety of challenging contexts. It would be predicted that individuals demonstrating these skills would possess greater levels of psychological well-being than individuals who have not mastered these skills. Since successful adaptation is a hallmark of intelligence, we must conclude that successful adaptation involves more than traditional measures of IQ have accounted for.

In empirical studies, intellectual traits such as IQ have not shown significant associations with personality measures reflected in mental, physical and interpersonal measures of adjustment (Felsman and Vaillant, 1987; Vaillant, 1977). In longitudinal studies, intelligence was a poor predictor of psychological well-being or successful adaptation to life, while personality attributes described as *ego strength* were more accurate predictors of successful adjustment.

These studies support a reconsideration of current notions of intelligence. Intelligence tests yielding IQ scores have measured non-personal areas of mental

functioning, yet they have been used to predict successful interpersonal and intrapersonal adaptation. For example, employment recruiters typically select the highest achievers among university graduates for interviews, yet these graduates may not possess the social and emotional adaptation skills required for successful integration into employment settings. The logic of using intelligence and academic achievement as predictors of workplace success is flawed. Intelligence must be redefined to include mental abilities required for adaptation in any environmental context.

Summary

Psychological well-being is defined as a functional state of psychological well-being. In the five-factor assessment of psychological well-being, ratings in the average range along personality dimensions reflect psychological well-being. Ratings outside the average range tend to reflect negative affect, suggesting relative disturbances of psychological well-being.

Successful adaptation to challenging situations is a sign of intelligence. Successful adaptation to changing social and emotional environmental contexts is also an indication of psychological well-being. Individuals who have acquired knowledge and aptitudes in socio-emotional areas would be expected to possess greater levels of psychological well-being than those who have lower levels of knowledge in these areas. They may be said to possess aspects of intelligence which are not measured by IQ tests.

Multiple Subsystems of Intelligence

Intelligence and Personality

Personality may be conceptualized as a complex set of components which organize individuals' experiences, perceptions, comprehension and interaction with the external

environment. To the psychotherapist, personality is indivisible. Individuals' intelligence, social context, behavioral responses and emotional reactions operate in concert. The mental and emotional life is seen as a single system (Dollard & Miller, 1950).

To the scientist, personality components are best divided into sets of traits, in order to isolate and study a specific area and its functions. In the previous sections, the relationship between traits in affective personality subsystems, the five-factor model of personality, and psychological well-being was explored. This section extends the exploration of personality into multiple subsystems of intelligence.

Personality traits have been broadly divided into cognitive/intellective and affective/non-intellective categories. Non-intellective traits are classified within behavioral dispositions and preferences measured along personality dimensions such as the five-factor model of assessment. Intellective traits are classified as abilities, skills and aptitudes measured by intelligence tests. The concept of multiple intelligences sets in motion a series of reconsiderations of intelligence as it has come to be measured by IQ tests.

Intellective Intelligence. Wechsler (1958) defined intelligence as a global capacity to act purposefully, to think rationally and to deal effectively with the environment. In Wechsler's theoretical formulation of intelligence, learning ability included intellective and non-intellective abilities. However, the Wechsler scales limited the measurement of IQ to higher mental abilities involved in non-personal domains. These areas have remained neglected in the measurement of intelligence. The widespread use of the Wechsler scales to measure intellectual capacities of children and adults has perhaps lost sight of Wechsler's initial purpose in developing measures of higher mental abilities.

Non-intellective Intelligences

Multiple Intelligences. Gardner's (1993) theory of *multiple intelligences* proposes intelligence is more than a single, unitary construct as it has been understood in its commonest representation by IQ tests. Moreover, intelligence is more than a set of multiple abilities. Gardner's theory of multiple intelligences proposes seven distinct intelligences. Each involves a separate subsystem of intelligent functioning, although interactions among subsystems can contribute to what is considered intelligent functioning. The seven intelligences identified by Gardner (1993) are: 1) linguistic intelligence; 2) logical-mathematical intelligence; 3) spatial intelligence; 4) musical intelligence; 5) kinesthetic intelligence; 6) interpersonal intelligence; and 7) intrapersonal intelligence. The theory lends credence to the reconsideration of intelligence as multi-dimensional, which IQ has failed to measure. In particular, the personal intelligences, subsumed in the interpersonal and intrapersonal forms of intelligence identified by Gardner, involve recognition of one's own self and the existence of other persons. Successful intrapersonal intelligence involve access to one's own intrapsychic feelings - the range of emotions, the ability to discriminate among them, to identify emotions, and to access and assimilate emotions in the service of intelligent self-management. In this perspective, successful intelligence is as important as scholastic performance to success in everyday life. Successful interpersonal intelligence "involves the ability to notice and make distinctions among other individuals and in particular, among their moods, temperaments, motivations and intentions" (p. 240). Since personal intelligences involve all contexts of adaptation, these forms of intelligence may more accurately reflect successful intelligence than IQ tests alone.

Successful Intelligence. *Successful intelligence* (Sternberg, 1996) incorporates analytical intelligence, creative intelligence and practical intelligence. Sternberg considers successful intelligence is more than having intellectual abilities - it is as important to know when and how to apply these aspects of successful intelligence as it is to possess these abilities. Successful intelligence requires judicious and flexible application of abilities according to shifting contexts.

The current educational system has reified IQ tests to the extent that erroneous decisions made on the basis of IQ tests alone disqualify many individuals from achieving their actual potential. A reconsideration of intelligence from multiple perspectives of intelligent functioning is in progress. The American Psychological Association (APA) Task Force on Psychological Tests and Assessment (Neisser et al, 1996) agreed that intelligence based on test scores alone fails to attend to other aspects of mental ability which may be equally important. New theories of intelligence addressing intellectual as well as non-intellectual aspects of intelligence are gaining recognition. The task force noted, "we should be open to the possibility that our understanding of intelligence in the future will be rather different from what it is today" (p. 80).

Social Intelligence. The roots of social intelligence may be found in the writings of Alfred Adler, an early social psychologist. Adler (1912/1956) viewed emotions as organizing forces promoting the creative power of the individual. In his view, rational actions, behaviors and forms of expression lead to socially oriented behaviors. *Private intelligence* is distinguished from *common sense* by its characteristic movement away from social interest (*gemeinschaftesgefühl*). Individuals are susceptible to a private intelligence by which their actions are guided away from social interest. Although Adler's theory

alluded to both social intelligence and emotional intelligence, it failed to attend to processes of emotional acquisition of social feeling. The “non-intellective factor” in intelligence (Adler, 1912/1956; p. 148) determines whether an individual’s intellectual solution to a problem will be socially intelligent, and the private intelligence influences a response lacking social feeling, i.e., lacking emotional intelligence (Salovey & Mayer, 1990).

Thorndike (1920) proposed social intelligence is a non-intellective ability to understand others and behave wisely in relating to others. If we consider that the ability to understand and deal with people requires a particular kind of intelligence, distinct from abstract and concrete intelligence, a multifactor approach to intelligence should incorporate aspects of social intelligence into a more comprehensive measure combining both intellective and non-intellective aspects of intelligence.

A test of social intelligence was developed (Moss, Hunt, Omwake & Ronning, 1927) based on an operational definition of Thorndike’s (1912) original definition of social intelligence. Although it proved to be basically a test of the ability to get along with people (Walker & Foley, 1973), an important distinction became clear - that between being able to understand the behavior of others and being able to behave in a socially appropriate manner. Thus, a social intelligence would have to account for both the ability to interpret interpersonal social cues *and* to act wisely in responding to these cues.

Jackson (1984) commented on the insufficient attention given to social intelligence in the psychometric measurement of intelligence. But the extent to which individuals employ social intelligence in interpersonal relationships, job adjustment skills, impression management and comprehension of social norms is distinct from general intelligence.

Empirical support for an oblique social intelligence factor was labeled *social insight* (Legree, 1995). Social insight loaded substantially on a general factor of intelligence, as well as showing evidence of an independent factor. This data lends support to multiple intelligence theories (Gardner, 1993; Sternberg, 1996) claiming independent subsystems of intelligence such as social intelligence.

Constructive thinking is a form of social intelligence (Epstein & Meier, 1989). The Constructive Thinking Inventory (CTI) identified independent intellectual and nonintellectual factors. In empirical studies, the CTI reported significant correlations with psychological well-being, physical well-being and stability in relationships.

Multiple Intelligences, Psychological well-being and Personality Traits. Before the practice of using IQ tests, intelligence referred to the ability to profit from experience, the implication being that intelligence is the ability to behave adaptively, and to function successfully within challenging contexts. Thus, intelligence tests should measure both non-personal intelligences and personal intelligences. Incorporating multiple intelligences into present notions of intelligence would perhaps offer greater insights into the reasons why some individuals with average scores on intelligence tests appear to be more successful in life than individuals with superior IQ scores. Developing intelligence tests to measure personal intelligences would provide assessment of a wider range of abilities within multiple subsystems of intelligence. In particular, intelligence tests of socio-emotional abilities may improve predictive validity of IQ tests presently used to predict achievement. Ratings of psychological well-being reflected in personality dimension scores should be associated with high scores on a test of socio-emotional intelligence that fulfills traditional standards of an intelligence.

Summary

Multiple subsystems of intelligence extend the definition of intelligence beyond a unitary construct. A multi-dimensional view of intelligence includes intellectual abilities such as verbal abilities and performance-based logic and spatial abilities, as well as intelligences excluded from current notions of intelligence. Musical and kinesthetic intelligences involve musical performance and composition and physical abilities involving spatial coordination. Personal intelligences involve interpersonal and intrapersonal abilities involved in virtually every area of life. Individual and social contexts require adaptive socio-emotional responses to maintain balance in psychological well-being. Adaptive socio-emotional responses are abilities, temperaments and dispositional components of a subsystem of intelligence called emotional intelligence.

Emotional Intelligence

History of Cognition, Affect and Conation

The division of mind into cognition, affect and conation has a 200 year history in psychology, with an emphasis on cognition (Heim, 1975; Hilgard, 1980). The early traditional view of mind proposed a tripartite classification system in which mental abilities operated within independent intellectual, emotional and motivational domains (Hilgard, 1980). The tripartite classification system fostered phrenology, a system of faculty psychology, in which mental faculties and dispositions were considered to occupy specific sites in the brain, evidenced by bumps on the scalp.

The dualism between reason (cognition) and passion (affect) has been attributed to Kantian influences (Radden, 1996). The influence of Kantian thinking on the classification split between mental disorders of affect (disorders of mood such as anxiety and

depression) and those of cognition, (disorders originally termed *dementias* of cognition, delusion or memory) are still discernible in the contemporary diagnostic systems such as the DSM-IV (Radden, 1996). The notion of an independent mental ability bridging conceptual boundaries between cognitive/intellective and affective/non-intellective domains is a departure from traditional models of psychological functioning.

Definition of Emotion

Emotions may be considered coordinated responses to internal or external stimuli which are ideographically valenced positively or negatively by the experiencing individual. (Salovey & Mayer, 1990). Emotions evolve in a developmental framework over the lifespan. For example, a developmental marker of emotional maturity is the capacity for meta-experience (Mayer & Gaschke, 1988). Meta-experience involves intrapersonal communication with the *self*, a concept defined as “one’s mental representation of one’s own personality...in the physical and social world” (Kihlstrom, Marchese-Foster, & Klein, 1997, p. 154). Meta-experiences are dependent on the self-referential, self-reflective capacities of being self-aware, being able to reflect on one’s feelings and feed information to the self bi-directionally via cognitive and affective modalities (Mayer & Gaschke, 1988). Awareness of oneself as distinct from others unfolds developmentally in early childhood. As the self-concept develops children learn to distinguish their own emotions from those of others.

Traditional Explanations of Emotion. At early developmental levels, children may disown their emotions by attributing them to others. The meaning of emotion may be traced to its Latin roots, meaning “emovere”, to move outward, as in traveling from one place to another. Thus, emotions connote an outward movement of an internal negative or

positive experience to the externalized expression of that state. At more mature levels of development, awareness of emotion takes place intrapsychically, moving between levels of perception, appraisal and self-regulation of emotional expression. The question of primacy of emotion over cognition has been an ongoing debate. Models of emotion may be classified into 1) primacy of cognition 2) primacy of emotion.

Primacy of Cognition. The reductionistic view of libidinal energy as the source of all energy, viewed emotions as a form of energy. Since Freudian theory considers libidinal energy the conscious and unconscious primal energy force, emotion may occur without a direct experience of awareness. With the idea that emotions are bound to unconscious sexual energy, libidinal as well as emotional energy came to be regarded as requiring repression, with relevant personality components needing to invigilate against eruptions of the unruly and disorganizing emotional drives.

In the English language, the disruptive influence of affect on cognition may be observed in conversational metaphors such as being scared out of one's wits, losing one's head, being worried silly, or being head over heels in love. Even throughout the cognitive revolution (Beck, 1985; Ellis, 1962; Kelly, 1955;) affect, termed *hot cognitions* (Beck, 1985) and alternatively, *hot processing* (Mayer & Mitchell, 1998), although recognized as contributing to cognition, remained nonetheless secondary to cognitive operations. Equality of importance between emotion and cognition has only recently been acknowledged (Greenberg & Saffran, 1987).

Primacy of Emotion. Models which consider emotions organizing responses, conveying information to facilitate cognition, consider emotions to have functional properties (Bower, 1981; Tomkins, 1962; Zajonc, 1980). Bower's contribution to the

challenge to cognitive primacy outlined two ways emotion influences learning 1) the mood-congruity effect showing people attend to and find easier to learn about events that match their emotional state 2) the mood-state-dependent retention, that people find it easier to recall an event if their mood at the time is reinstated. These studies supported the notion that emotion can causally impact cognition.

Emotions are sources of information directing attention cognitively, and associated with motivational properties (Leeper, 1948; Tomkins, 1962). The notion of emotions as disorganizing forces on cognitive processes was dismantled (Leeper, 1948; Bower, 1981) when emotions were reframed as information processing mechanisms facilitating cognition and motivation.

In this framework, emotions precede thought (Salovey & Mayer, 1990) and facilitate intelligent behavior, preparing individuals for action. Piaget (1972) considered cognition and emotion to be inseparable, since neither process is able to operate without the other. Tomkins (1962) referred to emotions as discrete affects coassembled with cognitions and action patterns, which serve to amplify incoming information. The action of cognition and emotion in concert is the domain of emotional intelligence.

Definition of Emotional Intelligence

Emotional intelligence is a hybrid personality trait integrating abilities from both cognitive and affective domains of mental functions. Although several definitions of emotional intelligence have been proposed (Salovey & Mayer, 1990; Goleman, 1995; BarOn, 1997), the definition (Salovey & Mayer, 1990; Mayer & Salovey, 1997) was

selected for this study for reasons of 1) a theoretical framework supporting empirical evidence and 2) having been refined into a unitary construct of mental abilities.

Salovey and Mayer (1990) originally defined emotional intelligence as “the subset of social intelligence that involves the *ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions* (authors’ italics). The authors’ expanded definition (Mayer & Salovey, 1997) states:

“emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth” (p. 5).

This definition provides the basis of their four branch theory of emotional intelligence (Mayer, Caruso & Salovey, in press).

Competing Models of Emotional Intelligence. Several models of emotional intelligence have been proposed to represent this facet of personality. These models may be classified as 1) ability models and 2) mixed models (Mayer, Salovey & Caruso, in press).

Mayer and Salovey’s definition falls into the mental ability model by virtue of its basis in 1) a unitary construct 2) grounded in mental abilities whereas other definitions have combined abilities, traits, moods and coping skills into their conceptions of emotional intelligence. An ability model employs traditional intelligence testing methodology to determine level of emotional intelligence being measured.

Emotional intelligence is a mental ability bridging emotional and intellectual aspects of personality functioning (Mayer & Geher, 1996; Salovey & Mayer, 1990). The proposition of a mental ability blending emotion and intelligence attracted media attention with the publication of a popular book on emotional intelligence (Goleman, 1995). Goleman proposed that emotional intelligence may be more important than IQ in achieving success in life. The notion of an alternative to IQ as the benchmark of success in life became widely publicized in the media. Subsequently, measures of emotional intelligence, sometimes termed *emotional quotient*, or EQ (Bar-On, 1997) were developed to identify individuals possessing personality traits believed to reflect emotional intelligence. Although EQ was proposed to characterize individuals possessing greater amounts of “character” (Goleman, 1995, p. 285) along with various discrete personality traits purported to predispose them toward greater success in life than individuals bereft of these traits, such claims have been largely speculative and unsubstantiated. The empirical relationship between traits underlying personality dimensions, psychological well-being and emotional intelligence has not yet been established.

Among the mixed model definitions, BarOn (1997) offers a definition of emotional intelligence as “an array of personal, emotional, and social competencies and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (p. 3). This definition is based on three levels of functioning: Core Factors, such as emotional self-awareness, empathy, assertiveness, Supporting Factors such as self-regard, optimism, stress tolerance, social responsibility and Resultant Factors, such as self-actualization, happiness, and problem solving. Since this definition combines an ambitious mixture of abilities and personality traits with states such as mood it has been classified as

a mixed model of emotional intelligence (Mayer, Salovey, & Caruso, in press). It is a self-report model which essentially measures individuals' coping ability. The theoretical basis for the emotional quotient scale is an amalgam of psychological constructs including self-esteem, stress tolerance, and mood quality.

Goleman's definition (1995) falls into the mixed models category, which states, "the abilities called here emotional intelligence, include self-control, zeal and persistence and the ability to motivate oneself". This model includes states (e.g., flow) and traits (e.g., self-control, persistence). This model emphasizes traits and is non-specific with respect to which particular traits contribute to "character". This model does not lend itself easily to empirical validation in the study of emotional intelligence. Goleman proposes that emotional intelligence leads to success in life. For example, where intelligence has been shown to predict 20% of the variance of success; emotional intelligence is implied to account for the remaining 80% of the variance. Such thinking fails to consider that a single trait such as emotional intelligence could hardly account for so large a portion of personal success. In addition, it may be erroneous to disregard the complexity of interactions of multiple variables contributing to success in life; particularly in the absence of a definition of what exactly "success in life" means. Finally, a definition of "success in life" has not been offered.

Mental Ability Model of Emotional Intelligence

The mental ability model of emotional intelligence is a four branch hierarchical information-processing system. Incoming emotionally laden information is processed at successively complex levels of organization. As in intelligence theory, the criteria for emotional intelligence include improvement with maturational development, measurable

abilities by objective performance testing, and comprise a set of abilities demonstrating moderate intercorrelations (Mayer, Salovey & Caruso, in press).

Branch 1: Perception and Identification of Emotion. The first level of emotional abilities involves the perception and appraisal of emotion in oneself and others. The ability to identify emotion in one's feelings and thoughts involves perception, appraisal and identification of emotion. Recognition of arousal-calm and pleasant-unpleasant dimensions of mood are fundamental to emotional experiencing (Mayer & Gaschke, 1988). This level includes identifying emotions from facial cues, voice tone, and interpreting emotions in art, literature and music.

Branch 2: Emotional Facilitation of Thinking and Assimilating Emotions. Emotions facilitate thinking by drawing attention to important information. Assimilating emotions involves the identification of emotions in one's own body states. The relationship between bodily sensations and the subjective experience of emotions extends the study of emotions to hypotheses about physiological changes occurring in the body when emotions are experienced. The ability to identify emotion in one's physical states has been associated with greater awareness of one's emotional processes in the moment. Those who are attuned to their own and other's bodily signals (e.g., blushing, perspiring, fine or gross motor agitation) would be expected to have greater emotional competence and emotional intelligence. Goldman, Kraemer & Salovey (1996) reported those who paid greater attention to their mood reported more physical symptoms; while those who reported efforts to engage in mood repair were less likely to report physical symptoms. Another study, (Mayer, Salovey, Gomberg-Kaufman & Blainey, 1991) reported negative mood correlated positively with a depression inventory, while the addition of inattention

to mood increased the correlation even more. These discrepant findings are a challenge to emotional intelligence theory. First, we would expect individuals who attend to their moods to more frequently engage in mood repair, and therefore, to possess greater emotional intelligence. Second, we would anticipate individuals who are more attentive to their moods, to be better informed about their emotional state, and therefore, possess greater overall emotional intelligence.

Branch 3: Understanding Emotions. The next level of skills concerns reasoning about and understanding specific emotions and to use emotional knowledge. This involves measuring and comparing emotions to each other and comparing them with related sensations and thoughts. This requires the ability to hold an emotion in one's attention for a time, in order to examine it.

Social feedback processes occur during emotional development, suggesting we learn to understand our feelings partly by their effect on other people. We learn to control our facial and bodily expressions in this way, as well as our feelings and desires. Through a constant process of social feedback, children learn to respond cognitively and emotionally to social contexts. As they learn to make distinctions between themselves and others, they begin to attribute feelings to others. The developing child learns to identify complex emotions, such as emotion blends, which may contain contradictory or complex emotions. In appropriate circumstances, children learn that it is possible to experience positive and negative emotions at the same time, such as love and hate toward the same person.

The independence of positive and negative affect may be explained by recordings of brain activity during emotional states revealing positive emotions are processed in the left hemisphere of the cerebral cortex, and negative emotions being processed in the right

hemisphere. Positive and negative emotions may be experienced at the same time since different areas of the brain are activated (National Advisory Mental Health Council, 1995).

Branch 4: Self-Regulation and Emotional Monitoring. Management and regulation of emotion in oneself and others requires the highest complexity of emotional skills. Emotion regulation requires conscious management of emotions to promote emotional and intellectual growth. The ability to manage one's emotions refers to the capacity to tolerate both positive and negative emotions in oneself and in others, and to use both negative and positive affect to enhance and promote the meta-reflective process of awareness, effective problem solving and selection of actions to maintain significant relationships.

Socio-Emotional Learning Disabilities

Just as individual differences in academic learning may be manifested in learning disabilities such as dyslexia, dysgraphia and various subtle learning disorders, it makes sense to identify socio-emotional learning disabilities. Ample empirical reviews of learning disabled children's difficulties in areas of social skills, have associated social skill deficits with deficiencies in cueing responses (Huntington & Bender, 1993; Little, 1993; McIntosh, Vaughn, & Zaragoza, 1991; Voeller, 1991). Nowicki and Duke (1992) identified disorders of learning emotionally laden information in social deficits of nonverbal social communication among children. Some of these deficits involve misinterpretation of social cues, poorly projecting social intentions, inappropriate use of space, errors of interpretation of voice tone, inflection, and cadence, and inattention to dress and body odor. Kramer (1997) referred to adults who are hypersensitive to social cues as *hypersemics*, while *dysemics* fail to respond to social cues. Alexithymic

individuals have difficulty with identification and description of their feelings; they are considered to have a disturbance in cognitive and affective domains (Taylor, Ryan & Bagby, 1985). Adults who are competent at decoding and correctly interpreting social cues may be said to possess one of the components of emotional intelligence.

Recall that the definition of emotional intelligence (Salovey & Mayer, 1990; Mayer & Salovey, 1997) consists of the following processes: perception, appraisal and identification of emotional knowledge, understanding and clarity of emotions; and self-regulation and self-monitoring of emotions. Problems in learning emotionally laden information may emerge at any point in the four branch stages of emotional intelligence theory.

Emotional Intelligence and Psychological well-being

Abundant suggestions may be found in the literature associating emotional intelligence and psychological well-being. Suggestions that emotionally intelligent individuals would be expected to possess healthy personalities were found in the following articles:

- Mayer and Stevens (1994) suggested individuals who are competent at understanding and dealing with their feelings would be particularly healthy personalities.
- The capacity to engage in successful affective self-management, termed emotional intelligence, has adaptive importance to intrapsychic and interpersonal functioning (Mayer, et al., 1991).
- The capacity for clarity in one's emotional experiencing predicted reduced rumination following negative mood inductions (Mayer et al., 1991).

- Mayer and Volanth (1985) suggested neurotic individuals integrate their mood and cognitive performance more poorly than healthy individuals, thus emotional instability would make it difficult to monitor and understand one's feelings
- Salovey and Mayer (1990) suggested emotionally intelligent individuals with greater awareness of their own and others' feelings would be more open to both positive and negative aspects of internal experience, better capacity for emotional identification and expression, and therefore, better well-being (p. 440).
- Ambivalence over emotional expression (King & Emmons, 1990) was negatively associated with psychological well-being
- Mayer and Salovey (1995) suggested people possessing good construction and regulation of emotion have learned socially acceptable emotional responding and are oriented in a socially acceptable framework. The authors stated, "these individuals are typically viewed as healthy and empathic...open, flexible and aware of feelings (p. 206).
- Salovey, Mayer, Goldman, Turvey and Palfai, (1995) indicated that attention to, clarity and repair of feelings seemed fundamental to the self-regulatory domain of emotional intelligence and to the prediction of emotional adjustment in other domains
- Mayer and Geher (1996) suggested high scorers on a mental ability subtest of emotional intelligence should have advantages in certain life tasks. The authors predicted they would have longer term intimate relationships and better work histories.
- Emotional intelligence predicted verbal IQ, self-reported empathy, and self-reported parental warmth and support (Mayer, Caruso & Salovey, in press).

The case for an association between emotional intelligence and psychological well-being can be further supported by other empirical studies. Diener (1998) reported self-evaluated well-being showed low correlations with contextual variables such as income and physical health status, but showed significant relationships with five-factor model traits of extroversion and positive affect, and neuroticism and negative affect. In another study (Compton, 1998), mental health and social interest were found to be significantly associated with five-factor model factors of neuroticism, openness to experience and agreeableness.

DeNeve and Cooper (1998) reported psychological well-being was closely associated with subjective well being, with Neuroticism (as measured by the five-factor model) the strongest predictor of life satisfaction, happiness and negative affect. Positive affect was predicted by Extroversion and Agreeableness.

A study questioning the validity of the emotional intelligence construct (Davies, Stankov & Roberts, 1998), reported non-validation of the construct of emotional intelligence, except for Branch 1, Perception and Identification of Emotions. Some serious flaws in their methodology include failing to make a distinction between a mental ability model of emotional intelligence and self-reports; using unvalidated measurement instruments, and non-adherence operationally to emotional intelligence theory of Mayer & Salovey, (1995). Several flaws in their research methodology leave their conclusions open to question. If emotional intelligence as measured by high scores on an objective test of emotional intelligence predicts emotional stability, variables such as psychological well-being could be sought that predict emotionally intelligent individuals.

Predictors of Emotional Intelligence

Predictors are identified by accumulating measurements of quantifiable traits which are regressed against measurable outcomes. The search for personality dimensions of psychological well-being associated with emotional intelligence would involve measurements of personality dimensions regressed against measures of emotional intelligence.

Exploratory research in emotional intelligence could search for variables that predict emotional intelligence. If high scores on an objective test of emotional intelligence are correlated with personality dimensions indicative of psychological well-being, emotional intelligence may be 1) a predictor of potential for learning emotionally laden information; 2) a predictor of emotional stability; and 3) a useful index for clinical purposes.

Summary

This literature review has examined primary and interrelated areas requisite to nascent research in emotional intelligence. The relationship between personality traits, personality dimensions and psychological well-being was discussed and a five-factor model of personality dimensions was examined. Contemporary theories of intelligence and its subsystems were reviewed. of multiple intelligences were reviewed. Cognitive and socio-emotional learning across multiple subsystems of intelligences were examined. The relationship between intelligence subsystems and emotional intelligence, a unitary subsystem of intelligence combining cognitive and affective personality traits were reviewed and a theory of emotional intelligence was examined. Empirical evidence to support the relationship between psychological well-being and emotional intelligence was presented.

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III. METHODOLOGY

Introduction

Emotional intelligence is an emerging area of research. Of the few published studies in this area, those most relevant to the present study have been reviewed in Chapter One. This chapter outlines the research methodology to be used in exploring the relationship between emotional intelligence and emotional stability as an index of psychological well-being.

Research Design

A quasi experimental research design will examine the relationship between the two variables of interest, specifically, emotional intelligence and an index of emotional stability, termed psychological well-being. The research design has two components 1) a main analysis and 2) a secondary analysis.

Main Analysis. The main analysis presents two research questions. The first question addresses an assumption of the popular and research literature suggesting emotional intelligence and psychological well-being are directly related. The main question asks to what extent emotional intelligence and psychological well-being are related. In order to answer this question, total score on a mental ability test of emotional intelligence, The Multifactor Emotional Intelligence Test (MEIS) will represent the construct, emotional intelligence, and total score on the Neuroticism factor of the NEO-PI-R will represent emotional stability as an index of psychological well-being. The emotional intelligence total score will be pro-rated to adjust for omission of the Music subtest of the Multifactor Emotional Intelligence Scale (MEIS). According to the popular literature, emotional

intelligence predicts emotional stability, therefore, the independent variable will be emotional intelligence and the dependent variable will be emotional stability. Emotional intelligence scores will be obtained by an objective ability measure (MEIS), while emotional stability index will be obtained from the NEO-PI-R.

Several covariates may be present in the relationship between emotional intelligence and emotional stability, specifically, 1) mood at time of completion of the MEIS; 2) socially desirable responding as a favorable response bias, and 3) demographic variables such as gender, age and education level. To control for the influence of these possible confounds in the relationship between the two variables of interest, a multiple regression analysis will be performed. The predictor variable, emotional intelligence, is the independent variable. The outcome variable, emotional stability, is the dependent variable. Both variables are continuous. The relationship between them will be explored using regression analysis. The multiple regression analysis will analyze the relationship between emotional intelligence and emotional stability while holding the covariates constant. The proportion of variance accounted for after the covariates have been factored out of the regression equation will represent the remaining proportion of variance accounted for by emotional intelligence in the outcome variable index of emotional stability reflecting psychological well-being.

The second question in the main analysis asks whether a subscale or combination of emotional intelligence subscales might better predict emotional stability indices of psychological well-being than the total emotional intelligence score itself. A stepwise regression analysis will be performed to determine which variable or combination of variables best predict emotional stability. First, the covariates will be entered into the

regression equation. At Step 2, the four emotional intelligence subscales, 1) Perceiving Emotion, 2) Assimilating Emotions, 3) Understanding Emotions and 4) Managing Emotions will be entered stepwise. As in the first question, the identified covariates will be held constant to determine the relationship between emotional intelligence subscales and the emotional stability index. The proportion of variance accounted for in question one will be compared to the proportion of variance accounted for in question two.

Secondary Analysis. The secondary analysis asks what is the personality profile on four NEO PI-R factors (Extraversion, Openness, Agreeableness and Conscientiousness) including each of six facet scores for each factor, for subjects who obtain high emotional intelligence scores versus those who obtain low emotional intelligence scores . The first step will be a qualitative analysis of the total emotional intelligence scale scores. Subjects will be divided into two groups - a High Emotional Intelligence Scale Score group, and a Low Emotional Intelligence Scale Score group using the median score as the cutoff point. Profile results will be plotted on a graph using mean scores on both variables of interest. A Multiple Analysis of Variance analysis (MANOVA) will be performed, yielding Hotelling's T statistic as a measure of significance. Subsequent multiple pairwise comparisons will be performed as required.

Sample Size

Cohen's (1988) Power Analysis for MANOVA procedure was performed to estimate optimal sample size required to determine significant differences, if any. The Power Analysis suggested an optimal sample size of 75-100 subjects based on alpha level of .05.

Selection of Subjects

Thirty volunteer subjects will be recruited for the study. Clinical and non-clinical subjects will be sought out for participation. Posters requesting volunteer subjects will be distributed strategically in various metropolitan and suburban areas of a large Canadian city (see Appendix 1).

Non-clinical subjects will be recruited by means of posters in 1) a university setting 2) in a busy downtown location and 3) in federal government departments. The posters invite subjects to contact the experimenter for further information regarding participation in a study of emotional intelligence. Subjects who agree to participate will be tested in small groups. Test materials will be administered by the researcher. As compensation for participation, subjects will be offered a chance to win an entertainment package valued at \$100.00.

Clinical subjects will be recruited from psychotherapy offices by means of posters prominently displayed in patient waiting areas. The same poster will be used for recruiting clinical and non-clinical subjects. In this way, both clinical and non-clinical subjects will be obtained, with the purpose of obtaining as diverse a subject pool as possible, to approximate a normal distribution.

Instrumentation

Measure 1. Demographic Survey. A demographic survey was developed by the experimenter to obtain descriptive characteristics of the sample (see Appendix 2). Age, gender, socio-economic status, ordinal family position, number of years of schooling, and a number of variables relevant to the study's purpose were included. Some demographic variables of interest include previous and/or current contact with mental health professionals and history of utilization of psychotropic medication.

Measure 2. The Multifactor Emotional Intelligence Scale (MEIS). The Multifactor Emotional Intelligence Scale (MEIS) was obtained from the researchers (Mayer, Salovey and Caruso, in press) with permission to administer the scale to the subjects in this study (see Appendix 3). At present, the MEIS is the only existing mental ability test of emotional intelligence (Mayer, Caruso & Salovey, in press).

Mayer, Caruso & Salovey (in press) reported that emotional intelligence fulfilled three standards for a traditional intelligence: 1) emotional intelligence as measured by the MEIS reflects performance independent of behavioral preferences, such as self-assertiveness and that it has validity in measuring emotion-related aptitudes; 2) it reflects a set of related abilities similar but distinct from abilities measured by existing intelligences, and 3) emotional intelligence increases with age and experience, as intellectual functioning is related to developmental stages of knowledge acquisition. The test consists of 12 tasks reflecting three primary factors and a higher order, general Emotional Intelligence factor which combines the three factors. The first primary factor, Perception, involves tasks related to perceiving emotions, the second primary factor, Understanding, involves assimilating and making sense of emotions, and the third primary factor, Managing, involves regulation and emotional management.

Perception Skills. Perception skills were developed from the first branch of the emotional intelligence model, including tasks requiring recognition of emotions in Faces, Designs and Stories.

Understanding Skills. Understanding skills involve tasks drawn from the Assimilation and Understanding branches of the model, involve synthesizing emotions, emotion blends, emotion progressions, transitions and relativity of emotion.

Managing Skills. Managing emotion tasks are developed from the fourth branch of the model, involving Managing Emotion in Others and Managing Emotion in the Self.

The three primary factors reflect abilities reported to be related to traditional intelligence along a continuum, with Perception least related ($r = .16$), Management moderately related, and Understanding most strongly related ($r = .40$). The three factors appear to share a common core of emotionally intelligence processing, as indicated by a more general, overall emotional intelligence factor, g_{ei} .

The hierarchical factor g_{ei} , was obtained from a factor analysis of the three primary factors summarizing performance across all factors, (Mayer, Caruso & Salovey, in press) essentially identical to the first, unrotated principal component of the 12 scales ($r = .98$). Using consensus scoring, the 12 tasks correlated with one another between $r = .20$ and $.50$, with the full range incorporating $r = .07$ to $.68$. The matrix correlations demonstrate a positive manifold, and the majority of tasks are positively intercorrelated.

Women performed slightly higher than men on the MEIS tasks, according to consensus agreement ($M_{\text{women}} = .376$; $M_{\text{men}} = .358$; Hotelling's $F(12, 409) = 4.0, p < .001$) (Mayer, Caruso, Salovey, 19 ; p. 11).

The MEIS g_{ei} . Correlated with verbal intelligence ($r = .36, p < .001$). The g_{ei} factor based scale was reported to correlated ($r = .33, p < .001$ with overall empathy; $r = .23, p < .01$ with parental warmth, and negatively with practical self-improvement attempts ($r = -.16, p < .01$).

Measure 3. Positive and Negative Affect Scales (PANAS). The PANAS scales (Watson and Clark, 1988), have been widely used in studies identifying dominant dimensions of affect (Clark & Watson, 1986, 1988; Tellegen, 1985). It consists of 20

PANAS descriptors randomly arrayed. Subjects are asked to rate on a 5 point scale the extent to which they are experiencing each mood state during a specified time frame. The points of the scale are labeled *very slightly or not at all*, *a little*, *moderately*, *quite a bit*, and *very much*, respectively (see Appendix 4).

The PANAS scale intercorrelations and internal consistency reliabilities (Cronbach's coefficient α ranges from .86 to .90 for Positive Affect and from .84 to .87 for Negative Affect. The PANAS scales are reported to exhibit significant levels of stability including the moment ratings (Watson & Clark, 1988, p. 1065). Correlations with measures of distress such as the Hopkins Symptom Checklist were PANAS NA = .74; PANAS PA = -.19, and Beck Depression Scale PANAS NA = .56; PANAS PA = -.35.

Measure 4. Marlowe-Crowne Social Desirability Scale. The Marlowe-Crowne is a scale developed to measure subjects' tendency to respond in a socially desirable manner (Crowne & Marlowe, 1960), i.e., the tendency toward "faking good". In the development of the MC SDS, social desirability was defined as the need to obtain approval by responding in a culturally appropriate and acceptable manner. This measure was selected as a control for response distortion in a positive direction, since neither the NEO nor the MEIS include a lie scale or correction scoring. The Marlowe-Crowne has an internal consistency coefficient, using Kuder-Richardson formula 20, of .88 (p. 350). General trend toward a consistent positive correlations between the SDS and the validity scales of the MMPI were reported and negative correlations with most of the clinical scales (see Appendix 5).

Measure 5. The NEO PI-R, Form S The NEO PI-R, Form S (Costa & McCrae, 1991) is a measure of five major dimensions of personality and traits or facets defining each domain, altogether yielding 30 facet scales (see Appendix 6). It is a measure of normal personality traits that has been used in both clinical and research settings over the past 15 years. It is a self-report, self-administered scale consisting of 240 items answered on a 5-point scale appropriate for men and women of all ages. The five personality domains measured are Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A) and Conscientiousness (C). Each personality domain is further subdivided into six facet subscales. For example, within the Neuroticism domain, six facet subscale scores are obtained on measures of 1) anxiety, 2) angry hostility, 3) depression, 4) self-consciousness, 5) impulsiveness 6) vulnerability. The total Neuroticism score increases with elevations in levels of Neuroticism subscale scores.

Reliability of the NEO. Internal consistencies across the individual facet scales ranged from .56 to .81 in self-reports. Test-retest reliability refers to the extent of agreement between test scores at different test times. Personality traits tend to change little over short time intervals. Test retest reliabilities for the N, E and O domain scales were .87, .91 and .86, respectively (McCrae & Costa, 1983a).

Factor Structure. The NEO PI-R represents the five-factor model of personality. When the 240 NEO PI-R items were factored (Costa, McCrae and Dye, 1991), five varimax-rotated principal components corresponded to the five identified factors. Correlations between the factor scores and the N, E, O, A and C domain scales were .91, .89 .95 and .89, respectively.

Convergent validity. The NEO PI-R facet scales correlated with measures of similar constructs, as follows: N1: Anxiety related to Anxiety measured by the State-Trait Personality Inventory (Spielberger et al, 1979); A1: Trust correlated positively with the Trusting scale of the Interpersonal Style Inventory (Lorr, 1986). The 30 scales are reported to show substantial correlations with appropriate criteria.

Discriminant validity. Contrasting the correlates of different facets within the same domain, the Personality Research Form (PRF; Jackson, 1984) Dominance related to E3; Assertiveness; PRF Harmavoidance was negatively related to E5; Excitement-Seeking; and PRF Play related to E6: Positive 'Emotions. Correlates of the 30 NEO PI-R facets showed appropriate and distinctive patterns supporting the discriminant validity of the facet scales (Costa & McCrae, 1991).

Construct Validity. *Construct validity* reflects the overall pattern of evidence that a scale measures what it is intended to measure. Psychological well-being, morale, life-satisfaction have been shown to be unrelated to measures of happiness (Lawton, 1983). Happiness seems to be reflective of subjects' appraisal and evaluation of their life situation. Global happiness is related to the relative equilibrium of positive and negative feelings (Bradburn, 1969). Costa & McCrae, (1980) proposed that positive affects were related to E, negative affects to N, and happiness to measures on both traits. Subjects who scored high on both N and E were reported to experience emotions of both joy and despair very intensely, while subjects low on both N and E were described as unemotional. Happiest subjects were high on E and low on N; most unhappy were those low on E and high on N. Moreover, individuals high on O were reported to experience both more positive and more negative emotions experiencing a wide range of emotions.

These findings were replicated (McCrae & Costa, 1991a) with individuals high in A reported as showing greater levels of happiness and life satisfaction. Individuals high in C were happier and more able to take pleasure in their accomplishments.

Assumptions

The quasi-experimental nature of this study imposes sampling restrictions which must be considered in assessing the internal validity of this study. Since the sample will be acquired on the basis of volunteer participation, the experimenter attempts to obtain subjects from a diverse pool of participants. Nevertheless, it must be noted that individuals who volunteer to participate may possess certain characteristics which may skew the sample away from the normal distribution. Subjects who consider themselves more proficient in areas of emotion and/or intelligence may be more likely to offer to participate than those who consider themselves to possess inferior skills in these areas. One might also argue, however, since individual volunteers may not be the best judge of their own aptitudes, the sample may be more reflective of the normal distribution than we might think.

Another difficulty is the preponderance of female volunteers. Schutte et al's (1998) study cited a preponderance of female to male ratio in their sample. This would likely be a problem in most studies in emotional intelligence which do not depend on university students for the research sample.

Procedures

The quasi-experimental study design is dependent on gathering data from subjects in pre-existing groups - subjects are not selected, nor placed into treatment groups. This

study attempts to gather descriptive data from subjects who volunteer to participate in this research and who complete the required measures.

The first part of the study procedures involves designing and posting notices requesting volunteers to participate in a study of emotional intelligence (see Appendix I). These posters will be distributed in strategic areas of a Metropolitan Canadian city. To obtain a diverse sample including clinical and non-clinical subjects, posters will be prominently displayed in psychotherapists' waiting rooms, in a university setting, in federal government departments, on a busy downtown street and in a suburban retail area.

The first contact with subjects will be made when subjects contact the experimenter to obtain information about the study. Interested subjects will be asked to volunteer in the study. As volunteers, they will be administered (in small groups) a package of materials which takes approximately two hours to complete. The test package contains explicit instructions enabling subjects to work through the test materials (see Appendix 7). The researcher will administer and supervise the testing procedure. The researcher will score and enter the data into the Statistical Program for Social Sciences (SPSS Statistical Computer spreadsheet Program).

The test package includes detailed instructions for completing the test measures, an informed consent form to be signed by participants describing the purpose of the study and the benefits of participation (see Appendix 8), a demographic survey, the MEIS, the PANAS, the Marlowe-Crowne Scale, and the NEO-PI-R.

Data Processing and Analysis

The main objective of the analysis is to explore the relationship between emotional intelligence and an emotional stability index of psychological well-being. The total score

of the MEIS will be used to estimate Emotional Intelligence (with Perceiving Emotion subscale pro-rated for omission of Music, Part 2). The Neuroticism factor of the NEO-PI-R will be used to estimate psychological well-being. Both variables are continuous and the relationship between them will be explored using regression analysis. It is predicted that there will be a negative correlation between these two variables, such that as Emotional Intelligence increases, N will decrease; and its corollary, as Emotional Intelligence decreases, N scores will increase.

There will be additional variables entered into the regression equation, therefore a multiple regression analysis will be used. At Step One, two or more covariates will be entered. At Step Two, MEIS-Total and Total N scores will be entered. Therefore, the increase in variance accounted for (R^2) and increment in the F value will be attributed directly to the relationship between MEIS Total and N Total.

Mood at the time of completion of the MEIS and NEO-PI-R is a covariate which may confound the R squared obtained statistic. Therefore, mood will be assessed with the PANAS and the effect of mood will be statistically controlled for in the multiple regression analysis by entering it in the analysis at step one.

Socially desirable responding is a covariate which may influence the obtained R squared statistic. Therefore, socially desirable responding will be assessed with the Marlowe-Crowne Questionnaire and the effect of socially desirable responding will be statistically controlled for in the multiple regression analysis by entering it in the analysis at step one.

Since there may be demographic variables that are also associated with one or both self-report instruments, a series of t-tests or ANOVA will be conducted to determine if

there is a significant relationship between any of the demographic variables and either the MEIS Total or Total N scores. Any demographic variables that are significantly associated with MEIS Total or Total N will be statistically controlled for in the multiple regression analysis by entering them in the analysis at step one.

A secondary analysis will be performed to further explore the following relationships. The NEO profile associated with High/Low Emotional Intelligence scores on the four remaining Neo PI-R personality factor domains will be explored using qualitative and MANOVA analyses. The Extraversion, Openness, Agreeableness and Conscientiousness factors of the NEO will be profiled graphically to plot the 24 facet profiles of subjects obtaining high versus low scores on emotional intelligence.

The null hypotheses to be tested are:

- 1) The relationship between emotional intelligence and each of the NEO-4 factors is zero.
- 2) The relationship between MEIS Total score and Total Neo PI-R Neuroticism score is zero. An alpha level of .05 will be required to reject this hypothesis. A multiple regression analysis (Rsquared) statistic will be used to test this hypothesis,
- 3) When covariates are accounted for in the relationship between MEIS Total score and Neo PI-R Total Neuroticism scores, the R squared accounted for is zero. The covariates are 1) mood at time of completion of MEIS, 2) socially desirable responding response bias and 3) demographic variables. A multiple regression analysis implementing the R squared statistic will be used. An alpha level of .05 will be required to reject the null hypothesis.
- 4) The relationship between one or a combination of MEIS subscale scores and

Neo-PI-R Neuroticism scores is zero. A multiple regression analysis will be used to reject the null hypothesis. An alpha level of .05 will be required.

6) When covariates are accounted for in the relationship between one or a combination of MEIS subscales and Neo PI-R Neuroticism scores, R squared is zero.

7) The relationship between subjects' factor scores on the remaining four NEO PI-R factors (E, O, A, and C) and each of six facets of personality with high and low Total MEIS scores is zero. A MANOVA analysis will be performed to obtain a Hotelling's T statistic. An alpha level of .05 is required.

References

- Adler, A. (1927). Understanding human nature. (Walter Beran Wolfe, Trans.). USA: Greenberg.
- Adler, A. (1979). The structure of neurosis. Original publication: 1932. In H. L. Ansbacher (Ed.), Superiority and social interest: A collection of later writings, pp. 89-91. NY: Norton.
- Adler, A. (1956). The neurotic character. Original publication: 1912. In H. L. Ansbacher & R. R. Ansbacher (Eds.), The individual psychology of Alfred Adler. New York: Norton.
- American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Author: Washington, DC.
- Assagioli, R. (1976). Psychosynthesis. NY: Penguin Books.
- BarOn, R. (1997). EQi BarOn Emotional Quotient Inventory Users Manual: A measure of emotional intelligence. Toronto, ON: MultiHealth Systems.
- Beck, A. (1985). Cognitive therapy. In J. K. Zeig, (Ed.), The evolution of psychotherapy. NY: Bruner/Mazel.
- Ben-Porath, Y. S., & Waller, N. G. (1992). "Normal" personality inventories in clinical assessment: General requirements and the potential for using the NEO-PI. Psychological Assessment, 4, 14-19.
- Binet, A. & Simon, T. (1916). The development of intelligence in children. Trans. E. S. Kite. Baltimore: Williams & Wilkins.
- Blashfield, R. (1984). The classification of psychopathology. NY: Plenum.
- Block, J. (1995). A contrarian view of the Five-Factor Approach to personality description. Psychological Bulletin, 117, (2), 187-215.
- Bowen, M. (1978). Family therapy in clinical practice. NY: Jason Aronson.
- Bower, G. H. (1981). Mood and memory. American Psychologist, 36 (2), 129-148.
- Bower, G. H., Monteiro, K. P., & Gilligan, S. G. (1978). Emotional mood as a

context of learning and recall. Journal of Verbal Learning and Verbal Behavior, 17, 573-585.

Bradburn, N. M. (1969). The structure of psychological well being. Chicago: Aldine Publishing.

Buss, D. M. & Craik, K. H. (1983). The act frequency approach to personality. Psychological Review, 90, (2), 105-125.

Buss, A. H., & Plomin, R. (1984). Temperament: Early Developing Personality Traits. Lawrence Erlbaum: New Jersey.

Cattell, R. B. (1971). Abilities: Their structure, growth, and action. Boston: Houghton Mifflin.

Clark, L. A., Vorhies, L. and McEwen, J. L. (1992). Personality disorder symptomatology from the five-factor model perspective. In P. T. Costa, Jr., and T. A. Widiger (Eds.), Personality disorders and the five-factor model of personality (pp. 95-116). Washington, DC: American Psychological Association.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Compton, W. C. (1998). Measures of mental health and a five factor theory of personality. Psychological Reports, 83, (1), 371-379.

Conway, D. A., & Munson, R. (1990). The elements of reasoning. Belmont, California: Wadsworth Publishing Co.

Costa, P. T. Jr., & McCrae, R. R. (1980). Influence of extroversion and neuroticism on subjective well-being: Happy and unhappy people. Journal of Personality and Social Psychology, 38, (4), 668-678.

Costa, P. T., Jr., & McCrae, R. R. (1986a). Major contributions to personality psychology. In S. Modgil and C. Modgil (Eds.), Hans Eysenck: Consensus and controversy (pp. 63-72, 86, 87). Falmer: Sussex, England.

Costa, P. T., Jr., & McCrae, R. R. (1986b). Personality stability and its implications for clinical psychology. Clinical Psychology Review, 6, 407-423.

Costa, P. T. Jr., & McCrae, R. R. (1988). Personality in adulthood: A six-year longitudinal study of self-reports and spouse ratings on the NEO Personality Inventory. Journal of Personality and Social Psychology, 54, 5, 853-863.

Costa, P. T., Jr., & McCrae, R. R. (1992). Revised NEO Personality Inventory

(NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual.
Odessa, FL: Psychological Assessment Resources.

Csikszentmihalyi, M. (1993). A psychology for the third millennium: The evolving self. NY: Harper Collins.

Davies, M., Stankov, L. & Roberts, R. D. (1998). Emotional intelligence: In search of an elusive construct. Journal of Personality and Social Psychology, 75, (4), 989-1015.

DeNeve, Kristina M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. Psychological Bulletin, 124, (2), 197-229.

Diener, E. (1998). Subjective well-being and personality. In D. F. Barone, & M. Hersen (Eds.), Advanced personality. The Plenum series in social/clinical psychology (pp. 311-334). NY: Plenum Press.

Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. Annual Review of Psychology, 41, 417-40.

Dollard, J. & Miller, N. E. (1950). Personality and psychotherapy. New York: McGraw-Hill.

Ellis, A. (1962). Reason and emotion in psychotherapy. NY: Lyle Stuart.

Emmons, R. A., & Diener, E. (1985). Personality correlates of subjective well-being. Personality and Social Psychology Bulletin, 11, (1), 89-97.

Epstein, S. & Meier, P. (1989). Constructive thinking: A broad coping variable with specific components. Journal of Personality and Social Psychology, 57, (2), 332-350.

Epstein, S. (1993). You're smarter than you think: How to develop your practical intelligence for success in living. NY: Simon & Shuster..

Eysenck, H. J. (1967). The biological basis of personality. Springfield: Charles C. Thomas.

Eysenck, H.J. & Eysenck, S. B. G. (1975). Manual of the Eysenck Personality Scales. London: Hodder & Stoughton.

Felsman, J. K. & Vaillant, G. E. (1987). Resilient children as adults: A 40 year study. In E. J. Anthony, & B. J. Cohler (Eds.), The invulnerable child (pp. 289-314). NY: Guilford Press.

Frijda, N. H. (1988). The laws of emotion. American Psychologist, 43, (5), 349-358.

Gardner, H. (1993). Frames of mind. Great Britain: Fontana Press.

Goldberg, L. R. (1993). The structure of phenotypic personality traits. American Psychologist, 48, 1, 26-33.

Goldman, S. L., Kraemer, D. T., & Salovey, P. (1996). Beliefs about mood moderate the relationship of stress to illness and symptom reporting. Journal of Psychosomatic Research, 41, (2), 115-128.

Goleman, D. (1995). Emotional intelligence: Why it can matter more than IQ. NY: Bantam Books.

Greenberg, L. S. & Safran, J. D. (1987). Emotion in psychotherapy: Affect, cognition and the process of change. New York: Guilford Press.

Guilford, J. S., Zimmerman, W. S., & Guilford, J. P. (1976). The Guilford-Zimmerman Handbook of Intelligence: Theories, measurements and applications. pp. 225-266.

Heim, A. (1975). Intelligence and personality: Their assessment and relationship. Middlesex: Penguin Books.

Hilgard, E. R. (1980). The trilogy of mind: cognition, affection, and conation. Journal of the History of the Behavioral Sciences, 16, 107-117.

Huntington, D. D., & Bender, W. N. (1993). Adolescents with learning disabilities at risk? Emotional well-being, depression, suicide. Journal of Learning Disabilities, 26, (3), 159-166.

Izard, C. E. (1993). Four systems for emotion activation: Cognitive and noncognitive processes. Psychological Review, 100, (1), 68-90.

Jackson, D. J. (1984). Multidimensional Aptitude Battery Manual. London, Ontario: Research Psychologists Press.

Kagan, J. (1994). Galen's prophecy: Temperament in human nature. NY: Basic Books:

Kelly, G. A. (1955). Personal construct theory. 2 Vols. Norton: NY Maslow, A. H. (1968). Toward a psychology of being (2nd ed.). NY: Van Nostrand.

Kihlstrom, J. H., Marchese-Foster, L. A., & Klein, S. B. (1997). Situating the self in interpersonal space. In U. Neisser, & D. A. Jopling, (Eds.), The conceptual self

in context (pp. 154-175). UK: Cambridge University Press

King, L. A., & Emmons, R. A. (1990). Conflict over emotional expression: Psychological and physical correlates. Journal of Personality and Social Psychology, 58, (5), 864-877.

Kramer, P. D. (1997). Should you leave? NY: Scribner.

Kobasa, S. C. (1979). Stressful life events, personality and health: An inquiry into hardiness. Journal of Personality and Social Psychology, 37, 1, 1-11.

Lazarus, R. S. (1984). On the primacy of cognition. American Psychologist, 39, 2, 124-129.

Leeper, R. W. (1948). A motivational theory of emotions to replace "emotion as disorganized response". Psychological Review, 55, 5-21.

Legree, P. J. (1995). Evidence for an oblique social intelligence factor established with a Likert-based testing procedure. Intelligence, 21, 247-266.

Little, S. S. (1993). Nonverbal learning disabilities and socioemotional functioning: A review of recent literature. Journal of Learning Disabilities, 26, (10), 653-665.

McAdams, D. P. (1992). The five-factor model in personality. Journal of Personality 60, 329-361.

McCrae, R. (1991). The five-factor model and its assessment in clinical settings. Journal of Personality Assessment, 57, (3), 399-414.

McCrae, R. & Costa, P. T. (1983). Social desirability scales: More substance than style. Journal of Consulting and Clinical Psychology, 51, (6), 882-888.

McCrae, R. & Costa, P. T., Jr. (1987). Validation of the five-factor model of personality across instruments and observers. Journal of Personality and Social Psychology, 52, 81-90.

McCrae, R. R. & Costa, P. T., Jr. (1991a). The NEO Personality Inventory: Using the five-factor model in counseling. Journal of Counseling and Development, 69, 367-372.

McCrae, R. R. & Costa, P. T., Jr. (1991b). Adding *Liebe und arbeit*: The full five-factor Model in counseling. Personality and Social Psychology Bulletin, 17, 227-232.

McIntosh, R., Vaughn, S. & Zaragoza, N. (1991). A review of social interventions for students with learning disabilities. Journal of Learning Disabilities, 24, (8), 451-458.

- Maslow, A. H. (1968). Toward a psychology of being (2nd ed.). Princeton: Van Nostrand.
- Mayer, J. D., Carlsmith, K. M., & Chabot, H. F. (1998). Describing the person's external environment: Conceptualizing and measuring the life space. Journal of Research in Personality, *32*, 253-296.
- Mayer, J. D., Caruso, D. R., & Salovey, P. Emotional intelligence meets traditional standards for an intelligence. Manuscript submitted for publication.
- Mayer, J. D., & Gaschke, Y. N. (1988). The experience and meta-experience of mood. Journal of Personality and Social Psychology, *55*, (1), 102-111.
- Mayer, J. D. & Geher, G. (1996). Emotional intelligence and the identification of emotion. Intelligence, *22*, 89-113.
- Mayer, J. D. & Mitchell, D. C. (1998). Intelligence as a subsystem of personality: From Spearman's G to contemporary models of hot processing. Advances in Cognition and Educational Practice, *5*, 43-75.
- Mayer, J. D., & Salovey, P. (1988). Personality moderates the interaction of mood and cognition. In K. Fiedler, & J. Forgas (Eds.), Affect, cognition and social behavior (pp. 87-99). Toronto: Hogrefe.
- Mayer, J. D., & Salovey, P. (1995). Emotional intelligence and the construction and regulation of feelings. Applied & Preventive Psychology, *4*, 197-208.
- Mayer, J. D. & Salovey, P. (1997). What is emotional intelligence? In P. Salovey, & D. J. Sluyter (Eds.), Emotional development and emotional intelligence (pp. 3-31). New York: Basic Books.
- Mayer, J. D., Salovey, P., & Caruso, D. (In Press). Competing models of emotional intelligence. In R. J. Sternberg (Ed.). Handbook of Human Intelligence (2nd ed). NY: Cambridge.
- Mayer, J. D., Salovey, P., Gomberg-Kaufman, S. & Blainey, K. (1991). A broader conception of mood experience. Journal of Personality and Social Psychology, *60*, (1), 100-111.
- Mayer, J.D., & Steven, A. A. (1994). An emerging understanding of the reflective (meta-) experience of mood. Journal of Research in Personality, *28*, 351-373.
- Mayer, J. D., & Volanth, A. J. (1985). Cognitive involvement in the mood response system. Motivation and Emotion, *9*, (3), 261-275.

Miller, T. R. (1991). The psychotherapeutic utility of the five-factor model of personality: A clinician's experience. Journal of Personality Assessment, *57* (3), 415-433.

Millon, T. (1994). Personality disorders: Conceptual distinctions and classification issues. In P. T. Costa, Jr., & T. A. Widiger (Eds.), Personality Disorders and the Five-Factor Model of Personality (pp. 279-301). Washington, DC: American Psychological Association.

Mischel, W. (1969). Continuity and change in personality. American Psychologist, *24*, 1012-1018.

Moriwaki, S. Y. (1974). The affect balance scale: A validity study with aged samples. Journal of Gerontology, *29*, 73-78.

Moss, F. A., Hunt, T., & Omwake, K. T. (1927). Manual for the social intelligence test. Washington, DC: The Center for Psychological Service.

Mumford, M. D., Stokes, G. S., & Owens, W. A. (1990). Patterns of life history: The ecology of human individuality. NJ: Lawrence Erlbaum.

National Advisory Mental Health Council. (1995). Basic behavioral science research for mental health. American Psychologist, *50*, (10), 838-845.

Neugarten, B. L., Havighurst, R. J. & Tobin, S. S. (1961). Measurement of life satisfaction. Journal of Gerontology, *16*, 134-143.

Neisser, U., Boodoo, G., Bouchard, T. J., Jr., Bohkin, A. W., Brody, N., Ceci, S. J., Halpern, D. F., Loehlin, J. C., Perloff, R., Sternberg, R. J., & Urbina, S. (1996). Intelligence: Knowns and unknowns. American Psychologist, *51*, 2, 77-101.

Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: replicated factor structure in peer nomination personality ratings. Journal of Abnormal Social Psychology, *66*, 574-83.

Nowicki, S., Jr., & Duke, M. P. (1992). Helping the child who doesn't fit in. Atlanta: Peachtree

Patty, W. L. & Johnson, L. S. (1953). Personality and adjustment. NY: McGraw-Hill.

Pervin, L. A. (1993). Affect and personality. In M. Lewis and J. M. Haviland, (Eds.), Handbook of personality, (pp. 301-309). NY: Guilford Press.

- Pervin, L. A. & Oliver, P. J. (1997). Personality: Theory and research (7th ed.). NY: Wiley & Sons.
- Piaget, J. (1972). The child and reality. Middlesex: Penguin Books.
- Radden, J. (1996). Lumps and bumps: Kantian faculty psychology, phrenology, and twentieth-century psychiatric classification. Philosophy, Psychiatry & Psychology 3, (1), 1-14.
- Salovey, P. & Mayer, J. D. (1990). Emotional intelligence. Imagination, Cognition and Personality 9, (3), 185-211.
- Salovey, P., Mayer, J. D., Goldman, S. L., Turvey, C. & Palfai, T. P. (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. 135-154. Washington, DC: American Psychological Association.
- Schroeder, M. L., Wormworth, J. A., & Livesley, W. J. (1994). Dimensions of personality disorder and the five-factor model of personality. In P. T. Costa, Jr., & T. A. Widiger (Eds.). Personality Disorders and the Five-factor model of Personality (pp. 117-127). Washington, DC: American Psychological Association.
- Sechrest, L. (1974). Modes and methods of personality research. Journal of Personality Research, 54, 1, 318-331.
- Erber, R. (1987). The self-regulation of moods. In J. A. Singer, & P. Salovey (Eds.). Mood and memory: Evaluating the network theory of affect (pp. 251-275). NY: Free Press.
- Spearman, C. E. (1927). The abilities of man. London: Macmillan.
- Sternberg, R. (1996). Successful intelligence: How practical and creative intelligence determine success in life. New York: Simon & Shuster.
- Taylor, G. J., Ryan, D. & Bagby, R. M. (1985). Toward the development of a new self-report alexithymia scale. Psychotherapeutic Psychosomatics, 44, 191-199.
- Tomkins, S. S. (1962). Affect, Imagery and Consciousness. NY: Springer..
- Thorndike, E. L. (1912). The permanence of interests and their relation to abilities. Popular Science Monthly, 18, 449-456.
- Thorndike, E. L. (1920). Intelligence and its uses. Harper's Magazine, 140, 227-235.
- Thurstone, L. (1938). Primary mental abilities. Chicago: University of Chicago Press.

- Vaillant, G. E. (1977). Adaptation to life. Boston: Little Brown.
- Voeller, K. K. S. (1991). Social-emotional learning disabilities. Psychiatric Annals, 21, 735-741.
- Walker, R. E., & Foley, J. M. (1973). Social intelligence: Its history and measurement. Psychological Reports, 33, 839-864.
- Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. Psychological Bulletin, 96, 465-490.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. Journal of Personality and Social Psychology, 54, (6), 1063-1070.
- Wechsler, D. (1958). The measurement and appraisal of adult intelligence. Baltimore: Williams & Wilkins.
- Wechsler, D. (1975). Intelligence defined and undefined. American Psychologist, 30, 135-139.
- Widiger, T. A., & Frances, A. J. (1994). Toward a dimensional model for the personality disorders. In P. A. Costa, Jr., & T. A. Widiger (Eds.), Personality Disorders and the Five-Factor Model of Personality (pp. 19-39). Washington, DC: American Psychological Association.
- Widiger, T. A., Trull, T. J., Clarkin, J. F., Sanderson, C., & Costa, P. T., Jr. (1992). A description of the DSM-III-R and DSM-IV personality disorders with the five-factor model of personality. In P. A. Costa, Jr., & T. A. Widiger (Eds.), Personality Disorders and the Five-Factor Model of Personality (pp. 41-56). Washington, DC: American Psychological Association.
- Wolman, B. B. (1989). Dictionary of behavioral science. New York: Academic Press.
- Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences. American Psychologist, 35, 2, 151-175.
- Zajonc, R. B. (1984). On the primacy of affect. American Psychologist, 39, (2), 117-123.

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