5 Intelligence II

5.1 THE EMOTIONAL INTELLIGENCE THEORY: **Emotional intelligence** (**EI**) is the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately, and to use emotional information to guide thinking and behavior. There are three models of EI. The *ability model*, developed by Peter Salovey and John Mayer, focuses on the individual's ability to process emotional information and use it to navigate the social environment.

The *trait model* as developed by Konstantin Vasily Petrides, "encompasses behavioral dispositions and self perceived abilities and is measured through self report" The final model, the *mixed model* is a combination of both ability and trait EI. It defines EI as an array of skills and characteristics that drive leadership performance, as proposed by Daniel Goleman.

Studies have shown that people with high EI have greater mental health, exemplary job performance, and more potent leadership skills. Markers of EI and methods of developing it have become more widely coveted in the past few decades. References to EI can be found in historical books from Sri Lanka.[citation needed]

Criticisms have centered on whether EI is a real intelligence and whether it has incremental validity over IQ and the Big Five personality traits.

History

In 1983, Howard Gardner's *Frames of Mind: The Theory of Multiple Intelligences* introduced the idea that traditional types of intelligence, such as IQ, fail to fully explain cognitive ability. He introduced the idea of multiple intelligences which included both *interpersonal intelligence* (the capacity to understand the intentions, motivations and desires of other people) and *intrapersonal intelligence* (the capacity to understand oneself, to appreciate one's feelings, fears and motivations).

The first use of the term "emotional intelligence" is usually attributed to Wayne Payne's doctoral thesis, *A Study of Emotion: Developing Emotional Intelligence* from 1985.

The first published use of 'EQ' (Emotional Quotient) seems to be by Keith Beasley in 1987 in an article in the British Mensa magazine. However, prior to this, the term "emotional intelligence" had appeared in Beldoch (1964), Leuner (1966). Stanley Greenspan (1989) also put forward an EI model, followed by Peter

Salovey and John Mayer (1989). The distinction between trait emotional intelligence and ability emotional intelligence was introduced in 2000.

However, the term became widely-known with the publication of Goleman's *Emotional Intelligence - Why it can matter more than IQ* (1995).

It is to this book's best-selling status that the term can attribute its popularity. Goleman has followed up with several further popular publications of a similar theme that reinforce use of the term. Goleman's publications are self help books that are non-academic in nature.

To date, tests measuring EI have not replaced IQ tests as a standard metric of intelligence.

Definitions

Emotional intelligence can be defined as the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately and to use emotional information to guide thinking and behavior. However, substantial disagreement exists regarding the definition of EI, with respect to both terminology and operationalizations. Currently, there are three main models of EI:

1. Ability model
2. Mixed model (usually subsumed under trait EI)
3. Trait model

Ability model

Salovey and Mayer's conception of EI strives to define EI within the confines of the standard criteria for a new intelligence. Following their continuing research, their initial definition of EI was revised to "The ability to perceive emotion, integrate emotion to facilitate thought, understand emotions and to regulate emotions to promote personal growth." However, after pursuing further research, their definition of EI evolved into "the capacity to reason about emotions, and of emotions, to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth."

The ability-based model views emotions as useful sources of information that help one to make sense of and navigate the social environment. The model proposes that individuals vary in their ability to process information of an emotional nature

and in their ability to relate emotional processing to a wider cognition. This ability is seen to manifest itself in certain adaptive behaviors. The model claims that EI includes four types of abilities:

1. Perceiving emotions – the ability to detect and decipher emotions in faces, pictures, voices, and cultural artifacts—including the ability to identify one's own emotions. Perceiving emotions represents a basic aspect of emotional intelligence, as it makes all other processing of emotional information possible.
2. Using emotions – the ability to harness emotions to facilitate various cognitive activities, such as thinking and problem solving. The emotionally intelligent person can capitalize fully upon his or her changing moods in order to best fit the task at hand.
3. Understanding emotions – the ability to comprehend emotion language and to appreciate complicated relationships among emotions. For example, understanding emotions encompasses the ability to be sensitive to slight variations between emotions, and the ability to recognize and describe how emotions evolve over time.
4. Managing emotions – the ability to regulate emotions in both ourselves and in others. Therefore, the emotionally intelligent person can harness emotions, even negative ones, and manage them to achieve intended goals.

The ability EI model has been criticized in the research for lacking face and predictive validity in the workplace.

Mixed model[edit]

The model introduced by Daniel Goleman focuses on EI as a wide array of competencies and skills that drive leadership performance. Goleman's model outlines five main EI constructs (for more details see "What Makes A Leader" by Daniel Goleman, best of Harvard Business Review 1998):

1. Self-awareness – the ability to know one's emotions, strengths, weaknesses, drives, values and **goal**s and recognize their impact on others while using gut feelings to guide decisions.
2. Self-regulation – involves controlling or redirecting one's disruptive emotions and impulses and adapting to changing circumstances.
3. Social skill – managing relationships to move people in the desired direction
4. Empathy - considering other people's feelings especially when making decisions

5. Motivation - being driven to achieve for the sake of achievement.

Goleman includes a set of emotional competencies within each construct of EI. Emotional competencies are not innate talents, but rather learned capabilities that must be worked on and can be developed to achieve outstanding performance. Goleman posits that individuals are born with a general emotional intelligence that determines their potential for learning emotional competencies. Goleman's model of EI has been criticized in the research literature as mere "pop psychology" (Mayer, Roberts, & Barsade, 2008).

Trait model

Konstantinos Vasilis Petrides ("K. V. Petrides") proposed a conceptual distinction between the ability based model and a trait based model of EI and has been developing the latter over many years in numerous scientific publications Trait EI is "a constellation of emotional self-perceptions located at the lower levels of personality." In lay terms, trait EI refers to an individual's self-perceptions of their emotional abilities. This definition of EI encompasses behavioral dispositions and self perceived abilities and is measured by self report, as opposed to the ability based model which refers to actual abilities, which have proven highly resistant to scientific measurement. Trait EI should be investigated within a personality framework. An alternative label for the same construct is trait emotional self-efficacy.

The trait EI model is general and subsumes the Goleman model discussed above. The conceptualization of EI as a personality trait leads to a construct that lies outside the taxonomy of human cognitive ability. This is an important distinction in as much as it bears directly on the operationalization of the construct and the theories and hypotheses that are formulated about it.

Different models of EI have led to the development of various instruments for the assessment of the construct. While some of these measures may overlap, most researchers agree that they tap different constructs.

5.2 Psychometric: **Psychometrics** is the field of study concerned with the theory and technique of psychological measurement. One part of the field is concerned with the objective measurement of skills and knowledge, abilities, attitudes, personality traits, and educational achievement. For example, psychometric research has concerned itself with the construction and validation of assessment instruments such as questionnaires, tests, raters' judgments,

and personality tests. Another part of the field is concerned with statistical research bearing on measurement theory (e.g., item response theory; intraclass correlation).

Thus psychometrics involves two major research tasks: (i) the construction of instruments and procedures for measurement; and (ii) the development and refinement of theoretical approaches to measurement. Those who practice psychometrics are known as psychometricians. All psychometricians possess a specific psychometric qualification, and while most are psychologists with advanced graduate training in psychometric testing. Many work in human resources departments. Others specialize as learning and development professionals.

Definition of measurement in the social sciences[edit]

The definition of measurement in the social sciences has a long history. A currently widespread definition, proposed by Stanley Smith Stevens (1946), is that measurement is "the assignment of numerals to objects or events according to some rule." This definition was introduced in the paper in which Stevens proposed four levels of measurement. Although widely adopted, this definition differs in important respects from the more classical definition of measurement adopted in the physical sciences, namely that scientific measurement entails "the estimation or discovery of the ratio of some magnitude of a quantitative attribute to a unit of the same attribute" (p. 358)

Indeed, Stevens's definition of measurement was put forward in response to the British Ferguson Committee, whose chair, A. Ferguson, was a physicist. The committee was appointed in 1932 by the British Association for the Advancement of Science to investigate the possibility of quantitatively estimating sensory events. Although its chair and other members were physicists, the committee also included several psychologists. The committee's report highlighted the importance of the definition of measurement. While Stevens's response was to propose a new definition, which has had considerable influence in the field, this was by no means the only response to the report. Another, notably different, response was to accept the classical definition, as reflected in the following statement:

> Measurement in psychology and physics are in no sense different. Physicists can measure when they can find the operations by which they may meet the necessary criteria; psychologists have but to do the same. They need not worry about the mysterious differences between the meaning of measurement in the two sciences. (Reese, 1943, p. 49)

These divergent responses are reflected in alternative approaches to measurement. For example, methods based on covariance matrices are typically employed on the premise that numbers, such as raw scores derived from assessments, are measurements. Such approaches implicitly entail Stevens's definition of measurement, which requires only that numbers are*assigned* according to some rule. The main research task, then, is generally considered to be the discovery of associations between scores, and of factors posited to underlie such associations.

On the other hand, when measurement models such as the Rasch model are employed, numbers are not assigned based on a rule. Instead, in keeping with Reese's statement above, specific criteria for measurement are stated, and the goal is to construct procedures or operations that provide data that meet the relevant criteria. Measurements are estimated based on the models, and tests are conducted to ascertain whether the relevant criteria have been met.

Key concept

Key concepts in classical test theory are reliability and validity. A reliable measure is one that measures a construct consistently across time, individuals, and situations. A valid measure is one that measures what it is intended to measure. Reliability is necessary, but not sufficient, for validity.

Both reliability and validity can be assessed statistically. Consistency over repeated measures of the same test can be assessed with the Pearson correlation coefficient, and is often called *test-retest reliability*. Similarly, the equivalence of different versions of the same measure can be indexed by a Pearson correlation, and is called *equivalent forms reliability* or a similar term.

Internal consistency, which addresses the homogeneity of a single test form, may be assessed by correlating performance on two halves of a test, which is termed *split-half reliability*; the value of this Pearson product-moment correlation coefficient for two half-tests is adjusted with the Spearman–Brown prediction formula to correspond to the correlation between two full-length tests. Perhaps the most commonly used index of reliability is Cronbach's α, which is equivalent to the mean of all possible split-half coefficients. Other approaches include the intra-class correlation, which is the ratio of variance of measurements of a given target to the variance of all targets.

There are a number of different forms of validity. Criterion-related validity can be assessed by correlating a measure with a criterion measure theoretically expected to be related. When the criterion measure is collected at the same time as the measure being validated the goal is to establish *concurrent validity*; when the

criterion is collected later the goal is to establish *predictive validity*. A measure has *construct validity* if it is related to measures of other constructs as required by theory. *Content validity* is a demonstration that the items of a test do an adequate job of covering the domain being measured. In a personnel selection example, test content is based on a defined statement or set of statements of knowledge, skill, ability, or other characteristics obtained from a *job analysis*.

Item response theory models the relationship between latent traits and responses to test items. Among other advantages, IRT provides a basis for obtaining an estimate of the location of a test-taker on a given latent trait as well as the standard error of measurement of that location. For example, a university student's knowledge of history can be deduced from his or her score on a university test and then be compared reliably with a high school student's knowledge deduced from a less difficult test. Scores derived by classical test theory do not have this characteristic, and assessment of actual ability (rather than ability relative to other test-takers) must be assessed by comparing scores to those of a "norm group" randomly selected from the population. In fact, all measures derived from classical test theory are dependent on the sample tested, while, in principle, those derived from item response theory are not.