

## **A Development of the Emotional Intelligence Scale by Applying the Buddhism Concept**

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**Abstract:** The present study was designed to develop a valid scale to measure emotional intelligence (EI) by applying the Buddhism concept, test the EI model invariance between the gender and type of the school categories. The EI definition covered three dimensions of Tri-Sikkha, three stages of training in Buddhism included Sila, Smathi and Panya. The open-ended situation items were constructed; each item had three questions and administered to secondary students. The response data were used to construct four choices for each question. Therefore, each item gave three score: feeling or emotion, thinking, and intentional acting. After a try-out of these multiple choice items and item analyses, items were selected according to the item statistics and the item content. The research samples consisted of students of 10 public schools in Thailand. The validation data revealed satisfactory results. The model of EI was valid and fit to the empirical data. The model indicated invariance of model form, but all parameter were not invariance between male and female student, and type of the student's school. The study concludes with suggested remedies for addressing measurement endemic to EI research.

**Keywords:** Emotional Intelligence Scale, Tri-Sikkha, Multigroup analysis

### **Introduction**

Recent research suggests that emotional intelligence is important for work settings (Carmeli, 2003; Jordan, Ashkanasy, Hartel, & Hooper, 2002) and classrooms (Petrides, Frederickson, & Furnham, 2004). Many of these reports go as far as to suggest that EI will be a more effective predictor of academic success and life achievement than general intelligence. In fact, the widespread societal acceptance of this concept has led numerous authors to suggest strategies for developing and enhancing EI in children and adolescents (Elias et al., 1997; Gottman & Declaire, 1998; Shapiro, 1997).

Emotional intelligence (EI) refers to emotional skills involving accurately perceiving and expressing emotions, integrating emotions with cognitive processes, understanding emotions and their implications for various situations, and managing emotions (Mayer & Salovey, 1997). Research on EI has been limited by debates over conceptualization and measurement (Davies, Stankov, & Roberts, 1998). Some adhere to a theoretical model where EI consists of emotional abilities (Mayer, Caruso, & Salovey, 1999). Others suggest EI encompasses a variety of emotional skills, including aspects of personality (Bar-On, 1997; Goleman, 1995). The former are ability-based models and the latter are mixed (Mayer, Caruso, & Salovey, 2000) or trait-based models (Petrides & Furnham, 2000). The present is among the latter, applying the Buddhism concept to construct the model where EI consists of three dimensions of Tri-Sikkha, included Sila (observing the five precepts and a helpful member of society) Smathi (knowing oneself and other, act according) Panya (thinking wisely, seeking out of source of wisdom and good examples).

Despite growing attention to the EI, the lack of a theoretically derived measure of the construct by applying the Buddhism has deterred substantive research in this area. The purpose of this study is to contribute to this growing literature by developing and validating a measure of the EI.

Experts have long disagreed about the existence of a sex difference in overall intelligence. Some (Lynn, 1994, 1997, 1999; Lynn, Irwing, & Cammock, 2002) find that males outscore females, but most find no sex difference (Brody, 1992; Halpern & LaMay, 2000; Jensen, 1998). This disagreement is confusing for theoretical reasons. Males dominate all higher ranks of education, research, occupation, and political power structures that call for capacity to deal with complexity.

Otherwise, it is widely acknowledged that women are about twice as likely as men to suffer from clinically relevant symptoms of depression. Some explanations might be artifacts of other differences between men and women, the result of biological characteristics unique to women, women might be more likely than men to encounter negative life events, personality characteristics. (Ingram et al., 1998; Nolen-Hoeksema, 1987, Piccinelli & Wilkinson, 2000).

The purposes of this research were to identify important factors and indices of the EI construct by applying the Buddhism concept and develop a valid scale for those construct, in addition to test the EI model invariance in term of gender and type of the student's school categories. The present study addresses these paradoxes by testing three hypotheses: (1) The EI model is valid and fit to the empirical data. (2) The model form will be invariance, but all parameter will not be invariance between male and female student, and (3) type of the student's school.

### **Construct Definition**

The proposed EI model integrates three dimensions of Tri-Sikkha, three stages of training in Buddhism included *Sila* (observing the five precepts and a helpful member of society) *Smathi* (knowing oneself and other, act according) *Panya* (thinking wisely, seeking out of source of wisdom and good examples). These three constituents are also viewed as interactive components of EI development. These dimensions and their definitions are described as follows. The first dimension *Sila*, represents the precepts or advice concern the practice of behavior, namely the acts of body and speech which are based on the mind. This concept, in Buddhism, places the precepts or advice first for its devotees to practice. This practice will lead the practitioners to the development of their lives, to the perfect life. If it is denied, the higher development cannot be expected. It means they miss an important process of the development of life. (Dhammacaro, 2004). The second dimension, *Smathi*, refers to a non-dualistic state of consciousness, in which the consciousness of the experiencing subject becomes one with the experienced object, and in which the mind becomes still (one-pointed or concentrated) but the person remains conscious. It means to cultivate goodwill. The third dimension, *Panya*, refers to purify or train the mind, the training of the mind to see things as the ways they really are. Wisdom with regard to the condition of its arising one distinguishes. Three kinds of knowledge: wisdom based on thinking or reflection, wisdom based on learning or study from others, wisdom based on mental development or training. (Phra Dhammapitaka, 1999; Phra Dhammacaro, 2004)

### **Theoretical Foundation of This Study**

Phra Dhammapitaka's (2002) framework of EI by applying three folder of Tri-Sikkha served as the theoretical foundation for the current study. This theoretical framework has several distinctive characteristics. First, it has a clear and inclusive definition of the construct of the EI. It defines the construct from the normal lifestyle thus provides adequate measurement domains for scale construction. Second, it includes dimensions of development of the whole child, physical, mental, emotional, social. Third this model not only identifies main dimensions of the EI but also integrates them in a theoretical framework by specifying their relationships. Last, it defines the proposed three dimensions of EI from the perspective of action imperatives and thus has practical implications. This action perspective of the EI both provides a consistent cultural perspective on the construct and suggests several observable actions that can be taken to develop EI. In the process of instrument development, it is essential to construct a set of observable variables to form measures for latent variables or theoretical constructs.

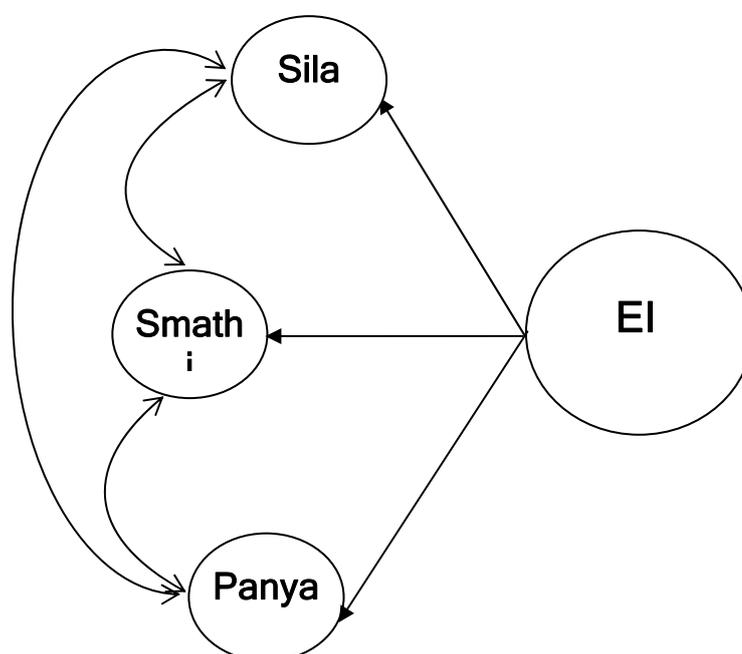


Figure 1: *EI Model*

## Method

The methods were as follows.

***Instrument Development*** Participants for nominal group technique were chosen base on the type of the school. Two groups were represented: alternative school (applying the three folder of Buddhism concept to the school instructions); normal school. Students form secondary school (N = 20) reflected behavior according to Sila, Smathi and Panya. The open-ended situation items were constructed from those behaviors, each item had three questions and items were further refined through item analysis procedures. Item analysis was conducted along with expert evaluation, the Buddhism religion, counseling teacher and psychologist for coherence and readability. The items were administered to 255 students of public schools in four part of Thailand. The response data were used to construct four choices for each question. Therefore, each item gave three score: feeling or emotion, thinking, and intentional

acting. After a try-out of these multiple choice items and item analyses, items were selected according to the item statistics and the item content. (N=305) Analysis of internal consistency (as reflected by Cronbach's alpha) for each scale identified items with low item-total correlations. The field tests continued until acceptable reliability and content validity were achieved.

**Sample.** The primary sample used for construct validation comes from a data set of an ongoing process of instrument development and validation. A total of 847 subjects consisted of a multistage sample from public schools. Nearly half (48 percent) of the subjects are male, 53 percent are in the alternative school.

**Data Analysis** The objective of the data analysis was to examine the construct reliability and validity of the three-dimensional measure of the EI, and test the invariance of the EI model.

**Data Analysis Strategy.** Several techniques were employed to determine a final form of the instrument with adequate psychometric properties and demonstrable construct validity. Confirmatory factor analysis (CFA) was selected to assess the construct validity for the measure of dimensions of the EI. This technique was appropriate because it examined whether the proposed dimensions of the EI had some attributes that could provide the three fold of Tri Sikkha. All analyses were performed with LISREL 8, based on the covariance matrices generated by PRELIS 2 (Jöreskog&Sörbom, 1993a, 1993b).

**Examining Instrument Reliability.** A number of measurement models have been proposed to estimate the reliability of a scale (Lord & Novick, 1968). One of the most common reliability estimates is Cronbach's coefficient alpha (1951).

**Evaluating Model-Data Fit and Multi-group Analysis.** All analyses were performed with LISREL 8. This study selected four criterion indices: the chi-square test, Jöreskog and Sörbom's (1989) goodness-of-fit index (GFI) and goodness-of-fit index adjusted for degree of freedom (AGFI), and Steiger's (1990) root mean square error of approximation (RMSEA). The GFI and AGFI reflect the proportion of the joint amount of data variance and covariance that can be explained by the measurement model being tested.

## **Results**

The Cronbach's coefficient alpha reliability estimates for the three dimensions of EI measure tend to be acceptable. Given that this is an initial effort at measurement of the EI, the overall reliability estimates are satisfactory. The model of EI was valid and fit to the empirical data. The model indicated invariance of model form, but all parameter were not invariance between male and female student, and type of the student's school.

## **Discussion and Implications**

The present study showed evidence of construct validity for the scale measuring dimensions of the EI by applying the Buddhism concept. The model fits the data reasonably well. This structure will provide a useful framework for other researchers to develop EI and study their relations with other latent variables. The results also show evidence of internal consistency and the construct reliability of the dimensions of the EI. The EI scale will provide a useful tool for teacher to assess dimensions of the EI.

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