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Emotional Intelligence: Reassessing the construct validity

M.Gökhan Bitmiş^a, Azize Ergeneli^b a*

^aGazi University, Ankara, 06500, Turkey

^bHacettepe University, Ankara, 06800, Turkey

Abstract

This study investigates the construct validity of Wong and Law's self report emotional intelligence scale. Emotional intelligence (EI) has four distinct dimensions, which includes self-emotional appraisal, uses of emotion, regulation of emotion, and others' emotional appraisal. Confirmatory factor analysis was employed in order to validate the factorial structure of emotional intelligence through a sample of 178 nurses. Results reveal that Wong and Law's 16-item EI scale effectively captured the EI dimensions in this study. Some suggestions for future research will be offered.

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1. Introduction

Emotional intelligence (EI) is a popular topic for today's management and organizational behavior researchers by providing intense directions to manage people in work settings effectively. Emotional intelligence can increase performance (Goleman, 1998) and emotional capabilities can be transferred into the job capabilities, which are very important issues for strategic management. Also, emotional intelligence significantly affects work outcomes (e.g. Wong and Law, 2002; Goleman et al., 2002). Although emotional intelligence became popular via Daniel Goleman's popular book (1996), the theory and research behind it had been the work of some researchers such as John Mayer, Peter Salovey, and David Caruso. Mayer and Salovey (1997) mentions about the four branch model of emotional intelligence. First branch is the managing emotions to attain specific goals. Second branch is the understanding emotions, emotional language, and the signals conveyed by emotions. Third branch is the using emotions to facilitate thinking and the last one is the perceiving emotions accurately in oneself and others. Some popular researchers working on EI developed measurement scales, which have some difficulties for the implementation. For instance; BarOn (1997) developed the BarOn EQ-i instrument, which contains 133 items. Mayer, Salovey, and Caruso (1997) introduced the Multifacet Emotional Intelligence Scale (MEIS), which includes more than 400 items and takes 1 to 2 hours to complete (Wong and Law, 2002). Therefore, Wong and Law (2002) develop psychometrically sound and practically short EI measure that can be used in leadership and management studies. This scale includes 16 items for

* Corresponding author. Tel. + 90-312-216-1000

Email address: mgbitmish@yahoo.com

the four dimensions of self-emotional appraisal, uses of emotion, regulation of emotion, and others' emotional appraisal.

This study revisits emotional intelligence's factorial structure by using Wong and Law's (2002) measurement scale in a sample of 178 nurses in Turkey. The paper proceeds in the following order. First, we briefly review the literature and then, we explain the data collection method, analytical procedures, and hypothesis testing. Finally, the results will be discussed.

2. Literature Review

Emotional intelligence has basically two components. One is emotions, which can be defined as "organized responses, crossing the boundaries of many psychological subsystems, including the physiological, cognitive, motivational, and experiential systems." (Salovey and Mayer, 1990, p.186). Emotions generally occur in response to a situation either internally or externally caused (Salovey and Mayer, 1990). Competent leaders and managers can reach organizational goals by managing and understanding subordinate's emotions. Employees have emotions, which carry knowledge, information and codes. Thus, an effective manager, who pays attention to employee's emotions, will get these free assets. Another component of emotional intelligence is intelligence, which can be defined as "global capacity of individual to act purposefully and to think rationally" (Wechsler, 1958). In sum, Salovey and Mayer (1990) define emotional intelligence as "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." Further, emotional intelligence can be evaluated as a part of Gardner's social intelligence. Gardner mentions about personal intelligence, which is divided into inter and intra personal intelligences (Gardner, 1983). At the organizational level, emotional dynamics (Huy, 1999) constitutes the emotional capability, which shows the organization's ability to acknowledge, recognize, monitor, discriminate, and attend to its members' emotions (Schein, 1992). Therefore, managing emotional dynamics by the help of EI plays a vital role for the strategic management.

Wong and Law (2002, p.246) define emotional intelligence as four distinct dimensions based on Mayer & Salovey (1997) and Salovey & Mayer (1990). They explain these dimensions as follows:

- i. Appraisal and expression of emotion in the self (self emotional appraisal): This dimension is related to understanding and expression of one's emotions.
- ii. Appraisal and recognition of emotion in others (others' emotional appraisal): This dimension is related to one's perceiving and understanding the emotions of people around him or her.
- iii. Regulation of emotion in the self (regulation of emotion): This dimension is related to the ability of people to regulate their emotions.
- iv. Use of emotion to facilitate performance (use of emotion): This dimension is related to the ability of individuals to make use of their emotions in order to increase their personal performance.

Wong and Law (2002) try to develop self report emotional intelligence scale and test the factorial structure of their instrument. They reported the 16-item emotional intelligence scale effectively captured the four dimensions. In other words, they stated that a clear four-factor structure emerged by using their 16 emotional intelligence items. They showed the average loading of the 16 items on their respective dimensions was .80. They explained that the dimensions of emotional intelligence were mildly correlated (ranging from $r = .13$ to $.42$), which showed that dimensions were related but not identical. Their model χ^2 was 179.33 ($df=98$) for the four-factor model and their CFI, RMR were .91, .07 respectively.

Therefore, we aim to validate Wong and Law's (2002) emotional intelligence scale's four distinct dimensions in this study. Thus, our research hypothesis will be as follows:

H₁: Emotional intelligence has four distinct dimensions, which include self-emotional appraisal, uses of emotion, regulation of emotion, and others' emotional appraisal.

3. Methodology

3.1. Sample and data collection procedure

Emotional intelligence is very important for nurses in order to manage nurse-patient relationships effectively. By developing emotional intelligence skills, nurses experience more emotional responses to their patients' suffering. Thus, they can show empathetic concern, more support and offer help to their patients.

Survey method is applied to collect data from 178 nurses in Turkey. All the respondents of the questionnaire were informed about the protection of their anonymity. Average age of the participants was 31.76 and 93 % of the participants were female.

3.2. Measures

Wong and Law's (2002) 16-item Emotional Intelligence Scale was employed in this study. Scale is measured using five-point Likert scale with anchors strongly disagree (= 1) and strongly agree (= 5). This scale includes four dimensions and each dimension consists of four items. Sample items; I have good understanding of my own emotions (Self-emotional appraisal). I am sensitive to the feelings and emotions of others (Others' emotional appraisal). I am a self-motivated person (Use of emotion). I am able to control my temper and handle difficulties rationally (Regulation of emotion). Table 1 presents the Cronbach's alpha coefficients for the dimensions and composite EI.

Table 1: Emotional intelligence and its dimensions' reliability coefficients

Emotional Intelligence	Cronbach alpha (α)
Self-emotional appraisal	0.84
Others' emotional appraisal	0.86
Use of emotion	0.81
Regulation of emotion	0.89
EI	0.92

4. Analyses and Results

Table 2 provides means, standard deviations, and Pearson correlations for the measures of the dimensions of EI and composite EI. Results show that our respondents have high EI and their level of self emotional appraisal, other's emotional appraisal, use of emotion, and regulation of emotion has high as well. The correlation between dimensions range from $r = .44$ to $.65$, which proves that dimensions are not identical. Further, we observe that the dimensions are highly correlated with composite EI and use of emotion dimension of EI is somewhat more highly correlated with composite EI ($r=.86, p < .01$).

Table 2: Summary statistics

Emotional Intelligence	Mean	Standard Deviation	SEA	OEA	UOE	ROE	EI
SEA	4.07	0.67	---	---	---	---	---
OEA	3.98	0.59	0.58**	---	---	---	---
UOE	3.92	0.69	0.56**	0.55**	---	---	---
ROE	3.61	0.77	0.44**	0.50**	0.65**	---	---
EI	3.90	0.55	0.79**	0.79**	0.86**	0.82**	---

NOTE: **. $p < 0.01$ SEA= Self emotional appraisal, OEA= Others' emotional appraisal, UOE= Use of emotion, ROE= Regulation of emotion, EI=Emotional intelligence.

In order to validate the Wong and Law's (2002) scale, we applied confirmatory factor analysis, which is developed by Jöreskog (1969). Goodness-of-fit for the measurement model, which indicates that how well the specified model reproduces the covariance matrix among the indicator items plays a critical role for evaluating the model's validity and evidence of the construct validity (Hair et.al, 2006).

Figure 1 shows the four factor measurement model for the EI. With the four factor measurement model specified, we test whether the measurement model is valid, or not by analyzing the fit statistics. We used Chi-square (χ^2), Root mean square residual (RMR: well fitting models obtaining values less than .05; Byrne, 1998), comparative fit index (CFI: a cut-off criterion of $CFI \geq 0.90$; Bentler, 1990), and root mean square error of approximation (RMSEA: the

range of 0.05 to 0.10 was considered an indication of fair fit; MacCallum et al, 1996) as fit statistics. Table 3 presents the results of the fit statistics and shows that the four factor model produces acceptable fit indices. Thus, we accept H₁.

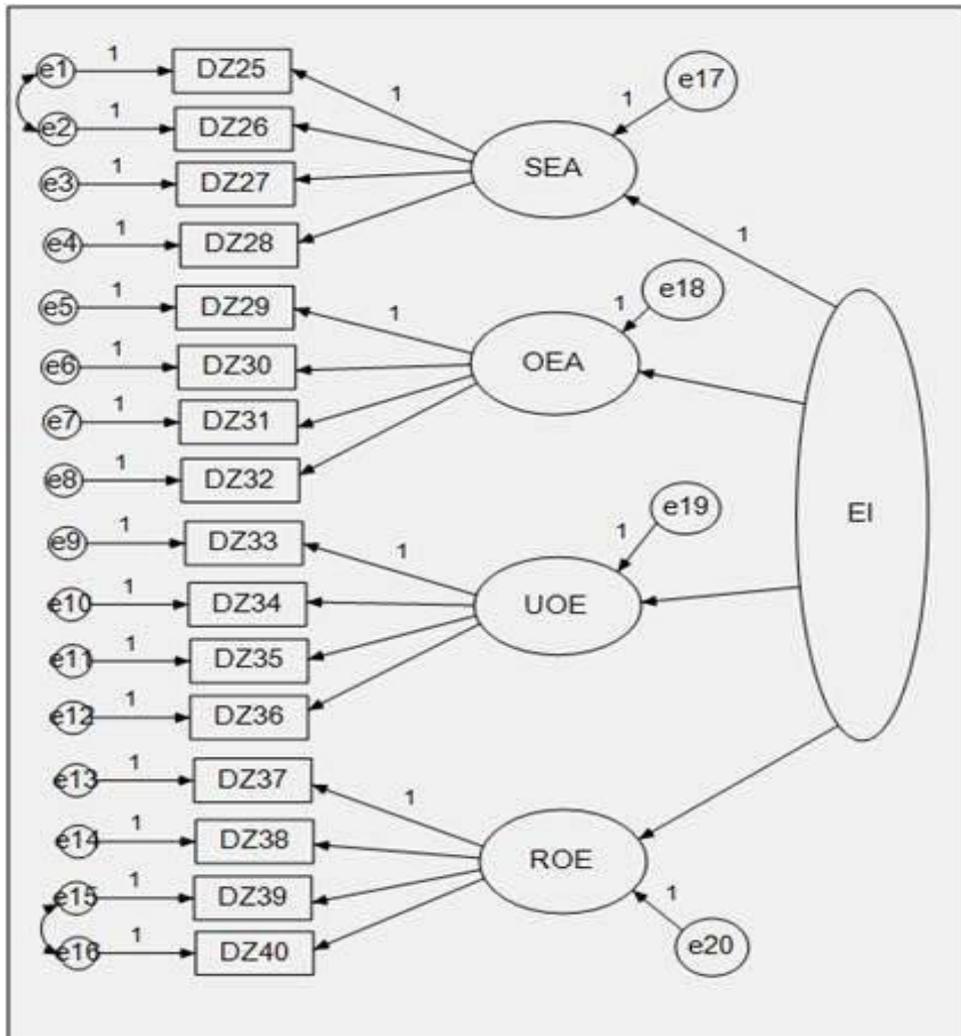


Figure 1: Four Factor Model of Emotional Intelligence

(EI= Emotional intelligence, SEA= Self emotional appraisal, OEA= Others’ emotional appraisal, UOE= Use of emotion, ROE= Regulation of emotion.)

Table 3: Fit statistics for the four factor model

	χ^2	df	RMR	CFI	RMSEA
Model	213	98	0.04	0.93	0.07

Df=Degrees of freedom, RMR = Root mean square residual, CFI = Comparative fit index, RMSEA = Root mean square error of approximation

5. Discussion

This study investigates the factorial structure of Wong and Law’s (2002) EI scale and tries to prove the construct validity of the scale by the help of the confirmatory factor analysis. The results reveal that emotional intelligence scale

is multidimensional and consists of four dimensions, which are self emotional appraisal, other's emotional appraisal, use of emotion, and regulation of emotion. Wong and Law's confirmatory factor analysis results were $\chi^2/df = 1.82$, CFI=.91, RMR=.07, which shows the four-factor model fitted the data reasonably well. Our results ($\chi^2/df = 2.17$, CFI=.93; RMR=.04) were in line with Wong and Law's findings, which supports the four factor structure of EI. Also, as touched upon earlier, the dimensions and composite EI have high reliability coefficients. Therefore, the conclusion we draw is that Wong and Law's 16-item EI scale effectively captured the EI dimensions in this research.

Researchers and practitioners can use this 16-item psychometrically sound and practically short EI measure for leadership, strategic management, and organizational behavior studies. Further, multidimensionality of the EI scale should be paid attention. Managers should consider these EI dimensions in order to manage their subordinates effectively and to reach strategic objectives as well. For instance, employees, who have great ability in self emotional appraisal, can sense and acknowledge their emotions well before most individuals. Employees, who are high in others' emotional appraisal, will be much more sensitive to the feelings and emotions of others. Employees, who regulate their emotions effectively, will enable a more rapid recovery from psychological distress and employees, who can use their emotions well, can increase their personal performance.

Convergent validity, which is one of the sub-types of the construct validity, should be analyzed for future studies. Further, the study should be replicated in other samples and cultures for the generalizability of the findings.

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