

Measurement of Emotional Intelligence: Validity and Reliability Studies of Two Scales

¹Şebnem Aslan and ²Ahmet Erkuş

¹Social Sciences Vocational Collage, Selçuk University, Konya - Turkey

²Turkish Military Academy, Systems Management Sciences Division Ankara - Turkey

Abstract: The aim of the present study is to examine various scales that are used to measure emotional intelligence and to control the validity and reliability of Tapia's [1] emotional intelligence inventory studies and the emotional intelligence scale that is developed by Wong and Law [2]. The data used in this study are gathered from two different samples that work in public institutions both in Ankara and Konya, Turkey. At the end of the study, Wong and Law [2] Emotional Intelligence Scale was found valid and reliable. At the end of the validity study of Tapia's [1] Emotional Intelligence Inventory, a new four-factor scale was derived. However this new scale was determined to have some problems related to reliability.

Key words: Emotional Intelligence • Measure • Validity • Reliability

INTRODUCTION

For the last fifteen years there have been many researches on the issue of emotional intelligence in the fields of management, leadership and organizational behavior. It is clearly seen in these researches that notably the relationship between emotional intelligence and various variables as leadership [3], work performance [4], stress [5] and burnout [6] are being searched for. In this context in order to measure emotional intelligence and accordingly to develop a scale crosses our path as a very critical subject.

It is also clearly seen that, up to now various EQ scales, which aim to measure emotional intelligence, have been developed and used in many researches. However some of these currently developed scales are difficult to apply since they contain too many questions and items and also some of them do not give the desirable results for they lack the validity and the reliability studies. Besides, many of the scales developed as a result of the studies abroad are another restrictive factor relating to measurement of emotional intelligence. Therefore for the future studies about emotional intelligence in our country, validity and reliability studies of the scales that are developed abroad are needed. In this context, the aim of the present study is to analyze the validity and reliability of Tapia's [1] Emotional Intelligence Inventory and also the Emotional Intelligence Scale, which is developed by Wong and Law [2].

EMOTIONAL INTELLIGENCE

Among various critical concepts about the comprehension of emotional intelligence, Aristotle defines Emotional Intelligence as "those who possess the rare skill to be angry with the right person, to the right degree, at the right time, for the right purpose and the right way are at an adventegous in any domain of life [7].

Together with many definitions and subdimensions about what emotional intelligence is; in brief, emotional intelligence, which is another type of intelligence, is conceptualized as the individual's awareness of his/her own feelings and his interpretation of others' feelings correctly and is assessed as another type of social intelligence [8]. In general it is defined as "the ability of individual to perceive, understand and manage one's emotions" [9].

The ideas and foresights which advocate "emotional intelligence is as important as IQ or more important than IQ in business life and business career" [10, 11] caused to focus on the studies to measure emotional intelligence. However in recent years, by giving place to the importance of feelings in organizational life, the development of the mentioned studies (e.g.; Fisher and Ashkanasy, [12]) have been found insufficient and remained only at the proposal basis. In this process, validity and reliability problems of emotional intelligence scales started to rise and as a result, these scales were criticized severely [13].

There are two main approaches to the models of emotional intelligence and the scales. First of all is the “ability model”, a skill which focuses on the relationship between feelings and intelligence and the second is the “mixed model”, a structure that includes mental abilities, existence and properties. While Mayer and Salovey [14] Model is seen as an ability model, Bar-On [15] and Goleman [10] Models take place among the basic mixed models [16].

The concept of emotional intelligence was primarily developed by Salovey and Mayer [9], but it gained popularity by the studies of Goleman [10, 4]. Salovey and Mayer [9] define emotional intelligence as “the ability of individual to understand his own and others’ emotions and feelings, to distinguish between them and to use this knowledge in his decision making process and actions”. According to Rapisarda [17], Salovey and Mayer’s [9] emotional intelligence, which is rooted from social intelligence, could be applied to emotional problems in social situations; therefore it enables to improve the social intelligence. Jordan *et al.* [19] different from other popular emotional intelligence approaches, proposed by Mayer, Salovey and Caruso [18], focuses on the emotional aspect of perception. In other words it focuses on the relation of intelligence both with emotion and cognition. Moreover, as Offermann *et al.* [7] the definition of Mayer and Salovey [14] is defined as “set of cognitive abilities” by many researches in the literature.

Goleman [4], who has a popular approach to emotional intelligence, builds emotional intelligence upon the factors of motivation and empathy. For Jordan *et al.* [19] these factors clearly go beyond Mayer and Salovey’s definition of emotional intelligence. Goleman and his colleagues [20] defined emotional intelligence efficiency in four factors; “self-awareness”, “self-management”, “social awareness” and “social skills”. Self-awareness is defined as “to know what we feel, to be able to evaluate our skills in a realistic way and to have self-confidence”, self-management is defined as “to manage our feelings in a way that it would ease our job and to conserve our positive mood for completing our object”, social-awareness is defined as “behave empathic towards other people, to be able to accept their point of views and to adapt to these various kinds of people”, lastly social skills is defined as “to be able to regulation the feelings in relationships and to understand the network correctly, to interact properly” [20, 17].

The other mixed model, which is another popular approach, is developed by Bar-On [15]. Bar-On’s approach [15] defines emotional intelligence, as “the

ability to over come the environmental demands which affect the psychological structure”. Bar-On [21] includes three factors considered as facilitators of emotional intelligence. These factors are namely “happiness”, “optimism” and “self-actualization”. As Jordan *et al.* [17] stated the concept of emotional intelligence of Bar-On is not consistent with the emotional intelligence definition of Mayer and Salovey.

Palmer and Stough develop another emotional intelligence model. This model consists of emotional “recognition and expression”, “understanding emotions”, “emotions’ direct cognition”, “emotional management” and “emotional control dimensions” [22].

Another mixed model is developed by Cooper and Sawaf [11]. This model is composed of four main factors. These factors are: “emotional literacy”, “emotional fitness”, “emotional depth” and lastly “emotional alchemy”. But Cooper and Sawaf’s Model has been criticized by Cherniss [23] as it used too many current fashion statements in the scale, which could be conjugated.

EXAMINATION OF THE SCALES THAT ARE USED TO MEASURE EMOTIONAL INTELLIGENCE

The scales, which are related to emotional intelligence, are being evaluated in two parts: Self-report measures and performance based scales. Self-report measures (e.g. Trait Meta Mood Scale) focus on individual’s self-assessment more than his actual capacity. Self-report measures are the ones that are included in the mixed models. On the other hand, performance-based scales take place in the ability models (e.g. Mayer-Salovey-Caruso Emotional Intelligence Test) and consist of a set of sensitive questions, which depend on the total agreement of individuals on the correctness of the answers [24].

One of the scales which is used to measure emotional intelligence is developed by Mayer, Caruso and Salovey [25]. The scale, which is known as Multifactor Emotional Intelligence Scale (MEIS), includes 402 items. It is made up of; “perception”, “assimilation”, “understanding” and “managing emotion” dimensions of feelings. Another scale that is developed by Mayer, Salovey and Caruso, is Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). It consists of four factors. These factors are “emotional perception” (e.g. to understand the feelings on faces, in music and in stories), “emotional integration” (e.g. relate cognitive senses as color, taste, feelings and implications, to use emotions in problem solving process),

“emotional understanding” (e.g. to be aware of emotions) and lastly “emotional management” (e.g. to regulate his own and others’ emotions [26].

Goleman’s Emotional Quotient Scale [10] consists the dimensions of individual’s knowing his own emotions, motivating himself and handling relationships. Another scale that is also included in the wide-ranging mixed models is the Emotional Quotient Inventory (EQ-i) developed by Bar-On [15]. This scale consists of five factors and 15 subdimensions. These five factors; “intrapersonal”, “interpersonal”, “adaptation”, “stress management” and “the individual’s mood in general” [15]. An alternative emotional intelligence scale that was developed by Schutte and his colleagues [27] is Schutte Emotional Intelligence Scale (SEIS) developed depending on the research of Salovey and Mayer in 1990; evaluated as a self-report scale. Several articles have examined the psychometric property of SEIS and as a result of these studies, they identified three or four-factor structures. It is structured under three factors of “appraisal of emotion”, “regulation of emotion”, “utilization of emotion” or four factors of “emotion perception”, “utilizing emotions”, “management of self-relevant emotions”, “managing others’ emotions” [27, 28].

Another scale in the literature is Trait Meta Mood Scale (TMMS), which is developed based on Salovey and Mayer’s [9] original model by Salovey, Mayer, Goldman, Turvey and Palfia. The factors of the scale are “attention to emotion”, “emotional clarity” and “emotion repair ability” [29, 30]. Similarly, Workgroup Emotional Intelligence Profile (WEIP) is another scale that is developed based on Salovey and Mayer’s [9] by Jordan and his colleagues [19]. The factors of scale were classified as; “awareness of self emotions”, “ability to discuss self emotion”, “use of self emotions to facilitate thinking”, “ability to recognize others’ emotions”, “ability to detect false displays of emotion in others”, “empathetic concern” and “ability to manage others’ emotions” [29].

Another emotional intelligence scale, Work-Place Swinburne University Emotional Intelligence Test (Work-Place SUEIT) is developed by Palmer and Stough [22, 30]. Work Place SUEIT consists of “emotional recognition and expression”, “understanding emotions”, “emotions that direct cognition”, “emotional management” and “emotional control” dimensions [22].

Other scale is Toronto Alexithymia Scale [31]. This scale focuses on some individual differences like “difficulty in identifying feelings”, “distinguishing between feelings”, “the bodily sensation of emotional arousal” and “difficulty in describing feelings to others” [31, 32].

The scale that takes place in the literature is Tapia Emotional Intelligence Inventory (TEII), which is developed by Tapia. The first draft version of the TEII was identified by Acker and his friends [33, 36, 37] in five factors consisting of 65 items. These scale’s dimensions are; “self-awareness”, “empathy”, “optimism”, “impulse control” and “the ability to manage anger and anxiety”; later the second version found by Baggett, Susarto and Tapia [34, 36, 37]. They found a three-item structure; “empathy”, “self-awareness” and “attunement”. Some of the items have been taken out of the first 65-item draft version of Tapia and Bury-Stock [35] and by adding new items; a new five-factor structure consisting of 45 items was developed. Tapia’s [36] 41-item scale has been developed by taking four items out of 45-item scale. According to Tapia [36], this scale has been based on Salovey and Mayer’s [9] and Mayer and Salovey’s [14] Scales [36, 37, 38, 1, 39]. At the end of the mentioned studies, Tapia [1] identified the factors of this scale as; “empathy”, “utilization of feelings”, “handling relationships” and “self control” by a factor analysis he did in his article.

Another scale that is used for measuring emotional intelligence is WLEIS (Wong and Law Emotional Intelligence Scale), which is developed by Wong and Law [2]. Researchers, who think that there is a need for a scale, which is short but able to measure all dimensions of emotional intelligence, developed a scale in order to meet this need. Wong and Law [2] called this a simple, practical and psychometrically sound scale for organizational researches. They also claimed that the emotional intelligence scale they developed was a convenient one to be used in the area of management and leadership. There are four factors and 16 items that are based on “self-report”. These factors are; “self-emotion appraisal”, “others’ emotion appraisal”, “use of emotion” and “regulation of emotion”.

METHOD

Aim of the Study: It is clearly seen that many different scales are being used in the emotional intelligence researches. However it is also expressed that some of these scales are difficult to apply because of being too long (e.g. Cooper and Sawaf [11] scale consists of 269 questions, similar to this, Bar-On [15] scale consisting of 133 questions) and some other scales are stated to have validity and reliability problems [2].

Using time consuming long scales are caused some problems especially in the area of management, leadership and organizational behavior. Within this context the

present study aims to control the validity and reliability studies of two scales, which would lessen the problems and would make practical application available. The mentioned scales are identified for they are especially appropriate to be used in the areas of leadership, management and organizational behavior in Turkey. More detailed information about the mentioned scales.

Sample: The data relating to Tapia [1] emotional intelligence scale is gathered from the medical personnel who work in various state hospitals in Konya, Turkey. 410 people participated in the study. 64.1 % (n=263) of the participants are female, 39.9% (n=147) of the participants are male. The average age of the participants is 29, work experience is 7.04 years. The data relating to Wong and Law emotional intelligence scale is gathered from the personnel working for the state in Ankara, Turkey. A total of 292 personnel participated in the study. 18.8% (n=55) of the participants are female, 81.2% (n=237) of the participants are male. Average age of the participants is 31.25, work experience is 8.82 years. The scales are translated into Turkish by academicians who are proficient in English and by English Instructors with the method of translation and backtranslation.

Information about the Scales Used in the Study: Two scales are used in our research. More detailed information is given about the scales below.

Tapia [1] Emotional Intelligence Inventory: Tapia's TEII (Tapia Emotional Intelligence Inventory) [1] consists of 41 items and four factors. These factors are; "empathy" (12 items), "utilization of feelings" (11 items), "handling relationships" (9 items) and "self-control" (9 items). As a result of exploratory factor analysis, Cronbach Alpha reliability coefficients of TEII's factors were found to be 0.74, 0.70, 0.75, 0.67, respectively. The scale is categorized with a 5-likert scale (1 = never like me, 2 = occasionally like me, 3 = sometimes like me, 4 = frequently like me, 5 = always like me). It was found out that different versions of Tapia's scale have already been used in various researches [38, 40] Bellamy, Gore and Sturgis [41] stated that they have used the 24-item version of the scale in their research and it was consistent with Tapia and Bury-Stock's [35] Scale. Total reliability coefficient of four factors of this scale was found as 0.82. Susarto [37] who was used 45-item version of Tapia's [36] scale and studied on validity and reliability of this scale stated that this scale had a high internal validity (0.88). In addition Susarto [37] also proved that emotional intelligence scale was highly validated and reliable (0.93).

Wong and Law [2] Emotional Intelligence Scale: There are totally 16 items and four factors in the mentioned scale. The factors are; "self-emotion appraisal", "others' emotion appraisal", "use of emotion" and "regulation of emotion". Each factor is measured with a total of four items. The answers are categorized with a 7-likert scale (1=strongly disagree, 2=disagree, 3=moderately disagree, 4=neither agree nor disagree, 5=moderately agree, 6=agree, 7=strongly agree). In the validity and reliability study of the scale [2], the loads of the factors were found to be between 0.83-0.85, 0.74-0.89, 0.76-0.82, 0.66-0.83 respectively. The Cronbach Alpha reliability coefficients of the same four factors vary between 0.83 and 0.90. Also a second study was done on two different samples by the researchers. As a result of the confirmatory factor analysis of the data gathered from the mentioned studies, these four factors were found to be coherent with the data [2]. Other studies about WLEIS are also available in the literature. For example Foo *et al.* [42] found internal consistency reliability as 0.83 in their studies that they used WLEIS.

Data Analysis Methods: Various analyses were done to the gathered data at the end of the study. SPSS 15 was used to determine the data means, standard deviations, correlations and Cronbach Alpha reliability coefficients. In addition, Lisrel 8.51 program was used to do the confirmatory factor analysis of both scales.

FINDINGS

The findings that are related to the validity and reliability studies of Tapia's [1] and Wong and Law's [2] emotional intelligence scales are given below. First of all, means, standard deviations and correlations of the factors in the scale were identified. In the second phase, reliability analysis of the scales were done and evaluated. In the third and also the last phase, the validity of the scales was examined by the help of confirmatory factor analysis. To do this, firstly for both of the scales, one-factor model was tested and later, other models that were identified by the researchers were tested. If any correction was done as a result of the factor analysis, reliability of the new scale has also been reexamined.

Validity and Reliability Studies of TEII: The means of the data gathered in relation to Tapia's [1] Emotional Intelligence Inventory (TEII) their standard deviations and correlations are given in Table 1.

As a result of reliability analysis, total Cronbach Alpha reliability coefficient of the scale was found to be

Table 1: Means, standard deviations and correlation values in relation to TEII

Variables	Means	Standard deviations	1	2	3	4
Empathy	3.58	0.57	1			
Utilization of feelings	2.35	0.55	-0.48**	1		
Handling of relationships	3.59	0.59	0.57**	-0.53**	1	
Self control	3.22	0.67	0.23**	-0.01	0.15**	1

* p<0.05, ** p<0.01

Table 2: Confirmative factor analysis results of TEII

Sample	χ^2	RMSEA	GFI	AGFI	CFI
One-factor structure	3014.76 (df=779)	0.084	0.74	0.71	0.48
Four-factor structure (original version)	2150.50 (df=173)	0.066	0.80	0.77	0.61
Four-factor structure (after taking out some items from the original version)	352.41 (df=224)	0.038	0.93	0.91	0.90

Table 3: Factor loads which are derived as a result of confirmatory factor analysis of TEII

Factors	Items*	Factor loads	Factors	Items*	Factor loads
Empathy	1	0.52	Handling of relationships	8	0.41
	3	0.57		9	0.45
	4	0.54		10	0.30
	5	0.55		28	0.48
	7	0.46		30	0.45
	11	0.37		32	0.46
	20	0.44		33	0.51
	26	0.38		16	0.37
Utilization of feelings	36	0.36	Self control	17	0.61
	38	0.53		18	0.55
	39	0.58		19	0.51
	40	0.55		24	0.39

*Cited from Tapia and Bury-Stock [35]

0.62. In the validity analysis of each factors; Cronbach Alpha reliability coefficients of the “ empathy” factor was found 0.71, “utilization of feelings” factor was found 0.69, “handling of relationships” factor was found 0.64 and “self-control” factor was found 0.67. The reliability of the scale is at an acceptable level.

The results of confirmatory factor analysis that is done to test the validity of TEII is given in Table 2 in order to accept the validity of a scale statistically, as a result of confirmatory factor analysis, some of the fit indices values are supposed to be acceptable. It is necessary for the RMSEA value to be below 0.080; CFI, GFI and AGFI values to be over 0.90 due to the most common fit indices values [43]. When the confirmatory factor analysis results were examined, it was identified that fit indices of one-factor structure were below the acceptable values and also 41-item and four-factor structure did not meet the acceptable indices values. For this reason, two items which have t-values that were not

meaningful at the level of .05 and 15 items, which are found in one factor but also determined to be related with other factors, were taken out from the scale. Fit indices of the new scale with 24 items and four factors were found to meet all the values.

The factor loads of the new scale, which are derived as a result of confirmatory factor analysis, are given in Table 3 in general, factor loads of each scale are supposed to be above 0.50. However it is stated that the factor loads are directly related with the number of samples and as the number of participants increase, factor loads value could be lowered. For example, a sample of 350 participants is stated to be enough for a factor load of 0.30 [44]. From this point of view, it could be said that these values could be acceptable because of high number of samples (n=410) in the present study. Besides this, many researchers state that each factor in a scale should have at least three items and it is also advocated that the factors with less than three items should be taken out of the scale [44]. As a

Table 4: Means, standard deviations and correlation values of 24-question scale which is developed as a result of confirmatory factor analysis of TEII

Variables	Means	Standard deviations	1	2	3	4
Empathy	3.63	0.67	1.00			
Utilization of feelings	2.17	0.81	-0.32**	1.00		
Handling of relationships	3.60	0.64	0.55**	-0.41**	1.00	
Self control	3.15	0.79	-0.02	-0.036	0.050	1.00

*p<0.05, ** p<0.01, Reliability and Validity Studies of WLEIS, The means, standard deviations and correlations of the data derived from the Wong and Law Emotional Intelligence Scale (WLEIS) are given in Table 5

Table 5: Means, standard deviations and correlations of WLEIS

Variables	Means	Standard deviations	1	2	3	4
Self-emotion appraisal	5.93	0.80	1.00			
Others' emotion appraisal	5.37	1.01	0.48**	1		
Use of emotion	5.44	1.01	0.49**	0.36**	1.00	
Regulation of emotion	5.20	1.18	0.37**	0.17*	0.45**	1.00

* p<0.05, ** p<0.01

result of confirmatory factor analysis of the present study, it is clearly seen that the factors in the scale have at least four items and factor loads of each items are above 0.30. In conclusion, it is confirmed that the new scale with 24 items and four factors meet the values of fit indices and also meet the criteria related to the factor analysis that is mentioned above.

At the end of the reliability analysis of the new scale, which is derived as a result of the confirmatory factor analysis, total Cronbach Alpha reliability coefficient of the scale was identified as 0.60. In comparison with the 41-item original scale, total Cronbach Alpha reliability coefficient descended a bit. As a result of reanalyzing the reliability of each factor, Cronbach Alpha reliability coefficient of "empathy" factor was found 0.71, "utilization of feelings" factor was found 0.62, "handling of relationships" factor was found 0.63 and "self control" factor was found 0.61. Cronbach Alpha reliability coefficient of the factors of the new scale, which is developed as a result of the confirmatory factor analysis, is found to be lower than the 41-item original scale.

Since the Cronbach Alpha coefficients of the scale and its factors were low, a total-item correlation analysis was done in addition. At the end of the analysis, total-item correlations of factors were examined and it is seen that correlation of one item in "utilization of feelings" factor was lower than 0.3, but when this item was taken out of the scale, alpha coefficient raised from 0.62 up to 0.66. For this reason this item was left out of the scale.

There are different views of researchers about the Alpha reliability coefficient. For example, according to Nunnally [45], alpha reliability coefficient must be over 0.70. For Özdamar [46], Alpha reliability coefficients are

stated as; 1.00-0.80 high reliability, 0.80-0.60 reliable, 0.60-0.40 low reliability, 0.00-0.40 not reliable. Besides, the characteristics of the tests also affect the alpha reliability coefficient. For example, while it is necessary for the Cronbach Alpha reliability coefficient to be over 0.8 in IQ tests, in order to take psychological contextual structure out, this coefficient was stated to be over 0.70. It is stated that generally in the researches in social sciences, the values over 0.70 are acceptable, but in the confirmatory studies of the scales, it is stated that this value should be over 0.80 [44].

The means, standard deviations and correlations, which are derived as a result of the validity and reliability analysis of the new scale, are given in Table 4. As a result of the validity study of Tapia's 41-item scale, a new factor structure and item distribution has been obtained. It could be said that this structure of the scale is valid however, at the end of the reliability analysis of the new scale and through various views about the reliability analysis, it is found that the alpha reliability coefficients of the factors were not at the expected level and it was identified that especially the coefficients of "handling relationships" and "self control" factors were low. That is to say, the reliability of the new scale is also low.

As a result of the reliability analysis of WLEIS, total Cronbach Alpha reliability coefficient was found as 0.89. At the end of reliability analysis of each factor, Cronbach Alpha reliability coefficient of "self-emotion appraisal" factor was found as 0.81, "others' emotion appraisal" factor was found as 0.89, "use of emotion" factor was found as 0.83 and "regulation of emotion" factor was found as 0.87.

Table 6: Confirmatory factor analysis results of WLEIS

Modal	χ^2	RMSEA	GFI	AGFI	CFI
One-factor structure	1332.87 (df=104)	0.244	0.50	0.54	0.40
Four-factor structure	148.62 (df=95)	0.058	0.92	0.88	0.97

Table 7: Factor loads which are derived as a result of confirmatory factor analysis of WLEIS

Factors	Items*	Factor loads	Factors	Items*	Factor loads
Self-emotion appraisal	1	0.76	Use of emotion	9	0.55
	2	0.78		10	0.54
	3	0.94		11	0.90
	4	0.59		12	0.80
Others' emotion appraisal	5	0.78	Regulation of emotion	13	0.85
	6	0.91		14	0.92
	7	0.57		15	0.59
	8	0.89		16	0.77

*Cited from Wong ve Law [2]

The results of the confirmatory factor analysis of WLEIS are given in Table 6. When the results of the analysis are examined, it is seen that fit indices of One-factor structure does not meet the acceptable values, however, fit indices of four-factor structure is seen to meet all the acceptable values except AGFI value, but AGFI value is still at an acceptable level as it is close to 0.90.

Factor loads relating to each factor are given in Table 7. All the factor loads are seen to be over 0.50. In addition, numbers of items are more than three in all factors. As a result it can be said that WLEIS is a valid and reliable one and could be used in the future studies.

DISCUSSION AND CONCLUSION

The increasing interest towards emotional intelligence and the researches about the issue revealed the need to measure emotional intelligence and to develop a scale. It is seen in the literature that, many scales have already been developed and used in different researches. However the variability of these scales caused confusion among the researchers and also selection of inappropriate scales were found to affect the results of the studies negatively. Especially, validity and reliability problems of some scales increased the negative effects much more. Within this context, in the present study, measurement of emotional intelligence and the scales used have been examined. The validity and reliability analysis of two scales, which are identified as appropriate to use in the areas of management, leadership and organizational behavior, were done.

At the end of the literature review, it was clearly seen that validity and reliability studies of many scales (MEIS, MSCEIT, TMMS, EQ-I, SEIS, TEII, SUEIT, WEIP-3, WLEIS, etc.) have already been done. Reliability coefficients of many scales were found between

0.70-0.85 [30]. Within this context, the studies conducted to develop a scale that best measures the emotional intelligence are still on their way. While developing these scales, cultural differences are being taken into consideration and the producers of the scales (e.g. Bar-On, Cooper and Sawaf) work on to develop scales, which are appropriate for people from different cultures.

The present study, which is done in Turkey, reached really important results at the end of the validity and reliability analysis of the selected two scales. Firstly, the analysis showed that WLEIS [2] was a valid and a reliable one and the research results were also consistent with the factors that were identified by the researchers. In addition, these findings were also consistent with the validity and reliability studies of other researches [42]. It can be concluded that this scale could be used in the areas of management, leadership and organizational behavior; moreover, since it is short, it is also easy to apply.

Secondly, validity and reliability studies of TEII [1] have been done. As a result of the validity analysis of TEII, a new 24-item scale with four factors was developed. While developing a new factor structure, totally 17 items were taken out of the original scale. Although it is seen that the new scale is consistent with the studies, which are conducted abroad; it is also thought that it might give different results when applied to different samples. Besides, reliability analysis of the original 41-item version and also 24-item version that is developed at the end of validity analysis, are not at the expected level. For this reason it can be concluded that the use of the new version of original scale may not be appropriate and there is a need for future studies which would be applied to new samples. In the light of this evaluation, TEII [1] is criticized by Perez and his colleagues too [30]. Perez and his colleagues stated that TEII was completely a confusing one, which seems to be similar to Mayer and

Salovey's [14] cognitive ability model. According to them, this scale measures self-perceptions and dispositions more than it measures emotion related cognitive abilities. The existence of different views and evaluations could be seen as a sign of problem relating to the scale.

In conclusion, before applying emotional intelligence scales to different cultures, it is necessary to do the validity and reliability studies. As it is seen in the present study, some scales are problematic for the researches for they have validity and reliability problems. For this reason; as the validity of the results, which are derived from EQ researches are directly related with the sufficiency of the scales, the importance of validity and reliability studies should especially be emphasized.

For the future researches, it is proposed to do studies in order to develop the validity and reliability of the mentioned two scales by using different samples. It should especially be stated that there is need for new researches related to Tapia's [1] scale. Besides, applying the scales, which are developed abroad in Turkey, causes to get different findings and results. For that reason, it is necessary to develop new emotional intelligence scale appropriate for our own culture by getting use of the scales, which are developed abroad.

REFERENCES

1. Tapia, M., 2001. Measuring Emotional Intelligence. *Psychol. Reports*, 88: 353-364.
2. Wong, C.S. and K.S. Law, 2002. The Effects of Leader and Follower Emotional Intelligence on Performance and Attitude: An Exploratory Study. *The Leadership Quarterly*, 13: 243-274.
3. Dulewicz, C., M. Young and V. Dulewicz, 2005. The Relevance of Emotional Intelligence for Leadership Performance. *J. General Management*, 30(3): 71-86.
4. Goleman, D., 1998. *Working With Emotional Intelligence*. New York: Bantam Books.
5. Ashkanasy, N.M., C.E. Ashton-James and P.J. Jordan, 2004. Performance Impacts of Appraisal and Coping with Stress in Workplace Settings: The Role of Affect and Emotional Intelligence. *Emotional and Physiological Processes and Positive Intervention Strategies Research in Occupational Stress and Well Being*, 3: 1-43.
6. Chan, D.W., 2006. Emotional intelligence and Components of Burnout among Chinese Secondary School Teachers in Hong Kong. *Teaching Teacher Edu.*, 22: 1042-1054.
7. Offerman, L.R., J.R. Bailey, N.L. Vasilopoulos, C. Seal and M. Sass, 2004. The Relative Contribution of Emotional Competence and Cognitive Ability to Individual and Team Performance. *Human Perform.*, 17, 2, 219-243, pp: 221.
8. Geher, G., Warner, R.M. and Brown, A.S. (2001). Predictive Validity of The Emotional Accuracy Research Scale. *Intelligence*, 29: 373-388.
9. Salovey, P. and J.D. Mayer, 1990. Emotional intelligence. *Imagination, Cognition and Personality*, 9: 185-211.
10. Goleman, D., 1995. *Emotional Intelligence: Why It Can Matter More Than IQ*. New York: Bantam Books.
11. Cooper, R.K. and A. Sawaf, 1997. *Executive EQ: Emotional Intelligence in Leadership and Organizations*. New York: Grossett/Putnam.
12. Fisher, C.D. and N.M. Ashkanasy, 2000. The Emerging Role of Emotions in Work Life: An Introduction. *J. Org. Behav.*, 21: 123-129.
13. Davies, M., L. Stankov and R.D. Roberts, 1998. Emotional Intelligence: In Search of An Elusive Construct. *J. Personality Soc. Psychol.*, 75: 989-1015.
14. Mayer, J.D. and P. Salovey, 1997. What is Emotional Intelligence? In: *Emotional Development and Emotional Intelligence*. Salovey, P. and D.J. Sluyter (Eds.). New York: Basic Books.
15. Bar-On, R., 1997. *The Emotional Intelligence Inventory (EQ-i): Technical Manual*. Toronto Canada: Multi Health Systems.
16. Feyerherm, A.E. and C.L. Rice, 2002. Emotional Intelligence and Team Performance: The Good, the Bad and the Ugly. *Intl. J. Org. Anal.*, 10(4): 343-362.
17. Rapisarda, B.A., 2002. The Impact of Emotional Intelligence on Work Team Cohesiveness and Performance. *Intl. J. Org. Anal.*, 10(4): 363-379.
18. Mayer, J.D., P. Salovey and D.R. Caruso, 2000. Competing Models of Emotional Intelligence. In: Sternberg, R. (Ed.), *Handbook of Human Intelligence*. New York: Cambridge University Press, pp: 396-420.
19. Jordan, P.J., N.M. Ashkanasy, C.E.J. Hartel and G.S. Hooper, 2002. Workgroup Emotional Intelligence Scale Development and Relationship to Team Process Effectiveness and Goal Focus. *Human Res. Manage. Rev.*, 12: 195-214.
20. Goleman, D., R. Boyatzis and A. McKee, 2006. *Yeni Liderler: (Çev. Filiz Nayır-Osman Deniztekin)*, 5th Edn., Varlık Yayınları: İstanbul, pp: 262-265.
21. Bar-On, R., 2000. Emotional and Social Intelligence: Insights Form The Emotional Quotient Inventory (EQ-i). In: *The Handbook of Emotional Intelligence*, Bar-On, R. and J.D.A. Parker (Eds.). San Francisco, CA: Jossey Bass.

22. Palmer, B. and C. Stough, 2001. Workplace SUEIT. Swinburne University Emotional Intelligence Test. Victoria: Organisational Psychology Research Unit Swinburne University of Technology.
23. Cherniss, C., 2000. Emotional Intelligence: What it is and why it Matters. The Annual Meeting of the Society for Industrial and Organizational Psychology, New Orleans, LA, April 15, pp: 1-14.
24. Palmer, B.R., R. Manocha, G. Gignac and C. Stough, 2003. Examining The Factor Structure of The Bar-On Emotional Quotient Inventory With An Australian General Population Sample. *Personality and Individual Differences*, 35, 1191-1210, pp: 1192.
25. Mayer, J.D., D. Caruso and P. Salovey, 2000. Selecting A Measure of Emotional Intelligence: The Case for Ability Scales. In *Handbook of Emotional Intelligence*, Bar-On, R. and J.D. Parker (Eds.). New York: Jossey-Bass, pp: 320-342.
26. Mayer, J.D., D. Caruso and P. Salovey, 1999. Emotional Intelligence Meets Traditional Standards for An Intelligence. *Intelligence*, 27, 267-298, pp: 268.
27. Schutte, N.S., J.M. Malouff, L.E. Hall, D.J. Haggerty, J.T. Cooper and C.J. Golden *et al.*, 1998. Development and Validation of A Measure of Emotional Intelligence. *Personality and Individual Differences*, 25: 167-177.
28. Austin, E.J., D.H. Saklofske, S.H.S. Huang and D. McKenney, 2004. Measurement of Trait Emotional Intelligence: Testing and Cross-Validating A Modified Version of Schutte *et al.*'s (1998) Measure. *Personality and Individual Differences*, 36: 555-562.
29. Salovey, P., J.D. Mayer, S. Goldman, C. Turvey and T.P. Palfai, 1995. Emotional Attention, Clarity and Repair: Exploring Emotional Intelligence Using The Trait Meta-Mood Scale. In: *Emotion, Disclosure and Health*, J.W. Pennebaker (Ed.). Washington, DC: American Psychol. Assoc., pp: 125-154.
30. Pérez, J.C., K.V. Petrides and A. Furnham, 2005. Measuring Trait Emotional Intelligence. In: *International Handbook of Emotional Intelligence*, Schulze, R. and R.D. Roberts (Eds.). Cambridge, MA: Hogrefe and Huber, pp: 123-143.
31. Bagby, R.M., G.J. Taylor and J.D.A. Parker, 1994. The Twenty Item Toronto Alexithymia Scale-II. Convergent, Discriminant and Concurrent Validity. *J. Psychosomatic Res.*, 38: 23-32.
32. Ciarrochi, J.V., A.Y.C. Chan and P. Caputi, 1999. A Critical Evaluation of The Emotional Intelligence Construct. *Personality and Individual Differences*, 28: 539-561.
33. Acker, J., L. Baggett, E. Davis, M. Kuhajda, P. Weaver-Stern, P. Susarto and M. Tapia, 1996. Emotional Intelligence Inventory, Tuscaloosa, AL: The University of Alabama.
34. Baggett, L.K., P. Susarto and M. Tapia, 1996. Emotional Intelligence Test, Paper Presented At the Annual Meeting of the Mid-South Educational Research Association, Tuscaloosa, Alabama.
35. Tapia, M. and J. Burry-Stock, 1998. Emotional Intelligence Inventory, Tuscaloosa, AL: The University of Alabama.
36. Tapia, M., 1998. A Study of Relationships of The Emotional Intelligence Inventory. Unpublished Doctoral Dissertation. University of Alabama.
37. Sutarso, P., 1998. Gender Differences on the Emotional Intelligence Inventory (EQI), Unpublished Doctoral Dissertation, University of Alabama.
38. Lance, J.R., 2003. The Relationship Between Emotional Intelligence and Adolescent Deviant Behavior. Unpublished Master Thesis, Utah State University, Logan, Utah.
39. Tapia, M. and G.E. Marsh II, 2006. The Effects of Sex and Grade-Point Average on Emotional Intelligence. *Psicothema*, 18: 108-111.
40. Krikorian, M., 2000. Emotional Intelligence in Relation to Attachment Type. Unpublished Doctoral Dissertation, Detroit Mercy University of Michigan.
41. Bellamy, A., D. Gore and J. Sturgis, 2005. Examining the Relevance of Emotional Intelligence within Educational Programs for the Gifted and Talented. *Electron. J. Res. Edu. Psychol.*, 3(2): 53-78.
42. Foo, M.D., H.A. Elfenbein, H.H. Tan and V.C. Aik, 2004. Emotional intelligence and negotiation: The tension between creating and claiming value. *The Intl. J. Conflict Manage.*, 15(4): 411-429.
43. Şimşek, Ö.F., 2007. Yapısal Eşitlik Modellemesine Giriş: Temel İlkeler ve Lisrel Uygulamaları. Ankara: Ekinoks, pp: 14.
44. Şencan, H., 2005. Sosyal ve Davranışsal Ölçümlerde Güvenilirlik ve Geçerlilik. Ankara: Seçkin Yayıncılık.
45. Nunnally, J.C., 1978. *Psychometric Theory*. 2nd Edn. New York: McGraw Hill.
46. Özdamar, K., 2002. Paket programlar ile İstatistiksel Veri Analizi. 4^{ncü} Baskı, Eskişehir: Kaan Kitabevi, pp: 673.