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ORIGINAL ARTICLE

Emotional Intelligence Dimensions Scale (EIDS); A Study of Scale Development

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Ethical Statement
In order to conduct a study on the participants, the approval of the Ethics Committee of Istanbul Aydın University, dated 27.04.2022 and numbered 2022-3, was obtained.

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Conflict of Interest
No conflict of interest is present in the conduction or the reporting of this study.

ABSTRACT

The purpose of this research is to develop a valid and reliable scale of emotional intelligence dimensions. Before starting the scale development process, a comprehensive item pool was designed for the scale items by reviewing the literature in the first stage. In the second stage, content validity was examined by field experts' evaluations of the items. The scale prepared with 18 items was applied to the study group consisting of 358 people and validity and reliability analyses were conducted. The data collected in the study were analysed with Amos 22 and SPSS 20 application programs. Exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and reliability analyses were conducted for the construct validity analysis of the EIDS and reported.

Within the scope of EFA analysis, Kaiser- Meyer-Olkin (KMO) coefficient 0.839 ($p = .000$) and Bartlett's Test of Sphericity was significant at $p < .01$. As a result of the EFA analysis, it was determined that the scale, which was transformed into 14 items, had a structure consisting of three sub-factors explained as adaptation to the environment, managing emotions and problem solving. These factors were found to explain 59.71% of the total variance. As a result of the item analysis phase carried out to reveal the discrimination levels of the items prepared for the EIDS, it was seen that the difference between the items was significant at $p < .01$ level. Cronbach's alpha reliability coefficient was found to be 0.875 for the EIDS prepared in the study. With CFA, the scale consisting of 10 statements with 3 sub-dimensions can be called valid and reliable.

Keywords: Emotional intelligence dimensions, problem solving, scale development.

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INTRODUCTION

The ability to recognize, show, feel, manage and use emotions is known as an indicator of emotional intelligence (Kotsou et al. 2018). In order for people to understand what is happening around them, they need to have a high level of environmental awareness. In this context, the first step is to be aware of one's own emotions, to understand them and to have the ability to control their emotions (Shapiro, 2002). Emotional intelligence can be expressed as the ability to recognize one's own emotions, the emotions of those around them, empathy, adaptability and problem solving skills.

Emotions are said to be phenomena that influence and direct thoughts and behaviors. In research on brain functions, it is stated that the measure of intelligence is not cognitive intelligence but the level of emotional intelligence (Baltaş & Baltaş, 2005). The ability to recognize and evaluate one's own emotions and the emotions of others and to shape one's own thoughts and behaviors as a result of these (Mayer & Salovey, 1990) is said to be as important as IQ in revealing one's success both in working life and in personal life. In this regard, the ability to process the information generated by emotions is important for both social and emotional adjustment. Damasio (1994) states that when the part of the brain where emotional information is processed is damaged, both rational decision-making and conceptual processes are negatively affected.

Emotional Intelligence

Mayer & Salovey (1990) stated that people should be able to observe and regulate their own and others' emotions and that emotions will guide thoughts and actions. Mayer et al. (1997) put forward a model of emotional intelligence that has four dimensions. These are the ability to identify, use, understand and manage emotions. These abilities are important criteria in the use of emotional intelligence. Bar-On defines emotional intelligence as all non-cognitive skills that cause people to react positively to their environment (Steven & Book, 2003).

Goleman (1996) defines emotional intelligence as "awareness of one's own emotions, empathy for others' emotions and the ability to regulate emotions in a way that enriches life". According to Goleman (1996), the thinking part of the brain is guided by the emotional part. The common expressions put forward about emotional intelligence are the ability to recognize emotions, the ability to manage emotions, and these abilities are directed towards both the individual's own emotions and the emotions of the people around them.

Dimensions of Emotional Intelligence

Gardner's model of multiple intelligences, initially seven and later eight domains, includes not only verbal and mathematical domains but also social and personal intelligences (Gardner, 1999). Afterwards, those who conducted research on emotional intelligence created a five-dimensional model including these dimensions of Gardner (Goleman, 1996). The first of these dimensions is self-consciousness, which we can also call self-consciousness, which is seen as the basis of emotional intelligence by realizing one's own emotions and evaluating them correctly. The second dimension can be explained as the ability to manage and control these emotions. The third is the ability to initiate action by motivating oneself with one's emotions. The fourth dimension is the ability to recognize and understand the emotions of the people around them and the ability to empathize. In the last dimension, Goleman (1996) refers to having social skills.

In Bar-On's (1997) model, emotional self-awareness, independence skills, self-realization, self-esteem and self-confidence independence skills are included in the personal skills dimension. In the interpersonal skills dimension, he

included empathy, interpersonal relationships, social skills, and in the adaptability dimension, problem solving, realism, and flexibility. The coping with stress dimension consists of controlling stress and impulses and finally happiness and optimism.

Another one of the elements can be said to have the skills of problem solving, coping with problems, and coping with the obstacles that the individual faces in life. Determining the solution processes by evaluating the opportunities in the face of the problems experienced, using individual talents are the steps that direct creative skills (Gönül & Geçikli, 2023).

Within the scope of this research, it is aimed to develop a valid and reliable scale that will be used to measure emotional intelligence skills together with their dimensions. Thanks to this scale, emotional intelligence skills can be determined with their dimensions.

The problem statement of the research is "Is the emotional intelligence dimensions scale a valid and reliable scale?". Two sub-problems were included in the research. The first of these is the question "Is the scale of dimensions of emotional intelligence a valid scale?". The second sub-problem is "Is the dimensions of emotional intelligence scale a reliable scale?".

METHOD

Participants

Before starting the study, the approval of the Ethics Committee of Istanbul Aydın University Educational Sciences Ethics Committee dated 27.04.2022 and numbered 2022-3 was obtained in order to conduct a study on the participants.

The EIDS was administered to the participants who agreed to volunteer to participate in the study. The research was conducted on the sample considering the accessible population. “The accessible universe is defined as the concrete universe of realistic choices that researchers can reach” (Fraenkel & Wallen, 2003). The universe that can be reached in our research consists of 358 volunteers from Istanbul Aydın University Faculty of Education and Istanbul Topkapı University Faculty of Engineering Computer-Software and Electronics Engineering Department students and graduates between 2021-2022 and 2022-2023. Explanatory factor analysis (EFA) and Confirmatory factor analysis (CFA) were not analyzed on the entire study group, and the number of participants was divided approximately into two, and CFA analysis was performed on the first 188-person group and EFA analysis on the other group. The demographic data of the respondents to the measurement tool are shown in Table 1, and the number of participants in the scale development process is that if the factors are strong and distinct, and the number of variables is not too large, 100 to 200 people are sufficient. Generally, it is deemed satisfactory to at least five times the number of prepared items (Büyüköztürk, 2002; Bryman & Cramer, 2011). At the start, there were 39 items in the item pool, but it was subsequently cut down to 18 items in accordance with expert advice and since 358 people participated voluntarily, it can be accepted that this number is sufficient and therefore factor analysis can be applied for the number of samples.

Table 1. Demographic information of the participants.

			EFA		CFA	
			N	%	N	%
Gender	Woman		107	62,9	104	55,3
	Male		63	37,1	84	44,7
		Total	170	100	188	100
Age	Under 20		45	26,5	58	30,9
	21-24		100	58,8	83	44,1
	25-29		5	2,9	13	6,9
	30-39		12	7,1	20	10,6

	Over 40		8	4,7	14	7,4
		Total	170	100	188	99,9
Education status	High school/High school graduate		20	11,8	29	15,4
	Undergraduate student		118	69,4	106	56,4
	Bachelor's degree		26	15,3	44	23,4
	MSc		6	3,5	9	4,8
		Total	170	100	188	100
Academic Average	0-53		9	5,3	1	0,5
	54-65		25	14,7	15	8
	66-77		57	33,5	48	25,5
	78-88		59	34,7	73	38,8
	Over 89		20	11,8	51	27,1
		Total	170	100	188	99,9

EIDS Development Stages

The stages that should be followed while developing measurement tools can generally be said as determining what is desired to be measured, creating an item pool, collecting expert opinions about the items and finalizing the items, and conducting an application study on the participants (Büyüköztürk et al., 2015; DeVellis, 2003).

Accordingly, ethical approval was obtained before starting the study. It was aimed to measure the dimensions of emotional intelligence and it was decided to use a Likert-type measurement tool to collect data for this measurement. In the next stage, a draft item pool was created for measurement purposes by conducting literature research and considering the dimensions and models used in the process of developing EIDS.

The reason for using a 5-point Likert-type measurement tool for data collection is that Likert-type scales are frequently used to reveal the level of agreement with the items created about the desired variables in the measurement of participants' thoughts, attitudes, beliefs and behaviors (DeVellis, 2003). We constructed a survey utilizing a Likert-type scale with five points, enabling respondents to indicate their level of agreement between "Totally Disagree (1)" and "Totally Agree (5)."

The designed measurement tool was administered in writing or online via Google Forms in three parts. The first part was given to the participants as information that the study was conducted for the purpose of scientific research, the answers given would be kept confidential and would not be shared with different purposes, institutions, etc. As demographic data, information such as gender, age and education level were requested. In the last part, the participants were asked to answer the items of the EIDS. The draft scale was completed by 363 people and 358 data were included in the analysis due to incorrect data and responses with extreme values.

KMO coefficient and Barlett's test were performed to determine the feasibility of factor analysis. Based on these results, EFA and CFA were applied to determine the construct validity of the measurement tool. The reliability of the measurement tool was examined using the internal consistency reliability (Cronbach's alpha reliability coefficient) method. In the criterion validity dimension stage of the measurement tool, in order to determine the extent to which the statements in the scale distinguish the participants, the differences between the scores obtained by the participants in the upper 27% and lower 27% from the total measurement tool were examined by independent group t-test. SPSS 20, Amos 22 package programs were used in data analysis.

Initially, KMO and Bartlett Sphericity Test were performed on the collected data. Then, the number of sub-dimensions of the scale was calculated. The distribution of the statements in the scale to the sub-dimensions and the results of the rotated factor loadings were determined. In the next stage, CFA analysis was conducted with Amos 22 application

program. Both good fit values and acceptable fit values were compared with the results of the model. In the criterion validity of the scale development process, the significance of the differences between the responses of the top 27% and the bottom 27% groups were examined with t-test within the scope of item analysis. In the last stage, Cronbach's alpha coefficient was analyzed separately in terms of both the whole statements and their sub-dimensions in order to determine the internal consistency of the statements in the measurement tool. The results of the analyses obtained from the development process of the EIDS are explained in the findings section.

RESULTS AND DISCUSSION

Content Validity

When it's not possible to conduct an experiment to select items that meet the intended criteria and are consistent with the purpose of the measurement tool, decisions are made based on the opinions of field experts. The main purpose here is to translate the essentially qualitative opinions of the experts from the qualitative context to the quantitative context. This process, which is known to be fundamentally related to validity, is to reveal the connection between the item and the purpose metrically. Content validity was developed by Lawshe (1975) and transformed into a table by Veneziano and Hooper (1997) (Table 2).

First of all, if half of the expert opinions state that the item is appropriate, the content validity ratio is =0. If more than half of the experts stated that the item is appropriate, it is greater than zero, and vice versa, it is less than zero. Items with a content validity ratio equal to zero (CVR=0) and items with a content validity ratio less than zero (CVR<0) are removed from the pool. In the second stage, values with content validity higher than zero were determined. The assessed values were examined based on the count of specialists as indicated in the table provided by Veneziano and Hooper (1997) (α = .05).

Table 2. Minimum values for CVR at α = 0.05 significance level.

Number of experts	Minimum value	Number of experts	Minimum value
5	0.99	13	0.54
6	0.99	14	0.51
7	0.99	15	0.49
8	0.78	20	0.42
9	0.75	25	0.37
10	0.62	20	0.33
11	0.59	35	0.31
12	0.56	40+	0.29

Then, after determining the sufficient number of experts, the opinions of eleven field experts were collected. The opinions of experts working in the fields of psychology, occupational therapy and educational sciences at least at postgraduate level were taken. The expert opinions were asked for the items as appropriate, inappropriate, and in need of change, and they were expected to express the changes that needed to be made. In the light of the opinions obtained from the experts, the (CVR) of the items were examined. According to the values in Table 2, items that did not have a minimum value of 0.59 (CVR<0,59) at the α = .05 significance level were removed from the pool and the statements in some items were revised in line with the suggestions. After this stage, the draft scale, which was determined as 18 items, was applied and analyzed by taking the opinion of the Turkish language expert. The link to the draft measurement tool was shared on social media and data were obtained.

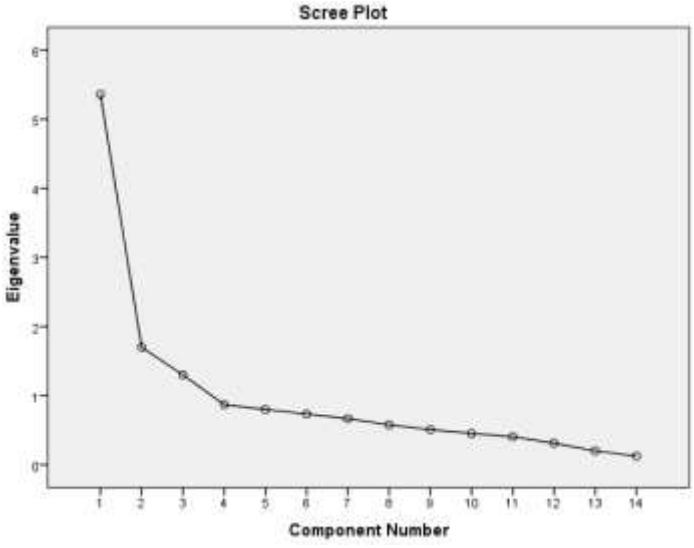
Explanatory Factor Analysis

EFA was conducted in order to reveal the construct validity and factor structure of the EIDS. For this purpose, principal components and direct oblique rotation methods were used and the purpose here is that the principal components method is the most frequently and easily used method in practice and the direct oblique rotation method is used when it is thought that there is a relationship between factors (Büyüköztürk, 2011). KMO and Bartlett's Test of Sphericity were calculated as KMO= 0.839 (p = .000) to test the suitability of the obtained data for EFA and the adequacy of the sample size. If the KMO result is found to be above 0.70 and significant, Can (2014) states that the relationship between the scale expressions and the number of the sample is good for the analysis to be conducted. In addition, Field (2009) considers this value as adequate when it is above 0.50, and between 0.80-0.90 is classified as excellent. As a result of EFA, the lowest KMO value calculated for each item was found to be 0.815. According to this result, it can be said that the data are suitable for EFA.

As a result of Barlett's test, since the chi-square value is reported with degrees of freedom (df), $\chi 2(91) = 1047.945$; df=91 $p<0.05$ and this data showed that the correlation between the items was sufficient for EFA.

EFA analysis was applied to determine the number of factors of the scale. As a result of the analysis, three sub-dimensions (factors) with eigenvalues higher than one were formed. The result of the analysis can be seen in the scree plot (Figure 1).

Figure 1. EIDS scree slope accumulation plot.



Çokluk et al. (2014) state that the direct oblique rotation method should be selected since there may be a relationship between factors in social sciences, that items with item loadings less than 0.30 should be removed from the scale during the analysis, and that items should also be removed from the scale when an item loads more than once and is included under different factors and when these factor values have a loading value of less than 0.10 between them (overlap).

The loadings of the factors in the scale were not lower than 0.30. However, 4 items (items 1, 8, 16 and 17) were removed from the scale because of overlap and the difference between them was less than 0.10. Due to this revision,

EFA was repeated. EFA analysis was conducted by evaluating the closeness of the factors to 1, being larger than 0.40, being included in only one sub-dimension, and not being overlapping. Table 3 shows the loadings of the direct obliquely rotated factors and their distribution to the factors.

Table 3. The distribution of the items of the EISD to the factors and rotated factor loadings.

	Sub-dimensions (factors)		
	F1 (Adaptation to the environment)	F2 (Managing emotions)	F3(Problem solving)
M4	,919		
M6	,882		
M5	,842		
M2	,684		
M7	,680		
M3	,605		
M15	,442		
M11		,736	
M12		,706	
M13		,684	
M18		,629	
M10			-,836
M9			-,753
M14			-,655
Eigen value	5,361	1,698	1,300
Variance explained	38,296	12,131	9,288
Total variance explained		59,715	

When 4 items are removed from the scale, the total variance is explained as 59.72% with 14 items as shown in Table 3. The first factor explains 38.30% of the total variance, the second factor explains 12.13% and the third factor explains 9.29%.

In terms of total variance value, results between 40% and 60% are considered sufficient in social sciences, and in addition, at least 5% of the total variance should be related to this factor (Tavşancıl, 2002; Çokluk et al. 2014). As a result of EFA, the rotated factor loadings were found between 0.442 and 0.919 (Table 3). If the factor loadings of the items are above .45, that item can measure the factor well (Büyüköztürk, 2011). According to Field (2009), since factor loadings above 0.40 are accepted as ideal, it can be said that the relationship of the statements in the EIDS with the factors is at a good level and the contribution level is important.

As can be seen from the plots of the slope accumulation graph, three factors above one was formed. As a result of EFA, the first factor of the EISD was formed with 7 items for adaptation to the environment, the second factor was formed with 4 items for managing emotions and the third factor was formed with 3 items for problem solving.

Item Analysis: In the process of item analysis of the EIDS, the raw scores of the participants were ranked from the highest to the lowest after the scale was administered. In the second stage, the highest and lowest scores were divided into upper 27% (96 participants) and lower 27% (96 participants) groups with 96 results (27% of 358 participants=96 participants). Independent group t-test was applied to answer the question of whether there is a statistically significant difference between these groups. As a result of the analysis, a significant distinction was identified between these two groups ($t(96)=30.53$; $p = .000$). According to Erkuş's (2012) study, if the items have discrimination, there should be a significant difference between the mean values of the scores of the items belonging to the lower and upper groups. Accordingly, it can be said that the validity and item discrimination of the statements in the scale are high. The outcomes of the t-test examining the distinction in group scores can be observed in Table 4.

Table 4. Independent t-test results for the lower 27% and upper 27% groups of the scale.

Variables	Groups	N	X	ss	t	sd	p
EIDS	upper %27	96	63.70	3.09	30,53	182	.000
	lower %27	96	44.58	5.30			

Reliability

Within the scope of the reliability study of the scale, Cronbach's Alpha coefficient was calculated as Cronbach α= 0.862 for the whole sample before EFA. Since a Cronbach's Alpha reliability coefficient between .70 and .90 is considered to be of good reliability (Büyüköztürk, 2011), the entire scale can be said to be of good reliability.

Cronbach's alpha coefficients for each sub-dimension are: Cronbach's α=0.867 for the first sub-dimension (factor), adaptation to the environment, which has good reliability; Cronbach's α=0.631 for the second sub-dimension (factor), managing emotions; and Cronbach's α=0.692 for the third sub-dimension (factor), problem solving. In the literature, reliability coefficients between 0.61 and 0.80 are considered to be of medium reliability (Özdamar, 2002; George & Mallery, 2003). It can be said that the calculated reliability coefficients of the second and third dimensions are acceptable at medium reliability.

Confirmatory Factor Analysis

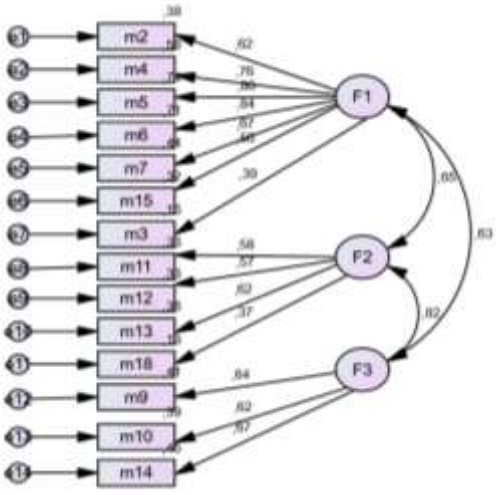
CFA analysis was conducted to test the appropriateness of the factor structures determined as a result of EFA. The aim here is to determine the extent to which the statements we observed and included in the EIDS explain the latent variables that we call factors. The three-factor structure that emerged in the EIDS was examined and 7 statements for the first dimension, environmental adaptation, 4 statements for the second dimension, managing emotions, and 3 statements for the last dimension, problem solving, were examined. Model fit indices were examined as a result of confirmatory factor analysis.

While evaluating the fit of the model, the most commonly used statistics were taken into consideration. These include chi-square, GFI, CFI and RMSEA. The chi-square statistic is commonly accepted by many researchers. In terms of fit, $\chi 2/df<2$ indicates perfect fit. $\chi 2/df<3$ indicates an acceptable fit (Kelloway, 1998) and some studies find this value acceptable up to 5 (Hu & Bentler, 1995). Goodness of fit index (GFI) and Comparative fit index (CFI); values of 0.90 or higher indicate acceptable fit (Bryne, 2001). RMSEA is accepted to be below 0.10 (Anderson & Gerbing, 1984). There are studies that recommend χ2 / df, CFI, GFI, NFI, RMSEA and AGFI values in terms of model fit Table 5 (Schermelleh-Engel et al. 2003). With the acceptable and good fit values taken as a reference, the CFA results of the EIDS are given below and all items are at p<.01 significance level (Table 5).

Table 5. Reference intervals and confirmatory factor analysis results of the CFA (14 items).

index	Good fit	Acceptable fit	Model fit values
χ2 / df	0 <= χ2 / df <= 2	2 <= χ2 / df <= 3	2,474
RMSEA	0 <= RMSEA <= 0,05	0,05 < RMSEA<=0,08	0,089
NFI	0,95<=NFI <= 1,00	0,90 < NFI < 0,95	0,817
CFI	0,97<= CFI <= 1,00	0,95<= CFI < 0,97	0,880
GFI	0,95<= GFI <= 1,00	0,90 <=GFI <= 0,95	0,883
AGFI	0,95<= AGFI <= 1,00	0,85 <= AGFI <= 0,90	0,834

Figure 2. Confirmatory Factor Analysis Results before modification: In line with the EFA results obtained with 14 items and 3 dimensions: χ2 = 183,091, sd=74, p=0.000, RMSEA=0.089, CFI=0.880, GFI=0.883



As seen in the table above, χ2 = 183,091, sd=74, p=0.000, RMSEA=0.089, CFI=0.880, GFI=0.883 CMIN =183,091, DF=74, p<0.001, CMIN/DF or χ2/sd=2.474. Since the model fit values found as a result of the CFA of the 14 statements in the scale were not within the recommended range, the modification indices in the CFA result were examined (Figure 2).

As a result of the analysis for the model created, the fit index values as above are not within the acceptable range. At this stage, modifications can be applied without changing the theoretical relationships. New connections can be established between observed and latent variables, some variables can be removed from the model, error covariances between variables can be added. There are such modifications. The issues to be taken into consideration when making modifications are first of all not to depart from the theoretical structure. In addition, there should be logical justifications for the modifications to be made. The existing error terms between the items of the same factor can be correlated with each other, which can be done to ensure compliance with the theoretical structure (Çokluk et al., 2014; Karagöz, 2016).

Although it is possible to make associations between error terms in the statements under the same factor in the literature, it is not appropriate to make associations between the sub-dimensions (between factors) of the items. Accordingly, items 3, 8, 16 and 17 in the environmental adaptation dimension were removed from the scale one by one since they were found to have a covariance relationship with the statements under other factors, and the analysis was repeated when each statement was removed. Finally, the analysis was repeated by making an association between the error terms e3-e4 that cause covariance among the statements under the first factor (environmental adaptation).

The CFA results obtained as a result of these modifications are shown in Table 6, the model is shown in Figure 3 and the results of the analysis are shown in Table 7.

Table 6. CFA results obtained as a result of modifications

indeks	Good fit	Acceptable fit	Fit values as a result of modification indices
χ2 / df	0 ≤ χ2 / df ≤ 2	2 ≤ χ2 / df ≤ 3	1,642
RMSEA	0 ≤ RMSEA ≤ 0,05	0,05 ≤ RMSEA ≤ 0,08	0,059
NFI	0,95≤ NFI ≤ 1,00	0,90 ≤ NFI ≤ 0,95	0,920
CFI	0,97≤ CFI ≤ 1,00	0,95 ≤ CFI ≤ 0,97	0,966
GFI	0,95≤ GFI ≤ 1,00	0,90 ≤ GFI ≤ 0,95	0,951
AGFI	0,95≤ AGFI ≤ 1,00	0,85 ≤ AGFI ≤ 0,90	0,914
NFI	0,95 ≤ NFI ≤ 1.00	0,90 ≤ NFI ≤ 0.95	0,920
IFI	0,95 ≤ IFI ≤ 1.00	0,90 ≤ IFI ≤ 0.95	0,967

Figure 3. Confirmatory Factor Analysis Results: The 10-item scale, after modification indices: χ2 = 50.89, sd=31, CMIN/sd=1.642, p<0.05, GFI=0.951, CFI=0.966, RMSEA=0.059.

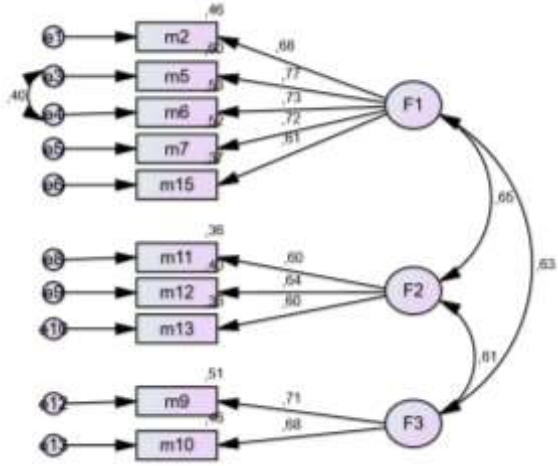


Table 7. CFA results obtained after modifications

Item	path	Factor	β_0	B_1	S.E.	C.R.	P
m2	<---	F1	0,680	0,971	0,118	8,249	<0,001
m5	<---	F1	0,773	1,135	0,126	8,982	<0,001
m6	<---	F1	0,726	1,044	0,123	8,458	<0,001
m7	<---	F1	0,723	1			<0,001
m11	<---	F2	0,599	0,897	0,164	5,482	<0,001
m12	<---	F2	0,636	1,05	0,186	5,633	<0,001
m13	<---	F2	0,596	1			<0,001
m9	<---	F3	0,713	1			<0,001
m15	<---	F1	0,606	0,878	0,118	7,415	<0,001
m10	<---	F3	0,679	0,922	0,158	5,82	<0,001

β_0 Standard path coefficients
β_1 Non-standard path coefficients

In Table 6, the good and acceptable fit index values of the model proposed after the modifications were made are compared with the fit index values obtained as a result of the CFA of the scale. The first value we need to look at here is the chi-square/degree of freedom: χ2 / sd = 1.642 (p=<.05), also known as CMIN/DF, and this value, which varies in proportion to the sample size, is expected to be below 2 (excellent), below 3 (good fit) or below 5 (acceptable) in the literature. RMSEA = .059, RMR = .042, NFI = .920, CFI = .966, GFI = .951 and AGFI = .914. From the results obtained, it can be said that the model has a good fit. These findings confirm that the model shown in Figure 3 shows a good fit and confirms the factor structure of the EIDS. As a result of CFA, it can be said that the three sub-dimensional structure that we previously found with EFA was confirmed appropriately for 10 items. The fit values in Table 6 are found to be the

expected fit index values (p<.01). Table 7 shows the results of standard path coefficients β_0 and non-standard path coefficients β_1.

In CFA, path coefficients of all items under F1, F2 and F3 were found to be statistically significant. The path coefficient obtained for M1 was β_1= 0.680, for M2 β_1=0.773, for M3 β_1= 0.726, for M4 β_1=0.723, for M5 β_1=0.606. When the standardized path coefficients are examined, it is seen that the item with the highest effect on F1 is item 2 (β_0=0,773). For the other factors, when the table above is read, it is seen that β_0=0,636 for F2 and β_0=0,713 for F3.

CONCLUSION AND RECOMMENDATIONS

This study was conducted in order to develop a valid and reliable version of the EIDS. Based on the validity and reliability results of the research, it can be said that the developed scale can be used to measure the dimensions of emotional intelligence. The EIDS consists of 10 items and 3 sub-dimensions; the first one is adaptation to the environment, the second one is managing emotions and the third one is problem solving. The items of the scale are prepared as 5-point Likert scale. The level of agreement with each item is graded as "Strongly agree" (5), "Agree" (4), "Undecided" (3), "Disagree" (2) and "Strongly disagree" (1). The EIDS consists of three factors. The first sub-dimension (factor) adaptation to the environment consists of 5 items. the second sub-dimension (factor) managing emotions consists of three items. The third sub-dimension (factor) problem solving consists of two items. As a result of the scale application, individuals can have a minimum score of 10 and a maximum score of 50. As the scores obtained from the scale increase, it can be said that individuals have high emotional intelligence skills.

The factors that make up the scale explain 59.72% of the total variance. In the scale development studies conducted in the field of social sciences, it is stated that if the value of the total variance explained is between 40% and 60%, it will be sufficient (Tavşancıl, 2002).

As seen from the CFA results of the scale, $\chi2$ = 50.89, sd=31, CMIN/sd=1.642, p<0.05, ($\chi2$/sd=1.64) was obtained by dividing $\chi2$ by degrees of freedom (fd). When the $\chi2$/df ratio is less than 3, it can be said that a perfect fit was achieved. RMSEA=0.059, CFI=0.966, GFI=0.951 were obtained from the model. It can be said that the model with these results has an acceptable fit (Hu & Bentler, 1995; Çokluk et al. 2014; Karagöz, 2016; Özdamar, 2017). According to the results obtained, it can be said that the model shows acceptable fit.

In future studies, the application of the EIDS on participants with different characteristics may help to reveal the reliability of the scale in different groups. It is recommended to investigate the factors affecting the dimensions of emotional intelligence by including different statements/variables in the research process carried out with the EIDS and to use the dimensions of emotional intelligence scale to measure the effects of emotional intelligence development trainings/courses. The applicability of the scale with few items, its simplicity and comprehensibility are among the advantages that can be considered important. With such advantages, it is predicted that it will be useful to use the scale in related studies.

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