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## **DEVELOPMENT OF THE EARLY CHILDHOOD EMOTIONAL PERSPECTIVE TAKING TEST (EDAT): A VALIDITY AND RELIABILITY STUDY**

Research article

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# DEVELOPMENT OF THE EARLY CHILDHOOD EMOTIONAL PERSPECTIVE TAKING TEST (EDAT): A VALIDITY AND RELIABILITY STUDY

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## Abstract

The aim of this research is to development a test measures the emotional perspective-taking abilities of early childhood children. Emotional perspective-taking is a social skill that involves accurately predicting the emotions of others by distinguishing them from one's own emotions. The objective of this research is to better define this skill in early childhood and thus contribute to a better understanding of children's levels of social-emotional development. The study group consists of 146 students aged 5-6. Data were collected through face-to-face interviews with children. Expert opinions were consulted during the research process to ensure the test's content validity. Exploratory factor analysis (EFA), confirmatory factor analysis (CFA), item-total correlations and item analyses were used to establish construct validity. On the other hand, for the reliability of the test, KR-20, KR-21 and split-half reliability were used. The test which was developed for this purpose, consisted of a total of 13 items in two dimensions called "Confused-Scared" and "Happy-Sad" and a total of 13 pictures, one picture for each item. The research found that the Early Childhood Emotional Perspective Taking Test (EDAT) is a valid and reliable test for children aged 5-6 years.

Keywords: Emotional perspective taking, social skill, test development, early childhood development

## 1. Introduction

Interactions are ubiquitous in all aspects of life. Like all other living organisms, humans strive to understand and adapt to their environment. To this end, humans engage in various interactions with their surroundings to make sense of life. Social beings from birth, humans begin their first interactions in the womb. At birth, a person becomes aware of their surroundings and begins the journey towards individuality through experiences gained during childhood, youth, and adulthood. It is important to develop harmonious relationships with society throughout this process. At this stage, individuals who have learned to live together should communicate objectively with others, striving to understand them and express themselves accurately. Socialisation is necessary to meet social and emotional needs. The early years of childhood are a crucial period for experiencing socialisation. According to Piaget, by the age of three, children

have already had numerous social interactions, including interactions with adults (Killen & Smetana, 2013).

Socialisation enables children to develop healthier relationships with their family, peers, and society. However, it requires the acquisition of social skills, which are the ability to interact effectively with others and exhibit appropriate behaviour, while avoiding socially unacceptable reactions (Takahashi et al., 2015). The acquisition of these skills is crucial for individuals throughout their lives, and it is recommended that they begin developing them in early childhood. Children should possess well-developed social skills to collaborate with their peers and establish positive relationships (İnci & Deniz, 2015). One of the essential social skills that children should acquire at an early age is the ability to take different perspectives. In summary, perspective-taking skill is the ability to recognise the perspectives of others without being influenced by one's own feelings and thoughts. The skill was first studied in 'The Child's Concept of Space' by Piaget and Inhelder in 1956 to understand the child's transition from egocentrism to socio-centrism (Piaget & Inhelder, 1967). The Three Mountains Task study brought attention to the perspective-taking skill and led to further research. This skill has three dimensions: emotional, cognitive, and visual (perceptual). The study focused on emotional perspective taking, which is the ability to accurately predict the feelings of others in situations that the individual may not have experienced themselves. It is crucial that adults support the development of emotional perspective-taking skills in early childhood. Research shows that children who possess these skills establish better relationships with their peers, exhibit positive behaviours, develop a healthy personality, and are more socially and emotionally successful in their future professional lives.

However, it is important to note that this skill is often overlooked in favour of other social skills and has not yet been sufficiently researched in our country. Although there are many studies on the subject abroad, they are primarily conducted in medical fields such as psychology and neurology, rather than in the field of early childhood education. Similarly, the scale development studies conducted on this subject also reflect this trend. Although there are limited tests available in the international literature to directly measure the ability of young children to take an emotional perspective, there is currently no such test available in the national literature. However, recent studies on test development have shown an increasing interest in investigating perspective-taking skills. The Cognitive Perspective Taking Test in Early Childhood (EBAT), developed by Tuncer and Aslan (2023), and the Perspective Taking Test for Children (PCT), developed by Aslan and Köksal Akyol (2016), are two prominent tests. Examples of test development studies on concepts related to perspective-taking skills include the Empathy Scale for Children (ÇEMÖ) developed by Köksal Akyol and Aslan (2014) and the Theory of Mind Scale (Wellman & Liu, 2004) adapted by Gözün Kahraman (2012). However, there are currently no scale studies on emotional perspective-taking skills in our domestic literature, and the number of studies on perspective-taking skills is quite low. It was determined that conducting a new study on the development of emotional perspective taking skill in early childhood would be beneficial to the field. Therefore, a valid and reliable test was developed to measure this skill in children aged 5-6 years. The aim of this research is to develop the Early Childhood Emotional Perspective Taking Test (EDAT).

## 2. Methodology

This is a quantitative research study focused on test development. The term 'test' has multiple meanings, but in this context, it refers to a measurement tool used to determine an individual's maximum competence compared to other participants when faced with a specific task or problem (Erkuş, 2010).

### 2.1. Study Group

The research study involved 146 children aged 5-6 who attended kindergartens and primary schools in Elazığ city centre. The main data collection tool used was the EDAT, and a Personal Information Form was also used to provide additional information about the study group. This form includes 3 demographic variables: gender, age, and duration of preschool education. The data related to these variables are presented in tables (Tables 1-3) below;

Table 1. *Gender Variable of the Study Group*

Gender	<i>f</i>	%
Female	80	54.8
Male	66	45.2
Total:	146	100

Upon analysing Table 1, it becomes apparent that the number of females in the study group is higher than the number of males.

Table 2. *Age Variable of the Study Group*

Age	<i>f</i>	%
5-year-old	74	50.7
6-year-old	72	49.3
Total:	146	100

Upon analysing Table 2, it becomes apparent that the number of 5-year-old children in the study group is nearly equivalent to that of 6-year-old children.

Table 3. *Duration of Preschool Education Variable of the Study Group*

Duration	<i>f</i>	%
0 year	63	43.2
1 year	52	35.6
2 years	23	15.8
3 years	6	4.1
4 years	2	1.4
Total:	146	100

Upon analysing Table 3, it becomes apparent that most children in the study group had not received preschool education prior to the study. This was followed by a significant number of children who had received preschool education for up to one year.

## 2.2. Data Collection Tools

This study utilised Early Childhood Emotional Perspective Taking Test (EDAT), which was developed by the researchers and tested for validity and reliability, together with the 'Personal Information Form' as data collection tools.

Early Childhood Emotional Perspective Taking Test (EDAT): The test consists of a total of 13 items in two dimensions called "confused-scared" and "happy-sad" and 13 pictures, one picture for each item. Each item is represented by a picture depicting a common situation encountered by young children in their daily lives. The test is administered through one-on-one interviews with children aged 5-6 years old. During the application process, the researcher presents a picture related to the question to each child and allows them to examine it. If the child wishes to comment on the picture or share a related memory, the researcher engages in conversation with them. Once the researcher has confirmed that the child understands the event depicted in the picture, they ask the interviewee to speculate on what the child in the picture might have felt during the event. The child is presented with a choice of four emotion types: Happy, Sad, Scared, and Confused. Each correct answer is awarded one point on the interview record form, while incorrect answers receive zero points. The maximum score achievable on this test is 13, with the minimum being 0. The EDAT administration typically takes 15-20 minutes for 5-year-old children and 10-15 minutes for 6-year-old children.

Personal Information Form: The researchers used an auxiliary form, called the Personal Information Form, to collect demographic information about the study group of the EDAT. The form included three variables: gender, age, and duration of preschool education. The teacher or parents of the interviewed child filled out the form before the test application.

## 2.3. Development of the Early Childhood Emotional Perspective Taking Test (EDAT):

During the development of Early Childhood Emotional Perspective Taking Test (EDAT), a scientific approach was taken. Firstly, literature reviews were conducted on emotional perspective taking skills in early childhood, as well as on the general topics of perspective taking skills and social skills. The reviews revealed that while many studies have been conducted abroad on the development of emotional perspective-taking skills, there is a lack of research in Türkiye. Furthermore, it has been noted that both domestically and internationally, emotional perspective taking has not been thoroughly examined. Instead, it has been studied under the general title of perspective taking, primarily in medical fields such as psychology, neuro-imaging, and diagnosis. When examining studies conducted in our country, it is evident that the number of studies on perspective-taking skills has increased in recent years. However, there are very few scale studies that measure this skill in early childhood. The Cognitive Perspective Taking Test in Early Childhood (EBAT) developed by Tuncer & Aslan (2023), the Perspective Taking Test for Children (ÇBT) developed by Aslan and Köksal Akyol (2016), and the Empathy Scale for Children (ÇEMÖ) developed by Köksal Akyol and Aslan (2014) can be given as examples. Additionally, Turkish adaptations of some scales developed abroad have been identified. The Perspective Taking Test (Kurdek & Rodgon, 1975), adapted by Şener (1996) and Akın (2002), the Theory of Mind Scale

(Wellman & Liu, 2004), adapted by Gözün Kahraman (2012), and finally the Empathy Quotient Scale for Children (Auyeung et al., 2009), adapted by Dinç-Altun et al. (2018), are examples of such scales. It is evident that a study measuring emotional perspective-taking skills in early childhood using a scale is not yet available in our domestic literature. Therefore, there was a high demand for test instruments that measure the development of emotional perspective-taking skills in early childhood. To meet this need, the EDAT was developed as the data collection tool for the study. After conducting a literature review, the next steps in test development were initiated. The test development process involved several procedures, including determining the test items, illustrating them, conducting trial applications to collect data, and performing validity and reliability analyses. Expert opinions were also utilized throughout the process, and adjustments were made accordingly.

### 2.3.1. Determination of Test Items

A pool of 25 items was created to determine the items for the Early Childhood Emotional Perspective Taking Test (EDAT). The items were selected based on their appropriateness for the developmental levels of young children, their ability to fully measure the skill being investigated, and their relevance to events and situations that children may encounter in their daily lives. On the other hand, we ensured that the items were easily understandable and enjoyable for children, without promoting unsupported behaviours, and adaptable to different cultures. During the second phase of item development, we identified the physical environments where 5-6 year old children typically spend their time in daily life. This section includes various environments, both indoor and outdoor, such as children's rooms, living rooms, kitchens, balconies, gardens, streets, neighborhoods, kindergartens, and natural habitats. The characters portrayed in the items were equally distributed between genders. Oruç et al. (2011) conducted a study on the personality development of preschool children. They found that children tended to adopt cartoon heroes of their own gender when watching cartoons. To prevent gender-related internalizations from affecting the validity of the research and to promote gender equality perception in early childhood, measures were taken. The item pool, created in accordance with these principles, underwent expert review to ensure item and content validity. To this end, five faculty members from the field of preschool education and nine preschool teachers were interviewed regarding the suitability of the items for children's development. Additionally, three faculty members from the field of measurement and evaluation were consulted to assess the items' ability to fully measure the skill. In the next stage of test development, the items were illustrated to make them more engaging and comprehensible for children.

### 2.3.2. Illustration of Test Items

Measurement tools to be applied to children in early childhood should be prepared in a way that can attract children's attention like other educational materials. As a matter of fact, children are more curious and interested in educational materials with lots of pictures and colors. In this study, an illustrator was employed to create visual representations of the items in the Early Childhood Emotional Perspective Taking Test (EDAT). The purpose of these illustrations was to enhance children's understanding of the events described in the items. The illustrator took great care to ensure that the drawings were appropriate for young children and visually appealing. During the test administration, the drawings were designed to have aesthetic value while still showing the relevant item in the simplest and clearest way possible. The characters and environments in the drawings were intentionally made physically different from each other to prevent the child from establishing any relationship between the items. The primary concern when creating the test items was to avoid depicting the faces of the main characters in the pictures. This was done to prevent children from guessing the

answer by simply looking at the picture. The researchers and experts first drew sketches for each item and then assessed their suitability for the purpose. To achieve objectivity, expert opinions were sought from 5 faculty members in the field of preschool education, 3 faculty members in the field of visual arts education, and 9 teachers working in preschool education institutions. The necessary adjustments were made based on their feedback, and the item illustrations were finalized. Following this process, pilot applications were conducted with a small group of boys and girls, and it was determined that the test was ready for trial applications.

### 2.3.3. Data Collection (Trial Applications)

The researchers collected data through one-on-one interviews with 146 children aged 5-6 who were enrolled in public and private kindergartens in Elazığ city center. Before the trial implementations, the researchers submitted the research permission document obtained from the Provincial Directorate of National Education and the ethics committee approval document obtained from Çukurova University Ethics Committee to the school administrators. The study's purpose and scope were explained in detail to parents and teachers, and parental consent was obtained voluntarily. Additionally, parents were asked for permission to record audio during test applications. Interviews with children whose parents gave consent were audio-recorded and used to validate data. During the final planning stage for the trial implementations, teachers were consulted to determine the most suitable dates and times for conducting interviews without disrupting the educational flow. At the start of the interviews, the researchers introduced themselves to each child through their parents and engaged in conversation. During the administration of the test, interviews were conducted in empty kindergarten classrooms, using the tables and chairs to make the child feel more comfortable. The child was then shown the EDAT test booklet and given the opportunity to examine the pictures. At the start of the interviews, the reason for not drawing the faces of the main characters in the pictures was thoroughly explained to the children. During the test, any comments or memories expressed by the child were discussed, and short breaks were given when necessary, such as for playing games or moving around. If a child did not wish to continue the test, the interview was terminated and the recording form was cancelled. Test trials lasted an average of 15-20 minutes for 5-year-old children and 10-15 minutes for 6-year-old children.

### 2.3.4. Data Analysis

The data collected from the trial applications were classified by age groups. The consistency between the scores written in the interview recording form and the responses given in the audio recordings was then checked. Subsequently, all data were uploaded to the SPSS (Statistical Package for the Social Sciences) program to create a dataset. Factor analysis was conducted in SPSS to examine the validity of the test. Factor analysis (FA) is a multivariate statistical procedure that combines interrelated variables to produce a smaller number of meaningful new variables (Büyüköztürk, 2002). The factor analysis process resulted in the removal of 12 items from the 25-item pool, and it was decided to include 13 items in the Early Childhood Emotional Perspective Taking Test (EDAT). Following the SPSS procedures, we used TAP (Test Analysis Program) software to assess item difficulty and item discrimination, which supported the validity of the test. Data were calculated separately for each age group in TAP. Reliability coefficients such as Kuder-Richardson 20 (KR-20), Kuder-Richardson 21 (KR-21), and two-half reliability were examined for reliability analyses to show the degree of 'freedom from errors' of the EDAT. The test development process was successfully completed.

### 3. Findings

This section presents the study findings obtained from the data analysis. The findings are classified into distinct categories: descriptive statistical findings pertaining to the data, and findings concerning the test's validity and reliability.

#### 3.1. Descriptive Statistical Findings Pertaining to the Data

Descriptive statistics pertaining to the data collected from the study group are presented below;

Table 4. *Descriptive Statistics Pertaining to the Data*

Number of Examinees	146
Total Possible Score	13
Minimum Score	3.000 = 23.1%
Maximum Score	13.000 = 100.0%
Standard Deviation	2.253
Variance	5.077
Skewness	-1.079
Kurtosis	0.491
Mean Item Difficulty	0.836
Mean Discrimination Index	0.362
Mean Adj. Point Biserial	0.359

Upon examining Table 4, it is evident that the scores range from 3 to 13, with a kurtosis and skewness value within the range of  $\pm 3$ . The average difficulty value was 0.836, and the average discrimination value was 0.362. Based on these values, the test items are deemed easy with high discrimination.

#### 3.2. Findings Concerning the Test's Validity and Reliability

To test the scope validity, preschool field experts were asked whether the relevant item measures the intended emotion, and the inter-rater agreement coefficient was calculated. Based on information obtained from ten experts, a total of 210 agreements were reached, while agreement could not be reached on 40 opinions. The reliability formula proposed by Miles & Huberman (1994) among experts was used ( $\text{Reliability} = \text{Agreement} / (\text{Agreement} + \text{Disagreement})$ ) and the reliability was found to be approximately 0.84 ( $\text{Reliability} = 210 / (210 + 40)$ ). Exploratory Factor Analysis (EFA), which is frequently used in test development for construct validity, was used for the structural validity of the test. As the test data was scored as 1-0, EFA was conducted based on the tetrachoric correlation matrix. To test the suitability of the sample size for factorization, a Kaiser-Meyer-Olkin (KMO) test was conducted. The analysis revealed that the KMO value for the sample of 146 individuals was 0.72, indicating that the sample size is 'sufficient' for factor analysis (Tavşancıl, 2006; Çokluk et al., 2012). Subsequently, the Bartlett Sphericity Test was used to test the multivariate normality assumption. A significance value less than 0.05 indicates that it differs from the unit matrix in the correlation or covariance matrix. This means that a factor can be extracted from the



correlation matrix. Therefore, the result of the Bartlett Sphericity Test is also significant ( $\chi^2:1609.9, p<0.01$ ). It is also stated in the literature that the sample size should be at least five and ten times the number of observed variables (Büyüköztürk, 2002; Tavşancıl, 2006). The data structure meets the assumption of multivariate normality. After this process, the unweighted least squares method was chosen as the factorization method to reveal the factor pattern of the scale, and Varimax was selected as the rotation method. Finally, parallel analysis was applied to determine the number of factors in the scale (Timmerman & Lorenzo-Seva, 2011). The results of the parallel analysis are presented below;

Table 5. *Parallel Analysis Results of EDAT*

Variable	Real-Data 95 % of Variance	Mean of Random % of Variance	Percentile of Random % Of Variance
1	38.3070*	15.5416	19.3228
2	18.6615*	13.3959	15.1736
3	10.1493	11.8712	13.2399
4	8.7570	10.6259	11.6196
5	6.8819	9.4955	10.3430
6	4.9127	8.4578	9.2012
7	3.7132	7.5433	8.2293
8	2.6996	6.6462	7.4392
9	2.4280	5.7163	6.5961
10	1.9260	4.7750	5.7143
11	1.3188	3.6915	4.8376
12	0.2451	2.2398	3.9238

\* Advised number of dimensions: 2

Upon examining the variance ratios described in Table 5, it can be concluded that the data structure is suitable for a two-dimensional format. In order to determine the factor structure of the scale, factor analysis was conducted with a significance level of 0.32 for factor loading values. As a fundamental rule, each variable's loading value should be 0.32 or higher (Tabachnick & Fidell, 2001). The analysis was repeated after removing the variables with a factor loading below 0.32 and those that were collinear. To ensure no collinearity, a criterion of at least 0.10 difference between factor loadings was used (Tavşancıl, 2006).

### 3.2.1. Exploratory Factor Analysis Findings

To determine the data structure of the test, Exploratory Factor Analysis (EFA) was conducted. The results of the EFA are presented below;

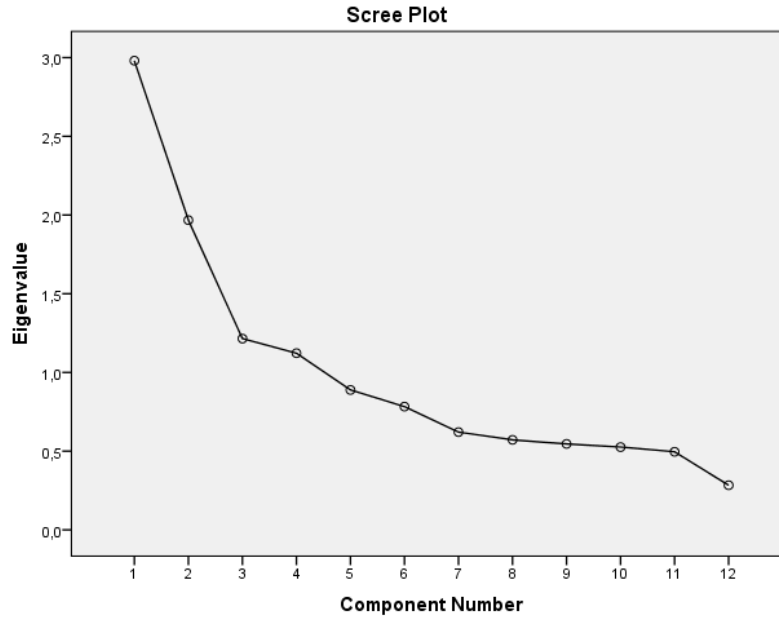


Figure 1. Screen plot

Upon examining Figure 1, it is evident that the eigenvalue is greater than 1 and the fracture occurs from the second point onwards, indicating that the structure is suitable for a two-factor structure. Therefore, the analysis was limited to two factors and repeated. As a result of the second factor analysis, the total explained variance was found to be 56.93%. As a result of these procedures, 12 items were excluded. The EFA results are presented below;

Table 6. *Exploratory Factor Analysis (EFA) Results*

Factor	Item	Rotated Factor Loading Value	Item-Total Correlation
Confused-Scared	Item 1	0.752	0.566
	Item 4	0.840	0.723
	Item 5	0.492	0.251
	Item 6	0.437	0.359
	Item 7	0.818	0.673
	Item 9	0.475	0.266
	Item 11	0.704	0.585
	Item 13	0.737	0.551
Happy-Sad	Item 2	0.687	0.473
	Item 3	0.798	0.646
	Item 8	0.460	0.253
	Item 10	0.893	0.828
	Item 12	0.596	0.361
Eigenvalue= 12.36 and explained variance= 56.93			
$\chi^2:1609.9.p<0.01$ and KMO: 0.72			

Upon reviewing Table 6, consequently it was decided that the Early Childhood Emotional Perspective Taking Test (EDAT) would consist of a total of 13 items and 2 dimensions. The items were evaluated together for factor naming, and it was deemed appropriate to name the first factor “Confused-Scared” and the second factor “Happy-Sad”.

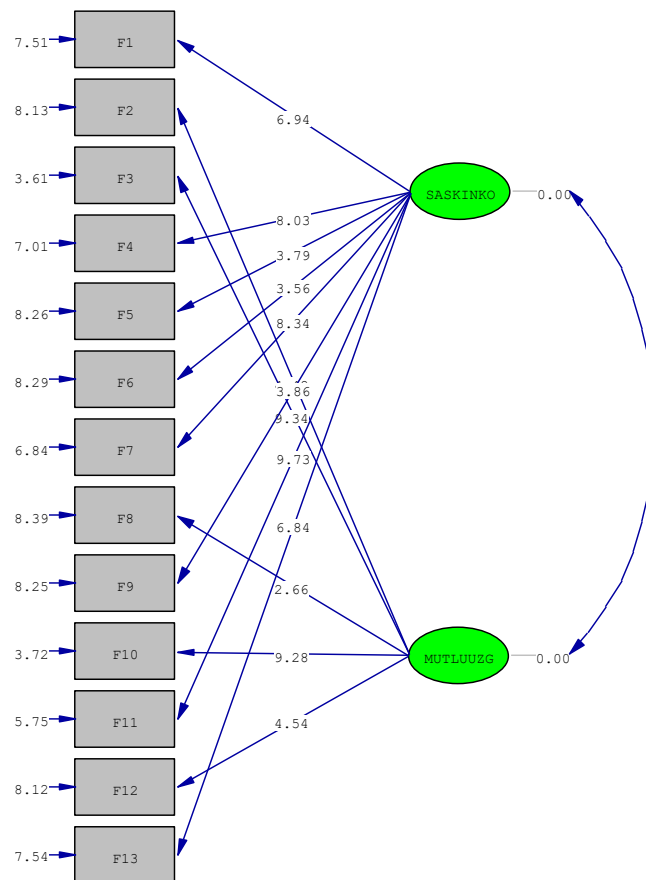
### 3.2.2. Confirmatory Factor Analysis Findings

Confirmatory Factor Analysis (CFA) was used to confirm the two-dimensional data structure obtained from EFA. The fit statistics for the two-factor structure obtained from CFA are presented in Table 7. These values are  $\chi^2/df = 1.553$ , CFI = 0.901, GFI = 0.900, RMSEA = 0.062 and SRMR = 0.073. The CFA results are presented below;

Table 7. Confirmatory Factor Analysis (CFA) Results

Fit indexes	Values	Perfect fit	Acceptable fit	Result
$\chi^2/df$	1.553	$0 \leq \chi^2/df \leq 3$	$3 < \chi^2/df \leq 5$	Perfect
CFI	0.901	$0.95 \leq CFI \leq 1$	$0.90 \leq CFI < 0.95$	Acceptable
GFI	0.900	$0.95 \leq GFI \leq 1$	$0.90 \leq GFI < 0.95$	Acceptable
RMSEA	0.062	$0.00 \leq RMSEA \leq 0.05$	$0.05 < RMSEA \leq 0.08$	Acceptable
SRMR	0.073	$0.00 \leq SRMR \leq 0.05$	$0.05 < SRMR \leq 0.10$	Acceptable

Upon examining Table 7, the model's fit was evaluated based on the provided fit values. The evaluation concluded that all fit indices demonstrate acceptable or perfect fit (Hooper et al., 2008; Hu & Bentler, 1999; Kline, 2005; Tabachnick & Fidell, 2001). The graph below presents the factor loadings and t-values.



Chi-Square=99.40, df=64, P-value=0.00303, RMSEA=0.062

Figure 2. Confirmatory Factor Analysis Results of EDAT

The t values were used to analyse the explanatory status of the latent variables for the observed variables. Figure 2 shows that all items are significant at the 0.01 level, as the parameter estimation value exceeds 2.56. No modifications are suggested for the established model.

### 3.2.3. Reliability of Test

The reliability of the Early Childhood Emotional Perspective Taking Test (EDAT) was calculated using KR-20, KR-21, and Two-Half Reliability procedures. Two-half reliability was corrected using the Spearman-Brown formula. The results are presented below;

Table 8. *Reliability of EDAT*

Method	Value
(Split-Half -1st/2nd- Reliability)	0.656
Spearman-Brown	0.792
KR-20 (Alpha)	0.746
SEM (for KR-20)	1.135
KR-21	0.702

Upon analysing Table 8, it is evident that the split-half reliability is calculated as 0.792, with KR-20 and KR-21 values of 0.746 and 0.702, respectively. As per Salvucci et al. (1997), a reliability value below 0.50 indicates low reliability, while a value between 0.50-0.80 indicates medium reliability, and a value greater than 0.80 indicates high reliability. When considering these value ranges, it is evident that the reliability coefficients calculated for EDAT are at an acceptable level.

## 4. Conclusion, Discussion, and Recommendations

The aim of this study is to develop a test that directly measures the emotional perspective taking skills of children aged 5-6 years in the early childhood period. The researchers named this test the Early Childhood Emotional Perspective Taking Test (EDAT). In the first step of test development, an item pool of 25 items was created in accordance with expert opinion. When the item pool was created, it was taken into account that the test would be administered directly to children and that the items should be suitable for early childhood, fully measure the ability and be adaptable to different countries. In line with these principles, some situations were constructed by identifying the standard physical areas where 5-6 year old children usually spend time in their daily lives. These objects were illustrated with the help of an illustrator and made more child-friendly. Once these procedures were completed, pilot applications were started to collect data on the validity and reliability of the test. In these trials, individual interviews were conducted with 146 children aged 5-6 who were attending independent kindergartens and kindergartens within primary schools. These interviews were conducted after obtaining research permission, ethical approval and parental consent. The interviews lasted 10-15 minutes for the 5-year-old group and 15-20 minutes for the 6-year-old group. The children's answers to the test questions were recorded on the interview recording form in a 1-0 structure.

Since the answers were in 1-0 structure, the reliability of the test was examined with the KR-20 reliability coefficient and this value was found to be 0.92. This result means that the reliability of the developed measurement tool is quite high (Büyüköztürk, 2023; Ensari & Bayrak, 2023). On the other hand, the item discrimination and difficulty values were

calculated on an item basis and within the framework of the general statistics of the test, and inappropriate items were excluded from the test. After excluding the items the average discrimination of the test was recalculated to be 0.68 and the average difficulty was recalculated to be 0.67. This result showed that the items in the test were appropriate for the purpose and that the developed test was a measurement tool with high validity for children in the 5-6 age group of the early childhood period. In order to ensure the validity of the test, Exploratory Factor Analysis (EFA) was conducted and the factor structure was found to be appropriate. On the other hand, a confirmatory factor analysis (CFA) was carried out and the structure obtained from the EFA was confirmed. As a result of these analyses, the Emotional Perspective Taking Test in Early Childhood (EDAT) was found to be a test with high validity and reliability. It is useful to use this test as a scientific material to determine the results of social skills training given in the preschool period and to increase social-emotional readiness.

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**Appendix: EDAT Sample Items**

**Item 2.** The kid in the picture lost her beloved dog some time ago. She went out with her family to look for her dog and they searched everywhere. Then, just as they were returning home, the kid saw her dog waiting for at the beginning of the Street, so she ran and hugged him. How do you think the kid who found her dog felt at that moment?

**Correct Answer (1 point):** "Happy (similar statements are considered correct)"





**Item 8.** The kid in the picture (the one whose face is not drawn, the older child) went out for an evening outing with his mother, father and younger brother. However, she had a sore throat and the doctor told her not to eat cold food for a while. While the family was out for a walk, her brother saw an ice-cream shop and asked his father to buy him an ice-cream. Her father bought ice-cream for her brother but not for her. How do you think this kid felt at that moment?

**Correct Answer (1 point):** "Sad (similar statements are considered correct)"



**Item 9.** The kid in the picture was just asleep in her bed. However, she had not closed the window of the room completely before going to sleep and did not realise it. During the night, a strong wind blew the window open sharply, hitting the wall and blowing the curtains away. How do you think this kid felt when she woke up from her sleep because of the loud noise?

**Correct Answer (1 point):** "Scared (similar statements are considered correct)"



**Item 11.** This kid in the picture went to the circus with her family. When it was the magician's turn to perform, the magician came on stage and took off his hat and greeted the audience. Then the magician dipped his hand into his hat and pulled out a rabbit. How do you think the kid felt at that moment?

**Correct Answer (1 point):** "Confused (similar expressions are considered correct)"

