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Development of the Emotion Regulation Skills Scale for Pre-School Children

Ayber Acar¹ Emel Arslan² ¹ Res. Asist. Dr., Kto Karatay University, High School of Health Sciences, Child Development Department, Konya, Turkey² Prof. Dr., Necmettin Erbakan University, Ahmet Keleşoğlu Faculty of Education Basic Education Department, Konya, Turkey**ABSTRACT**

This research aims to develop the Emotion Regulation Skills Scale for pre-school children, which includes measuring emotion recognition, emotion expression, and emotion regulation strategies, and to conduct validity-reliability studies. The sample of the study, in which the general screening model is applied, consists of 206 pre-school children. "Emotion Regulation Skills Scale for Pre-school Children" is used as a data collection tool and "Response Form" is used to record the answers that are given. This scale developed by the researcher has 3 sub-dimensions. There are 6 emotions in each sub-dimension. It is a set scale which is consisting of a picture booklet with 3 stories for each emotion, a total of 18 stories, and 144 emotion regulation strategies. Content and construct validity analyses are carried out within the scope of validity of the scale. Item Total Correlations, Two Half Test Reliability, Cronbach Alpha, and Kuder-Richardson-20 (KR-20) reliability coefficients are calculated within the scope of the reliability studies of the scale. As a result of the findings, it is determined that the Scale, is a valid and reliable measurement tool that can be used to determine the Emotion Regulation Skills of preschool children.

Keywords: Pre-school Period, Emotion Regulation Skills

INTRODUCTION

Emotions are necessary to evaluate the actions that bring about a situation (Butler ve Gross, 2009; Denham, Zoller & Couchoud, 1994; Gross & Thompson, 2007). It enables the individual to know his/her surroundings, taking decisions, determining and balancing the reactions to be given, and as a result, increasing social relations. The reactions of individuals in the face of the events they are in are an important factor in motivating the person while providing management. With this, emotions are also important in creating the behaviors that should be in a person's life, keeping in mind important events and situations, providing social interaction and making decisions. However, when emotions are not used functionally and they are not expressed in the right way at the right time, they become a factor that complicates a person's life. If emotions are not regulated with the intensity, frequency and time they should be, they affect daily life negatively (Gross & Thompson, 2007). A person who experiences many emotions in life is not independent of external factors while experiencing emotions, and it is important to regulate their emotions in order to maintain their social relations (Denollet, Nyklicek & Vingerhoets, 2008). One of the most important developmental tasks in the pre-school period is the ability to reach one's own goal, taking into action socially accepted values and rules. In this sense, it is important to learn how to deal with emotions appropriately as early as possible (Cox, Mills, Propper & Gariépy, 2010). Appropriate regulation of emotions is an essential pre-requisite for successful social-emotional development. In early childhood, children begin to understand how some situations activate some emotions, how facial expressions reflect some emotions, how these emotions shape behavior. They also start to recognize emotions are a tool to communicate. Emotional experiences in this period enable children to make sense of the emotional reactions of individuals in their social environment and to regulate and control their own emotions (Santrock, 2014). Emotion regulation skills include recognizing emotions, understanding emotions, expressing emotions and regulating emotions (Bandon, Calkins & Keane, 2010). Recognition of emotions is the ability to recognize the emotion that the other person feels by understanding their emotional facial expressions and cues.

This is a necessary skill for the children to adapt and regulate the situation he/she is in. Creating strong bonds in social relations is possible with the correct interpretation of the reflection of emotions. Emotions reflected by facial expressions give clues about the emotions and tendencies living in children. It has an important role



in communication and social relations. While children's ability to recognize emotions develops, their ability to understand emotions also develops (Gallese, 2003). Denham, Mitchell-Copeland, Strandberg, Auerbach & Blair (1997) define understanding emotions, which constitute an important part of emotional development and successful social interaction in childhood, as the ability to understand verbal and non-verbal (facial expressions) expressions of himself/herself and others. These abilities include understanding another's an emotional state, recognizing another's emotional expression, perceiving clues to a situation or setting, understanding the causes of the emotional perspective of others and emotions (Denham & Cochoud, 1990; Denham and oth., 1997).

The ability to express emotions is the first key point of a child's emotional competence, which forms the basis of school adjustment. It is a way of conveying the emotions experienced by children to those around them (Denham, 2006). It is important that they gain the ability to send appropriate emotional messages and receive emotional messages correctly in order for children to be successful in social communication (Halberstadt, Denham & Dunsmore 2001). The correct reception and transmission of these messages affects the direction of communication established in the formation of social ties. Children who show appropriate emotional reactions to emotional events are positive by their peers and teachers and are considered more adaptable at school (Shin and oth., 2011). Emotion regulation strategies are needed to give appropriate responses to emotional events. In the preschool period, children use emotion regulation strategies to control their intense emotions. With these strategies, they can express their emotions appropriately, fight disappointment, control their impulses and regulate their social relationships (Frankel, Wang & Stern, 2012).

The use of emotion regulation strategies allows to change the quality, intensity, duration and frequency of emotions (Gullone & Taffe, 2011). Children at early childhood may use some strategies such as calming themselves or diverting attention in order to regulate emotions (Kullik & Petermann, 2012). Such internal emotion regulation strategies are the first behavioral strategies that children are using. In preschool age, these behavioral strategies are supported by mental (thought regulation) strategies (Cohen & Mendez, 2009). The use of mental strategies such as stopping thoughts, distracting or thinking positively is achieved through cognitive maturation (Eisenberg & Morris, 2002).

Emotion regulation strategies are the provision of control over the child's emotions as a result of the skills gained in the areas of language development, cognitive development and physical development (Izard, Woodburn, Finlan, Kraut-Ewig, Grossman & Seinfeld, 2011). Strategies can be changed, discarded or completely destroyed by feedback from the environment such as parents, peers, teacher, caregiver, etc. (Cole and oth., 2009). The ability to choose emotion regulation strategies appropriate to the current situation is one of the main features of developing emotion regulation strategies in preschool age (Eisenberg & Morris, 2002). One of the prerequisites for choosing emotion regulation strategies appropriate for a particular situation is knowing which strategies are positive and which are negative. Socially accepted strategies appropriate to the situation and emotions are defined as positive if they lead to a positive change in emotion and ensure that needs are met. On the other hand, negative strategies are often inappropriate to the situation and emotions. They are socially unacceptable. In preschool age, children learn to use effectively different strategies specific to the situation and emotion (Barnow, 2012). Strategies can be used to regulate daily positive and negative emotions and control negative emotions (Mackowiak, 2007). Hilt, Hanson, and Pollak (2011) defined emotion regulation as a complex process consisting of various tasks. The first of these tasks is to be aware of and understand emotional stimuli.

The other task is to classify emotional stimuli in order to give the appropriate emotional response to the incoming stimuli. The last task is to create appropriate behavior by giving the appropriate emotional response. The goal of emotional regulation is not to suppress or eliminate "negative" emotions, but adjusting emotions to respond appropriately, responding and balancing appropriately to the demands of constantly changing emotions in different settings (Aldao, 2013).

The development of emotion regulation skills is one of the critical tasks to be acquired in early childhood and the acquisition of this ability is considered developmental success (Macklem, 2007). Because with this skill, children's academic success, social skills and peer relations are positively supported (Bronson, 2000). Emotionally well-bred children can change the duration and intensity of their emotions or manage the ups-downs of their negative emotions. Emotion regulation involves managing not only negative emotions but also positive emotions. With emotion regulation, the intensity of emotions can be reduced, increased, and maintained at the same level. In other words, emotional regulation involves creating a reaction for a new emotion or changing the response and intensity of an existing emotion (Ochsner and Gross, 2005). Children learn how to calm their joy and enthusiasm or how to express the feeling of sadness they experience in their social environments. Improving the capacity of emotional self-monitoring, improving the recognizing and

evaluating emotions are also essential features of emotional regulation (Saarni, 1999). For this reason, emotion management occurs when children understand and develop what emotions mean (Thompson & Lagattuta, 2006). Therefore, this development allows children to understand which emotion they feel and to realize that they need to manage themselves in a social and emotional sense by providing emotional internal control (Thompson & Goodvin, 2007).

In the light of this information, the evaluation and detailed examination of emotion regulation skills in children from an early age is an important point for children and teachers in the organization of education and training activities (Kurth, 2019). It is very important to support children's ability to understand, express and regulate their emotions. It is necessary for the child to be aware of the emotions he/she experiences and determining which strategies he/she prefers in order to control this emotion in a healthy way. Therefore, it is thought that it is necessary to develop a measurement tool based on a one- to-one application system with the child that will provide these. In this study, children's Emotion Regulation Skills are evaluated by considering their sub-dimensions of recognizing emotions, expressing emotions and emotion regulation strategies. In this way, it was aimed to determine the deficiencies and eliminate them. It is thought that it will guide teachers, parents and academicians in determining the strategies used by the child. In this sense, a missing subject in the pre-school education literature will be shed light on and an academic contribution will be provided. Based on this information, the aim of this study is to develop the Emotion Regulation Skills Scale, which includes measuring emotion recognition, emotion expression and emotion regulation strategies for preschool children. In line with this main purpose, answers to the following questions were sought:

- ✓ What is the validity level of the "Emotion Regulation Skills Scale for Preschool Children" developed for preschool children?
- ✓ What is the reliability level of the "Emotion Regulation Skills Scale for Preschool Children" developed for preschool children.

METHOD

Model of the Research

This research is a scale development study that aims to evaluate the emotion regulation skills of pre- school children by one-by-one interviews with the child and conducting study' validity and reliability. For this purpose is designed in the General Screening Model based on the quantitative research method.

Study Group

This research is carried out with 206 preschool children in order to reach the data for the validity- reliability analysis of the Emotion Regulation Skills Scale for Preschoolers. The study group of the research is formed by random sampling method.

Data Collection Tools

In this study, the "Emotion Regulation Skills Scale for Preschoolers" developed by the researchers is used. The answers given are recorded with the "Emotion Regulation Skills Scale for Preschool Children Response Form".

Emotion Regulation Skill Scale

The Emotion Regulation Skills Scale for Preschool Children, which is developed by the researcher in order to determine the emotion regulation skills of preschool children, is designed in the narrative technique. There are three sub-dimensions and six emotions in each sub-dimension in the scale. There are 18 stories in total, three stories for each emotion. In addition, it is a set scale consisting of a picture booklet with 144 positive/negative emotion regulation strategies and a scoring table. The stories include six emotions (sad, scared, angry, disappointed, worried, shy) prepared by considering the events that children may encounter in their daily lives. There are three separate short picture stories of each emotion, a hero boy and a cookie man with facial expressions of six emotions.

In the Recognizing and Understanding Emotions sub-dimension of the scale, the story is told to the children by showing a picture and the child is asked questions. The child is expected to show the facial expression appropriate to the situation in the story. In the Expressing Emotions sub-dimension, the child is asked to express the emotion experienced in the story. Finally, in the Emotion Regulation Strategies sub-dimension, children are told stories and questions are asked. In the face of the emotion experienced, children are expected to show pictures of the positive and negative strategies they prefer to use. An example scenario from the developed scale is given below:

Fear: Your teacher is taking you on a trip to a new place. While you were wandering, you unwittingly left the group and came to a place where no one was. There is no one around. What do you feel? (Scared)

**How can you get rid of this feeling? / How can you feel better?*

<i>Positive Strategies</i>	<i>Negative Strategies</i>
1. He/She screams for someone to hear his/her voice.	1. Crying.
2. Calm down himself/herself.	2. Hides in a corner.
3. Think to needs a help.	3. Think he/she will be there forever.
4. Think someone will find him/her.	4. Think no one will find him/her.

Children's responses are evaluated as 0-1 points in the sub-dimensions of recognizing/understanding emotions and expressing emotions (0= False, 1= True). These two sub-dimensions are calculated separately as a minimum of 0 and a maximum of 6 points. Emotion regulation strategies, the third sub- dimension, are evaluated in the range of 0-4 points. Positive strategies are evaluated as a minimum of 0 and a maximum of 8 points and negative strategies as a minimum of 0 and a maximum of 4 points. The high total score obtained from the three sub-dimensions in the scale indicates that the child's emotion regulation skills are also high.

Analys of Data

A single-sample Kolmogorov-Smirnov analysis is conducted the conformity of the data of the Emotion Regulation Skills Scale for Preschoolers in order to determine normal distribution. Accordingly, it is seen that the value Kolmogorov-Smirnov sig. value (.077>0.05), the sig. value of the Expressing Emotions sub-dimension (.087 >0.05), the sig. value of the Emotion Regulation strategies sub- dimension (.200>0.05) are significant. In the normality test, the sig. value being greater than 0.05 and being significant indicates that parametric tests will be applied and the data of the scale are normally distributed. In order to ensure the content validity of the scale, expert opinions are sought. Descriptive factor analysis (AFA) is applied to determine the construct validity of the scale. Rotated (varimax) principal component analysis is used to determine the structure of the factors in AFA. The internal consistency coefficient of the scale is calculated with Item Total Correlations, Two Half Test Reliability, Cronbach Alpha and Kuder-Richardson-20 (KR-20) reliability coefficient values.

FINDINGS

Validity Analysis Findings of the Emotion Regulation Skills Scale for Preschool Children Findings on Content Validity

First of all, expert opinions are sought to determine the content validity of the Emotion Regulation Skills Scale for Preschoolers. Content Validity Ratio (CVR) and Content Validity Index (CVI) are calculated according to Lawshe (1975) approach to evaluate expert opinions. Within the scope of the expert evaluations of the Emotion Regulation Skills Scale for Preschool Children, expert opinions are received from 8 faculty members. As a result of the evaluations of the experts' opinions, the content validity rate is calculated. Accordingly, since the Content Validity Ratio (CVR) does not remain below the value of 0.62, all items are included in the scale. The Scope Validity Index (CVI=0.97) of the scale and the Content Validity Rate (CVR=0.86) are determined and the content validity of the scale was determined to be statistically significant (CVI>CVR).

Findings on Construct Validity

Before the factor analysis of the Emotion Regulation Skills Scale for Preschoolers is performed, firstly, the Kaiser-Meyer-Olkin coefficient (KMO) and Bartlett Sphericity test results are examined in order to determine whether the data are suitable for factor analysis. A Barlett analysis value ($P<0.05$), KMO value of the data suitable for factor analysis above (0.60) are accepted (Büyüköztürk, 2010). In the study, the KMO value (.77) and the significance value (.001) of the scale's emotion recognition and emotion expression sub-dimensions are found to be significant. Emotion Regulation Strategies sub- dimension KMO value (.71) and significance value (.000) are determined. These findings showed that the data were suitable for factor analysis.

After checking the suitability of the sample, factor analysis is started. There are many factorization techniques in exploratory factor analysis. In this research, principal component analysis factorization technique is preferred because it is the most preferred factorization analysis (Tabachnick & Fidel, 2012), which gives the groups under which the items in the scale can be collected and determines the latent variables (Cokluk, Şekercioğlu, & Büyüköztürk, 2014) has been done. The eigenvalues of the factors related to the emotion recognition and emotion expression sub-dimensions of the Emotion Regulation Skills Scale for Preschool Children, the explained variance rates of each factor and the Explanatory Factor Analysis Results are given in Table 1.

Table 1. Results of Exploratory Factor Analysis on emotion recognition and emotion expression sub- dimensions of Emotion Regulation Skills Scale for Preschool Children

Rotated Factors Matrix	Factors					
	1	2	3	4	5	6
Expressing Emotion Anxious 1	0.82					
Expressing Emotion Anxious 2	0.77					
Expressing Emotion Anxious 3	0.76					
Emotion Recognition Anxious 1	0.74					
Emotion Recognition Anxious 2	0.62					
Emotion Recognition Anxious 3	0.58					
Expressing Emotion Disappointed 1		0.69				
Expressing Emotion Disappointed 2		0.80				
Expressing Emotion Disappointed 3		0.76				
Emotion Recognition Disappointed 1		0.68				
Emotion Recognition Disappointed 2		0.65				
Emotion Recognition Disappointed 3		0.60				
Expressing Emotion Fear 1			0.60			
Expressing Emotion Fear 2			0.60			
Expressing Emotion Fear 3			0.52			
Emotion Recognition Fear 1			0.71			
Emotion Recognition Fear 2			0.69			
Emotion Recognition Fear 3			0.62			
Expressing Emotion Angry 1				0.56		
Expressing Emotion Angry 2				0.60		
Expressing Emotion Angry 3				0.60		
Emotion Recognition Angry 1				0.56		
Emotion Recognition Angry 2				0.76		
Emotion Recognition Angry 3				0.63		
Expressing Emotion Shy 1					0.62	
Expressing Emotion Shy 2					0.52	
Expressing Emotion Shy					0.52	
Emotion Recognition Shy 1					0.59	
Emotion Recognition Shy 2					0.52	
Emotion Recognition Shy 3					0.61	
Expressing Emotion Sad 1						0.60
Expressing Emotion Sad 2						0.60
Expressing Emotion Sad 3						0.57
Emotion Recognition Sad 1						0.64
Emotion Recognition Sad 2						0.60
Emotion Recognition Sad 3						0.53
Eigen Value	Factor 1: %4.29	Factor 2: %4.28	Factor 3: %3,74	Factor 4: %3.28	Factor 5: %2.56	Factor 6: %2,82
Explained Variance Total: %55,50	Factor 1: %11,91	Factor 2: %11,90	Factor 3: %10.39	Factor 4: %9.12	Factor 5: %7.12	Factor 6: %5.05

When the factors and eigenvalues of the scale are examined in Table 1, it is seen that it has a 6- dimensional structure with eigenvalues greater than 1. The eigenvalue is the coefficient that provides the calculation of the variance explained by the factor and the determination of the number of factors. The higher the eigenvalue, the higher the variance (Büyüköztürk, 2002). When the Explanatory Factor Analysis results are examined; When 18 items are distributed over 6 factors, it is seen that 55.50% of the total variance is explained besides the explained variance of each factor. Considering the item contents, the first factor of the scale's emotion recognition and expression sub-dimensions is determined as anxious, the second factor as disappointment, the third factor as fear, the fourth factor as angry, the fifth factor as shy, and the sixth factor as sad. These results show that the scale has construct validity. The eigenvalues of the study, the explained variance rates of each factor, and the Exploratory Factor Analysis Results are given in Table 2.

Table 2. Exploratory Factor Analysis Results for the Emotion Regulation Strategies sub-dimension of the Emotion Regulation Skills Scale for Preschool Children

Transformed Component Matrix	Components					
	1	2	3	4	5	6
Strategy Shy 1	0.76					
Strategy Shy 2	0.67					
Strategy Shy 3	0.64					
Strategy Angry 1		0.54				
Strategy Angry 2		0.46				
Strategy Angry 3		0.45				
Strategy Sad 1			0.40			
Strategy Sad 2			0.83			
Strategy Sad 3			0.76			
Strategy Anxious 1				0.55		
Strategy Anxious 2				0.93		
Strategy Anxious 3				0.57		
Strategy Disappointed 1					0.49	
Strategy Disappointed 2					0.70	
Strategy Disappointed 3					0.66	
Strategy Fear 1						0.63
Strategy Fear 2						0.58
Strategy Fear 3						0.53
Eigen Value	Factor 1: %6.63	Factor 2: %5.60	Factor 3: % 2.62	Factor 4: % 2.71	Factor 5: % 2.11	Factor 6: % 2.09
Explained Variance Total: % 57.24	Factor 1: % 18.42	Factor 2: % 15.53	Factor 3: % 9.02	Factor 4: % 8.18	Factor 5: % 6.08	Factor 6: % 4.92

When the factors and eigenvalues of the scale are examined in Table 2, it is seen that the Emotion Regulation Strategies sub-dimension of the scale has a 6-dimensional structure with at least 2% eigenvalue and at least 4% variance, which explains 57.24 of the total variances. These results show that the scale has construct validity. The item loads of the sub-dimensions of the Emotion Regulation Skills Scale for Preschool Children are presented in Table 3.

Table 3. Emotion Regulation Skills Scale for Preschool Children Item Loads of Emotion Recognition Emotion Expression sub-dimensions

Substances Emotion Recognition	Matter Loads	Substance s Expressin g Emotions	Matter Loads	Substances Positive Strategies	Matter Loads	Substances Negative Strategies	Matter Loads
Sad 1	.82	Sad 1	.76	Sad 1	.76	Sad 1	.72
Sad 2	.75	Sad 2	.76	Sad 2	.83	Sad 2	.74
Sad 3	.77	Sad 3	.81	Sad 3	.87	Sad 3	.73
Fear 1	.88	Fear 1	.80	Fear 1	.75	Fear 1	.79
Fear 2	.78	Fear 2	.77	Fear 2	.75	Fear 2	.75
Fear 3	.85	Fear 3	.80	Fear 3	.81	Fear 3	.79
Angry 1	.78	Angry 1	.82	Angry 1	.76	Angry 1	.73
Angry 2	.82	Angry 2	.81	Angry 2	.80	Angry 2	.76
Angry 3	.82	Angry 3	.82	Angry 3	.75	Angry 3	.75
Disappointed 1	.71	Disappointed 1	.75	Disappointed 1	.77	Disappointed 1	.79
Disappointed 2	.73	Disappointed 2	.84	Disappointed 2	.85	Disappointed 2	.82
Disappointed 3	.81	Disappointed 3	.89	Disappointed 3	.70	Disappointed 3	.74
Anxious 1	.84	Anxious 1	.76	Anxious 1	.78	Anxious 1	.75
Anxious 2	.79	Anxious 2	.85	Anxious 2	.87	Anxious 2	.73
Anxious 3	.80	Anxious 3	.73	Anxious 3	.85	Anxious 3	.73
Shy 1	.84	Shy 1	.79	Shy 1	.89	Shy 1	.81
Shy 2	.83	Shy 2	.89	Shy 2	.74	Shy 2	.79
Shy 3	.80	Shy 3	.86	Shy 3	.78	Shy 3	.66

When the table was examined, it was determined that the loads of all items were above (0.4). Since the matter load values of each matter in the scale are quite high, no item is excluded from the analysis.

Reliability Analysis Findings of the Emotion Regulation Skills Scale for Preschool Children

Various methods can be used to determine reliability. KR-20-Cronbach's alpha coefficient, two-half test reliability, item-total correlations are among these (Büyüköztürk, 2009). The results of item total analyze for sub-dimensions, Cronbach's Alpha coefficient, KR-20 coefficient, and two-half test reliability analysis are presented in the tables below.

Item-Total Correlations of the Emotion Regulation Skills Scale for Preschool Children and Finding Related to Cronbach Alfa Coefficient Analysis

Correlation values between adjusted item-factor scores are examined in order to determine to what extent the items in the scale distinguish children in terms of Emotion Regulation skills and to evaluate the variance contributions to the factors of the items. Item-total correlations and Cronbach's Alpha coefficient are given in Table 4.

Table 4. Item-Total Correlations and Cronbach Alpha Coefficient of Emotion Regulation Skills Scale for Preschool Children

Factor/Substances	Adjusted Item-Total Correlation	Cronbach Alpha Value	Factor/Substances	Adjusted Item-Total Correlation	Cronbach Alpha Value
Emotion Recognition			Expressing Emotion		
Sad 1	.40	0.86	Sad 1	.33	0.86
Sad 2	.41	0.86	Sad 2	.34	0.86
Sad 3	.43	0.86	Sad 3	.43	0.85
Fear 1	.56	0.86	Fear 1	.56	0.86
Fear 2	.29	0.86	Fear 2	.51	0.86
Fear 3	.40	0.85	Fear 3	.55	0.85
Angry 1	.32	0.86	Angry 1	.57	0.86
Angry 2	.43	0.86	Angry 2	.56	0.86
Angry 3	.41	0.85	Angry 3	.43	0.86
Disappointed 1	-.22	0.86	Disappointed 1	-.27	0.86
Disappointed 2	-.21	0.86	Disappointed 2	-.27	0.86
Disappointed 3	.43	0.86	Disappointed 3	.29	0.86
Anxious 1	.27	0.86	Anxious 1	.28	0.86
Anxious 2	.31	0.86	Anxious 2	.31	0.86
Anxious 3	.29	0.86	Anxious 3	.29	0.86
Shy 1	.47	0.86	Shy 1	.29	0.86
Shy 2	.46	0.86	Shy 2	.47	0.86
Shy 3	.43	0.86	Shy 3	.47	0.86
POSITIVE STRATEGY			NEGATIVE STRATEGY		
Sad 1	.32	0.86	Sad 1	.42	.85
Sad 2	.30	0.86	Sad 2	.42	.85
Sad 3	.43	0.86	Sad 3	.47	.85
Fear 1	.55	0.86	Fear 1	.44	.86
Fear 2	.35	0.86	Fear 2	.47	.86
Fear 3	.33	0.86	Fear 3	.39	.86
Angry 1	.53	0.86	Angry 1	.41	.85
Angry 2	.37	0.86	Angry 2	.36	.85
Angry 3	.43	0.85	Angry 3	.46	.85
Disappointed 1	.50	0.86	Disappointed 1	.49	.85
Disappointed 2	.44	0.86	Disappointed 2	.31	.86
Disappointed 3	.35	0.86	Disappointed 3	.64	.85
Anxious 1	.28	0.86	Anxious 1	.49	.85
Anxious 2	.23	0.86	Anxious 2	.48	.85
Anxious 3	.29	0.86	Anxious 3	.45	.85
Shy 1	.21	0.86	Shy 1	.45	.85
Shy 2	.23	0.86	Shy 2	.30	.86
Shy 3	.34	0.86	Shy 3	.33	.86

Adjusted item-total correlation analysis indicates to what extent a question correlates with the total outcome and to what extent that question reflects the total outcome (Bortz ve Döring, 2006). When the table is examined, it is determined that the item "Disappointment Emotion Recognition 1" has the lowest value (-.22) and "Fear Emotion Recognition 1" item with the highest value (.56). It is recommended that the correlation coefficients be at least (0,20) and not negative in scale adaptation and development studies. In this case, it is expected that the items that do not meet this requirement will be removed from the scale, but the change in the alpha coefficient and the mean is important when the items with low coefficients are removed. In this study, since there is no significant difference in the alpha coefficient and the mean after the items below (0.20) is deleted, these items are not removed from the scale according to expert opinions. Considering these opinions, it is thought that these items are items that can be used in the scale.

In addition, the Cronbach Alpha reliability coefficient is calculated. Emotion Recognition sub-dimension total Cronbach Alpha value is determined as (.86). When the table is examined, according to the item-total correlation coefficient values, it is seen that the item "Disappointment Emotion Recognition 1 and 2" has the lowest value (-.27), and the item "Expressing Angry Emotion 1" with the highest value (.57). In addition, it is determined that the Cronbach Alpha reliability coefficient value is (.86). Again, according to the table, it is determined that the item "Shy Positive Strategy 1" with the lowest value (.21) and the item "Fear Positive Strategy 1" with the highest value (.55). The Cronbach Alpha reliability coefficient value is determined to be (.86). According to the item-total correlation coefficient values of the Emotion Regulation Negative Strategy sub-dimension of the Scale, it is seen that the item "Shy Negative Strategy 2" has the lowest value (.30) and the item "Disappointment Negative Strategy 3" with the highest value (.64). Cronbach Alpha reliability coefficient values are determined to be (.85). The fact that the Cronbach Alpha coefficient value is between 0.60 and 0.80 indicates that the scores of the items provide very good consistency with the total scale scores. Based on these data, it can be said that the scale is a reliable measurement tool. According to this finding, when the item mean, test variances and Cronbach Alpha values are examined and the total number of items is taken into account, it is determined that no item should be removed from the test.

Findings Related to the Kuder- Richardson- 20 (KR-20) reliability coefficient analysis of the Emotion Regulation Skills Scale for Preschool Children

The reliability coefficient of Kuder-Richardson- 20 (KR-20) is calculated in order to determine the consistency coefficient of the Sub-dimensions of Recognizing Emotions and Expressing Emotions of the Preschool Emotion Regulation Skills Scale (Büyüköztürk, 2010). According to the KR-20 reliability coefficient of the scale, it is determined that it is 0.85 for the "Recognizing Emotions" sub-dimension,

0.81 for the "Expressing Emotions" sub-dimension, and 0.83 for the total Emotion Recognition and Expressing Emotions Sub-dimensions. According to these results, it can be said that the reliability of the Recognition of Emotions and Expression of Emotions Sub-Dimensions of the scale are high.

Findings Related to the Analysis of the Two Half Test Reliability Coefficient of the Emotion Regulation Skills Scale for Preschool Children

In order to determine internal consistency, another reliability determination method, two semi-reliability analyzes are performed. The results are given in Table 5.

Table 5. Two-half reliability analysis for Emotion Regulation Skills Scale for Preschoolers

Cronbach's Alpha		Value	.83
	Part 1	Number of Items	33 ^a
		Value	.74
	Part 2	Number of Items	33 ^a
		Total Items	66
Corelation between Forms			.70
Spearman-Brown Coefficient		Equal Length	.73
		Unequal Length	.73
Guttman Split-Half Coefficient			.73

When the table is examined, in the first half; Alpha value is determined as .83, in the second half, Alpha value was determined as .74. The Spearman-Brown coefficient is .73 and the Guttman split half coefficient is .73. According to these data, it is determined that the internal consistency of the scale is high and the results of the two-half reliability analyzes is sufficient.

RESULT

Results of the Validity Analysis of the Emotion Regulation Skills Scale for Preschool Children Consequences on Scope Validity

Scope Validity Index (SVI=0.97) and Content Validity Rate (CVR=0.86) of the scale are determined. The content validity of the scale is determined to be statistically significant (SVI>CVR).

Conclusions on Construct Validity

As a result of the analysis, the KMO value (.77) and the significance value (.001) for the Emotion Recognition and Emotion Expression sub-dimensions of the scale are found to be significant. The Emotion Regulation Strategies sub-dimension was determined as KMO value (.71) and significance value (.000). According to these results, it is concluded that the data are suitable for factor analysis. When the factors and eigenvalues of the scale are examined, it is seen that the eigenvalues have a 6- dimensional structure greater than 1. When the

exploratory factor analysis results of the scale's sub- dimensions of Recognizing Emotions and Expressing Emotions are examined; When 18 items are distributed over 6 factors, it is seen that 55.50% of the total variance is explained besides the explained variance of each factor. When the Emotion Regulation Strategies sub-dimension factors and eigenvalues of the scale are examined, it is determined that it explaining 57.24 of the total variances has a 6- dimensional structure with at least 2% eigenvalue and at least 4% variance. When the item loads of all sub-dimensions of the scale are examined, it is concluded that the item loads are above (0.4) and it is decided not to exclude any item from the analysis since the item load values of each item in the scale are quite high.

Results of the Reliability Analysis of the Emotion Regulation Skills Scale for Preschool Children Results of Cronbach Alfa Coefficient

It is determined that the Cronbach Alpha value of the Emotion Recognition sub-dimension of the scale is (.86). It is determined that the Cronbach Alpha reliability coefficient value of the Emotional Expression sub-dimension is (.86). It is seen that the Cronbach Alpha reliability coefficient value for the Emotion Regulation Positive Strategy sub-dimension of the scale is (.86). Finally, the Cronbach Alpha reliability coefficient values for the Emotion Regulation Negative Strategy sub-dimension of the Scale are found to be (.85).

Results of Kuder- Richardson- 20 (KR-20) Reliability Coefficient

According to the KR-20 reliability coefficient of the scale, it is found to be 0.85 for the "Recognizing Emotions" sub-dimension, 0.81 for the "Expressing Emotions" sub-dimension, and 0.83 for the total Emotion Recognition and Expressing Emotions sub-dimensions. According to these results, it is concluded that the reliability of the Recognition of Emotions and Expression of Emotions Sub- Dimensions of the scale is high.

Results of Two Half Test Confidence Coefficient

When the reliability coefficient of the scale is calculated, in the first half; Alpha value is determined as

.83, in the second half, Alpha value is determined as .74. It is seen that the Spearman-Brown coefficient is found to be .73 and the Guttman Split Half coefficient to be .73. According to these results, it is concluded that the reliability of the entire scale is high and it can be said that the results of the analysis support the reliability and validity of the scale.

DISCUSSION

As a result of the analysis, it is determined that the Emotion Regulation Skills Scale is a valid and reliable measurement tool that can be used to determine the emotion regulation skills of children in the 60–72-months pre-school period. When the studies in the national and international literature are examined, it is seen that there are different research results with similar sub-dimension validity that support the results of this study. For example; Denham (1986) developed the Emotion Comprehension Test, which includes happy, angry, sad and scared emotions, in order to measure the ability of 3-6-years old children to understand emotions. The internal consistency Cronbach's alpha value of the test is .82 and the repetition correlation coefficient of the test is .96. In the Emotion Comprehension Test developed by Pons et al. (2004), he evaluated the understanding of the happy, sad, scared and angry emotions of children aged 3-11 by using illustrated short stories. The internal consistency of the test confirmed the validity of the scale with Cronbach's alpha index of .67 and Kuder-Richardson alpha coefficient of .79. The Child Emotional Expression Scale developed by Mirabile (2008) evaluated the levels of 36–72- month-old preschool children expressing their positive (happy) and negative (sad, angry and scared) emotions. Internal consistency Cronbach Alpha coefficients were calculated as .57 for expressing sad emotion, .85 for expressing angry emotion, .75 for expressing scared emotion, and .76 for expressing happy emotion. Again, the "Child Emotion Regulation Scale", which was also developed by Mirabile (2008), was created to determine the emotion regulation strategies of preschool children. The internal consistency coefficient of this scale, which was evaluated by the mothers, was calculated as .85 for the Incompatible Emotion Regulation Scale and .87 for the Adaptive Emotion Regulation Scale. In their study in 2015, Ecirli and Ogelman adapted the scale, originally developed by Gust (2014), which measures the emotion regulation strategies of 5–6-year-old children, into Turkish. The internal consistency coefficient of the scale is .75 in the strategies presented. The Emotion Regulation Scale developed by Shields and Cicchetti (1997) and adapted into Turkish by Batum and Yağmurlu (2007), has two sub-dimensions: emotion regulation and lability-negative. Accordingly, the alpha coefficients were determined as .73 and .75, respectively. In the study conducted by Yılmaz in 2020, he developed the Preschool Emotion Regulation Scale designed in the narrative technique. It includes five basic emotions (happy, sad, confused, angry, scared). The total Cronbach Alpha internal consistency value of the scale was found to be .93. Finally, Sala and Molina (2014) evaluated the emotion regulation skills of children between the ages of 3 and 7 in the

Emotion Regulation Story Stems scale, which they developed in 2014. When Cronbach Alpha internal consistency value is evaluated with .96 and Kuder–Richardson alpha coefficient .79, it can be said that it has good reliability. When these results are examined, it is seen that the individual results of the sub-dimensions of the developed scale are in a similar framework with these studies.

Numerous studies on emotion regulation skills show a link between the regulation of emotions in early childhood and the development of psychopathologies in children (Chang, Olson, Samerloff ve Sexton, 2011; Helmsen and Petermann, 2010;). Various emotion regulation strategies and the effective use of these strategies are an important resource for successful emotion regulation and an important protective factor in the developmental process (Cohen ve Mendez, 2011). Therefore, it is important to encourage emotion regulation skills at an early stage (Wiedebusch ve Petermann, 2011). Considering the importance of emotion regulation skills for children's social behaviors, this competency needs to be supported intensively. There are many programs that focus on the development of socio-emotional skills in the preschool age (Koglin & Petermann, 2013). With these programs, different social-emotional competencies are supported and strengthened. Thank to this developed scale, important information can be provided about the framework and design of preventive and supportive measures.

The main reason underlying the limitations experienced in determining emotion regulation skills in preschool children is the very limited scale in which data are obtained by obtaining one-to-one information from children with proven validity and reliability to measure emotion regulation skills of preschool children.

When the studies aiming to determine the emotion regulation skills of children are examined, it is seen that the study data are mostly obtained by obtaining information from the child's parents or teachers, and these studies generally consisted of quantitative and qualitative patterns. Although the scale developed by the researcher provides quantitative data, it is thought to differ from other scales in terms of providing qualitative data with one-to-one interviews with children.

Emotion regulation skills scale for Preschool Children is thought to have a different structure from other measurement tools especially because it focuses on negative emotions that children experience, live intensely and have difficulty in coping with. The developed scale includes the emotions of Sad, Fear, Anger, Disappointment, Worry, and Shame/Shyness. It is determined that the scales developed generally included the feelings of happy, fear, sad, and happiness (Ecsadnessi ve Gülay Ogelman, 2015; Duy and Yıldız, 2014; Batum and Yağmurlu, 2007; Yılmaz, 2020). From this point of view, it is seen that the preschool emotion regulation skills scale, along with other intensely experienced emotions, determines the emotion regulation skills of children in the form of being the first to feel frustration, and embarrassed/shyness. The stories and strategies created for the emotions in the scaling are created by taking information from the children themselves, based on the events they experienced in daily life. And depicted accordingly. In this way, it is thought that children's inner worlds, experiences, and coping skills, can be reached more objectively.

As a result of the analysis of the structure of the Emotion Regulation Skills for Preschool Children scale, three sub-dimensions are developed Recognizing and Understanding Emotions, Expressing Emotions, and Emotion Regulation Strategies. It has been observed that the measurement tools available in the literature do not measure three sub-dimensions at the same time. In this respect, the developed scale is different from other measurement tools. In addition, the sub-dimensions of Emotion Regulation Skills have the feature of giving a total score independently from each other. With this feature, it is thought that it makes an important contribution in terms of enabling it to be used in determining emotion regulation skills.

Recommendations

The "Emotion Regulation Skills Scale for Preschoolers" can be used as a scale before and after experimental studies and in studies to determine the emotion regulation skills of preschool children.

By using the "Emotion Regulation Skills Scale for Preschoolers", it may be recommended to make studies showing the relationship between the effects of demographic determinants such as age, gender, number of siblings, mother and father education level, and emotion regulation skills.

With this developed scale, it can be suggested that longitudinal studies should be carried out in different age groups with the aim of long-term monitoring of the development of emotion regulation skills of children starting from the pre-school period.

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