



## PARENTAL READINESS SCALE FOR EARLY LITERACY TEACHING IN PRIMARY SCHOOL: A VALIDITY AND RELIABILITY STUDY

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### Abstract

This study aimed to develop a valid and reliable measurement tool that will determine the readiness of parents of students starting the first grade of primary school to support their children during the first formal teaching of reading and writing skills. The sample consisted of 524 parents of students starting the first grade in the provinces of Ankara, Samsun, and Bartın. The scale development study was begun by first creating an item pool in line with the literature, after which a draft form was prepared on the basis of the opinions of language, field and measurement and evaluation experts. The final form was delivered to the parents online and in person, and exploratory factor analysis was conducted for the collected data. As a result of the analysis, it was determined that the scale consisting of 17 items and five factors explained 67% of the variance. Confirmatory factor analysis was performed to determine the fit of the created factorial structure and it was determined that the model fit indices were between perfect and good fit. In determining the reliability, the McDonald's  $\omega$  reliability coefficient, which is suitable for multi-factor structures, was calculated and the reliability of the entire scale was found to be .81. On the basis of these findings, the scale was found to be a reliable and valid measurement tool suitable for measuring parents' readiness in supporting their children in formal early literacy teaching.

**Keywords:** Early literacy, parent, readiness, scale.

### INTRODUCTION

According to Ministry of National Education (2009), the concept of “readiness”, which can be considered as the level of prior knowledge and skill required to perform a specific task (Basaran, 1998), includes an individual's willingness to engage in a desired behavior as a result of their having reached a certain level of maturity and learning. More specifically, "school readiness" in a child can be defined as having the appropriate psychomotor, cognitive, linguistic, social and emotional development required to start primary education (Aslan & Coklar, 2009), as well as knowing what is necessary in various different academic fields before entering the classroom environment (Linder et al., 2013).

Child Trends (2001) states that three different components make up this readiness: the child's readiness, the school's readiness, and the family and environment's readiness. The National Education Goals Panel (NEGP, 1998) explained the process of school readiness with the sum in Figure 1 below:



**Figure 1.** School readiness process.

According to Figure 1, for a child to be ready for school, the family, communities, services and schools must all also be ready. In analyses of the process of readiness, the readiness of the family is most frequently mentioned. What is meant by a “ready family” is the home environment the child is living in, including the parental education level, parental age, and whether there is any abuse and



neglect present (National School Readiness Indicators Initiative, 2005). According to the environmentalist approach, a child's environment has a major impact on their development and school readiness (Meisels, 1998). Although it is generally thought that the responsibility of the family, which constitutes the child's most immediate environment, decreases with school age and will be to some extent replaced by stakeholders such as teachers and specific academic programs of study, this does not eliminate the importance and responsibility of the family; on the contrary, the particular family and its unique characteristics remain the most important factor in success at school (Celenk, 2003; Susar Kırmızı & Ünal, 2017; Suskind, 2020). Values such as love, respect, tolerance and responsibility should be established in the family and their development should be supported, thus ensuring that they will contribute towards the child's achievements at school (Hokelekli & Gunduz, 2007). Families are not only the first teachers of children, but also partners in children's education along with their official teachers at school (Keceli Kayisili, 2008). There are many studies in the literature showing that factors such as family structure, the economic situation of the family, the social status of the family, and the education level of the parents have an impact on the child's readiness for school (Emig, 2000; Harman & Celikler, 2012; Zaslow et al., 2000; Bruce et al., 2017; Erkan, 2002).

The most important skills that students need to gain in the first year of primary school are reading and writing. However, these should not be reduced to simply being able to read and write the letters of the alphabet. Akyol (2015) examined the process of learning to read and write from a broad perspective, including aspects such as comprehending punctuation marks, developing written and oral communication skills, building vocabulary, being able to read quickly and with understanding, and using the Turkish language correctly and effectively. A number of different methods can be adopted when formally teaching reading and writing for the first time and these depend on when the desired transition to reading and writing should occur and may also use different starting points (Akyol & Temur, 2008). The letter method, sound method, syllable method, word method, sentence method, teaching with mixed letters and the sound-based sentence method are the most common techniques that have been used in teaching reading and writing in Türkiye (Akbayir, 2006; Cemaloglu & Yildirim, 2008; Celenk, 2013; Gunes, 2000; Keskinilic 2002; Sagirli & Atik, 2022; Sahbaz, 2013). At present, the sound-based reading and writing method is used, which is based on the principle of combining letters to make a sound into a syllable, syllables into words, words into sentences and sentences into full texts (Gunes, 2007). However, families who are not themselves familiar with this method may not be able to adequately teach sounds and may thus have problems supporting the child (Gozukucuk, 2015).

School (teacher) and family (parental) cooperation contributes to children's development of reading and writing skills as well as enabling them to become more socially ready (Ekinici & Vural, 2012; Günes, 2007). Basaran and Ates (2009) state that the child's attitude, motivation and positive feelings towards reading will have an impact on their learning processes in the following years and throughout their life. Therefore, families should aim to help their child develop positive attitudes when starting literacy education. In addition to the impact of the family on affective factors such as attitude and motivation, it can also have an effect academically. For example, Isaac (2012) emphasizes the importance of familial support in the academic success of children who have not yet acquired the ability to work independently and states that families play a key role in this.

In order to add the acquisition of reading and writing to the listening and speaking skills already acquired by the child, primary education is a language teaching process that requires cooperation between the school and the family, and the role of the family has been highlighted (Bas, 2006). In studies examining the effect of family on children's reading and reading comprehension, both familial support and the education level of the parents have been found to make a positive contribution to the process (Ferah & Saydam, 2021; Ozcan & Ozcan, 2016; Basar & Tanis-Gurbuz, 2020, Erbasan & Erbasan, 2020; Sagirli, 2022; Sarioglu, 2016).



There has been a continuous increase in the number of studies examining the impact of the family on the early development of literacy in recent years (Basar & Tanis-Gurbuz, 2020; Bektaş, 2007; Erbasan & Erbasan, 2020; Ferah & Saydam, 2021; Ozcan & Ozcan, 2016; Rotzon et al., 2007; Sagirli, 2022; Sarioglu, 2016). In line with this, various different scales have been used to measure children's school readiness in Türkiye and in the international literature (Baranline, 2023; Canbulat & Kiriktas, 2016; Oktay, 1983; Sak & Yorgun, 2020; Unutkan, 2003). However, no measurement tool aimed at determining parents' readiness for their children to begin to develop literacy in a formal setting has been found in the national and international literature. In this regard, the main motivation for the development of the Parental Readiness Scale for Early Literacy Teaching was the lack of a reliable and valid scale suitable for use in research that directly measures parents' readiness. The aim of the present study was thus to test the validity and reliability of the Parental Readiness Scale for Early Literacy Teaching in order to develop a measurement tool with established validity and reliability for use in studies related to family and literacy teaching in Türkiye. In this context, answers were sought to the following questions:

1. Has the scope and construct validity of the Parental Readiness Scale for Early Literacy Teaching been established?
2. Has the reliability of the Parental Readiness Scale for Early Literacy Teaching been established?

## METHOD

### Research Model

The research was designed as a descriptive survey, which is one of the quantitative research types. The aim of this research model is to determine the attitude of one or more groups towards a situation, event or phenomenon (Karasar, 1999). The processes followed and the characteristics of the working group participating in the development of the Parental Readiness Scale for Early Literacy Teaching are discussed below.

### Sample

The study group consisted of parents of first-grade students who were about to begin studying in different schools across Türkiye. In determining the sample, the purposeful sampling method was used for Explanatory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), since only parents whose children were going to start first grade for the first time were selected. When using this method, it is essential to identify strong cases that serve the study's purpose in order that limited resources can be used effectively (Palinkas et al., 2015). Erkus (2012) states that since it is important to reflect the range of the feature being measured, purposeful sampling based on volunteering rather than random sampling is the most appropriate sampling method in scale development.

Different study groups were studied during the EFA and CFA phases of the research. Henson and Roberts (2006) emphasize that when determining construct validity, it is necessary to start with EFA and to then conduct CFA with a different sample group. In this regard, Table 1 contains information about the two different samples.

**Table 1.** Sample distribution for factor analysis.

Factor Analysis Type	Variables	n	Mean
Explanatory Factor Analysis (EFA)	Female	269	84.6
	Male	49	15.4
	Total	318	100
Confirmatory Factor Analysis (CFA)	Female	168	82.35
	Male	36	17.64
	Total	204	100



Bryman and Cramer (2001) state that a value between 5 and 10 times the number of items is sufficient to determine the number of participants, while Kline (1994) states that 200 samples are sufficient for factor analysis. As can be seen in the Tables, in the current study 522 parents were studied, 318 for EFA (269 women, 49 men) and 204 for CFA.

### Process

The studies first started with a literature review. An attempt was made to obtain scales with similar content developed domestically in Türkiye and internationally. However, no scale was found regarding parents' readiness for the formal process of beginning to develop literacy. It was determined that those studies covering the parental readiness and early literacy development were generally qualitative studies, using interview forms, observation forms and interview records to collect data. In line with the findings obtained from the literature, an item pool was first created and then given to experts to obtain their opinion. The content validity of the scale was ensured using the Davis technique (Davis, 1992). In this technique, each item is evaluated using a four-point rating scale and items are selected with the content validity index (CVI) obtained. In the current study, evaluations were obtained from two subject area experts, a language expert and a measurement and evaluation expert, and as a result, it was determined that three items should be removed from the 25-item draft scale, while four items needed to be amended. Information about the experts' evaluations of the Davis technique results is shown in Table 2.

**Table 2.** Content validity determination table based on expert opinion with the Davis Technique.

Items	Linguist	Measurement & evaluation expert	Field Expert 1	Field Expert 2	CV Index
Sketch1	A	A	B	A	1
Sketch 2	A	A	A	B	1
Sketch 3	A	A	A	A	1
Sketch 4	A	A	A	A	1
Sketch 5	A	A	A	A	1
Sketch 6	A	A	A	A	1
Sketch 7	A	A	A	A	1
Sketch 8	A	A	A	A	1
Sketch 9	A	A	A	A	1
Sketch 10	C	B	A	A	0.75
Sketch 11	A	A	B	A	1
Sketch 12	A	A	A	A	1
Sketch 13	A	A	A	A	1
Sketch 14	A	A	A	A	1
Sketch 15	C	C	B	A	0.50
Sketch 16	A	A	A	A	1
Sketch 17	A	A	A	A	1
Sketch 18	A	A	A	A	1
Sketch 19	A	A	A	A	1
Sketch 20	B	A	A	A	1
Sketch 21	A	A	A	A	1
Sketch 22	A	A	A	A	1
Sketch 23	C	B	A	B	0.75
Sketch 24	A	A	A	A	1
Sketch 25	B	A	B	A	1

A = The item represents the property B = The item should be slightly revised C = The item needs major revisions D = The item does not represent the property

As seen in Table 2, for each item, only evaluations A and B were collected and these were divided by the number of experts to determine the CVI. As a result of these evaluations, items 11, 15 and 23, which had less than 0.8 points, were removed, and a form consisting of 22 items was obtained.



In order to develop the scale, data collection was carried out in two stages. In the first stage, data was collected from 318 parents online and in person using the scale forms for EFA. The data obtained were first transferred to the SPSS program and outlier, normality, linearity and missing data analyses were performed. For each form, blanks with a maximum of two questions were filled with the arithmetic average. In addition, in the EFA, CFA and reliability analyses, five items were removed because they were at extreme values and negatively affected the normality of the data set. Whether the appropriate sample size for factor analysis had been reached was tested with the Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett's sphericity test. Additionally, through the analysis, the loadings of the items to be accepted into the scale were determined as .30 (Büyüköztürk, 2007).

To determine the CFA fit of the scale, 204 pieces of data from a different sample group were obtained using online and face-to-face scale forms and the model fit was checked. RMSEA, CFI, RMR, IFI values from multiple fit indices were taken as the bases. For the fit indices CFI and IFI, these had to be greater than 0.90. For RMSEA and RMR, it was determined that they should be less than 0.08 and the chi square value should be less than 3 (Cole, 1987; Kline, 2005).

McDonald's  $\omega$  internal consistency analysis was performed to determine the reliability of the scale. It is emphasized in the literature that more advanced alternatives such as omega, stratified alpha, and maximal reliability should be used instead of the alpha coefficient in order to determine reliability in multidimensional measurement tools (Dunn et al., 2014; Graham, 2006; Revelle & Zinbarg, 2009). Since the McDonald's  $\omega$  coefficient determines reliability according to the common factor model, it is also called "structural security" (Soysal, 2023).

## RESULTS

This section first explains the findings related to EFA and CFA with regard to the construct validity of the development of the measurement tool, followed by the findings related to reliability studies.

### Exploratory Factor Analysis (EFA)

The construct validity of the scale was determined by factor analysis. Before proceeding with the analysis, the KMO coefficient and Bartlett's sphericity test were used to understand the suitability of the data for factor analysis. As a result, the KMO value of the scale was found to be .73, while the Bartlett test was found to be significant ( $P = .00$ ). According to the results obtained, it was determined that the scale had an appropriate sample size for factor analysis.

**Table 3.** Exploratory factor analysis (EFA) results.

	Common Factor Variance	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
M5	.546	.919				
M17	.492	.904				
M6	.613	.823				
M3	.575	.729				
M12	.884	.684				
M11	.739		.948			
M1	.578		.945			
M2	.505		.671			
M4	.904			.851		
M7	.478			.832		
M8	.549			.542		



**Table 3 (Continued).** Exploratory factor analysis (EFA) results.

	Common Factor Variance	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
M16	.562				.697	
M9	.888				.655	
M10	.430				.624	
M15	.903					.727
M13	.904					.700
M14	.856					.668
Explained Variance: (%) 67.09		28.34	14.28	8.48	8.21	6.75

The values obtained by factor analysis revealed that the scale had a structure consisting of 17 items and five factors and explained 67% of the total variance. In addition, five items in the scale were removed from the scale form because their factor loadings were low and negatively affected reliability.

### Confirmatory Factor Analysis (CFA)

Data were collected again to demonstrate the validity of the structure created with EFA. A total of 204 pieces of data collected through online and face-to-face forms were transferred to the AMOS 23 program and CFA was performed. According to the results obtained from the analyses, the chi-square fit value ( $X^2=211.102$ ,  $SD=107$ ,  $p=.000$ ) of the 17-item and five-factor structure was determined to be significant and the  $X^2/sd$  value was determined as 1.97. Fit indices were found to be as follows: RMSEA: .69; RMR: .08; CFI: .94; IFI: .94.

The CFA findings performed to determine the model fit of the factorial structure of the scale are shown in Table 4.

**Table 4.** Findings on CFA fit indices.

Index	Perfect Fit Measure	Acceptable Fit criteria	Research Finding	Result
$X^2/df$	0 to 2	2 to 3	1.97	perfectly matched value
RMSEA	.05 and below	.08 and below	.06	acceptable fit value
RMR	.05 and below	.08 and below	.08	acceptable fit value
CFI	.95 and above	.90 and above	.94	perfectly matched value
NFI	.95 and above	.90 and above	.88	acceptable fit value
IFI	.95 and above	.90 and above	.94	perfectly matched value
RFI	.95 and above	.90 and above	.85	perfectly matched value
GFI	.90 and above	.85 and above	.89	perfectly matched value
AGFI	.90 and above	.85 and above	.85	acceptable fit value

When Table 4 is examined, it can be seen that the RMSEA, RMR, AGFI and NFI indices have acceptable fit values, while the  $X^2/df$ , CFI, IFI, RFI, GFI indices have perfectly matched values. The path diagram of the scale is shown in Figure 2.

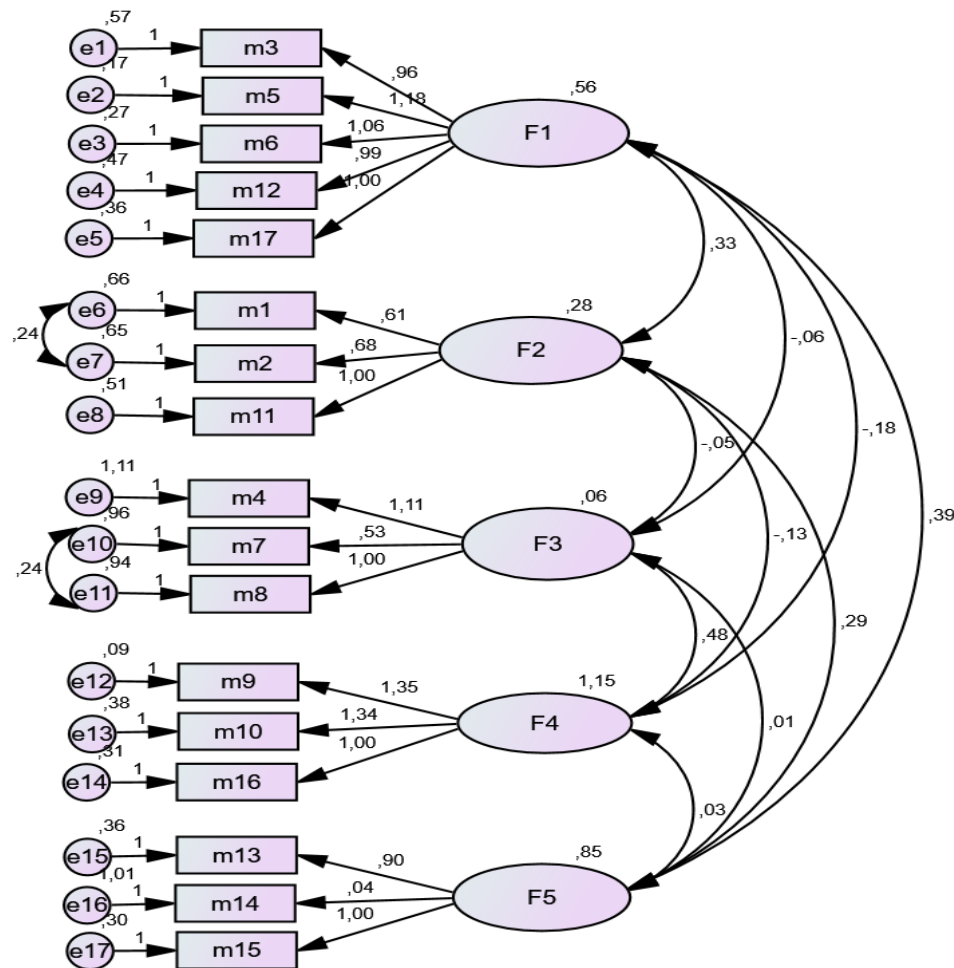


Figure 2. CFA result for the scale.

### Reliability

The internal reliability of the scale was calculated with the McDonald's  $\omega$  reliability coefficient. The reliability values of the scale are shown in Table 5.

Table 5. Reliability values of the scale's sub-dimensions.

Sub-Dimensions	Item	Factor Load	McDonald's $\omega$ Coefficient
Knowledge (Factor 1)	M3	.82	.82
	M5	.80	
	M6	.80	
	M12	.83	
	M27	.87	
Implementation (Factor 2)	M1	.56	.65
	M2	.39	
	M11	.62	
Expectation (Factor 3)	M4	.63	.58
	M7	.33	
	M8	.36	

**Table 5 (Continued).** Reliability values of the scale’s sub-dimensions.

Sub-Dimensions	Item	Factor Load	McDonald’s $\omega$ Coefficient
Anxiety (Factor 4)	M9	.48	.73
	M10	.52	
	M16	.77	
Preparation (Factor 5)	M13	.07	.54
	M14	.42	
	M15	.20	
Full Scale			.81

As can be seen, the scores were  $\omega=.86$  for “Knowledge”, which is the first sub-dimension of the scale;  $\omega=.65$  for the second sub-dimension “Implementation”;  $\omega=.58$  for the third sub-dimension “Expectation”;  $\omega=.73$  for the fourth sub-dimension "Anxiety"; and  $\omega=.54$  for the fifth dimension "Preparation". The reason for the low reliability in some of the dimensions is due to the small number of items and according to the literature, this situation is supported (Çimen et al., 2005).

### DISCUSSION, CONCLUSION, and SUGGESTIONS

In preparing a child for their first formal experience of learning to read and write, it has been proven that many variables have an effect, including the familial level of knowledge, the family’s capacity to support the child's development, their ability to communicate healthily, their socio-economic status, and their education level (Emig, 2000; Harman & Celikler, 2012; Oktay, 2010; Peterson et al., 2017; Ratzon et al., 2007; Sagırlı, 2022). Although the literature demonstrates that parents have an effect on their children, in addition to how ready the child themselves is, when the child first experiences the formal teaching of reading and writing, no measurement tool could be found that measured the influence of the family at this early stage. The current study was thus conducted with the aim of developing a scale to measure the readiness of the parents of students starting the first grade of primary school.

The Parental Readiness Scale for Early Literacy Teaching is a measurement tool consisting of five factors and 19 items, developed to determine the extent to which parents of students starting the first grade of primary school are cognitively, socially and psychologically ready for their children’s first experience of the formal teaching of reading and writing.

In terms of the items the scale has a five-point Likert-type structure consisting of the following options: “Strongly agree” (5); “Agree” (4); “Unsure” (3); “Disagree” (2); and “Strongly disagree” (1). The reliability of the scale is .81. The loadings of the scale items vary between 0.43 and 0.90 and explain 67.09% of the total variance. Items 4, 7, 8, 9, 10, 14, and 16 in the scale are reverse-coded. The lowest score a participant can obtain from the scale is 17 and the highest score is 85. The sub-dimensions that make up the scale are as follows:

#### Factor 1 (Knowledge)

This dimension was named "Knowledge" because it seeks to answer questions measuring parents' knowledge about the first formal teaching of reading and writing. The items belonging to this dimension are:

- “I know at least part of the order of sounds” (e.g. the first five letters).
- “I know how to write sounds for homework.”
- “I know how my child should combine sounds in their homework.”
- “I have some knowledge about what kind of system will be used to teach reading and writing” (sound-based, sentence method, voucher, etc.).





- “I read books with my child.”

### **Factor 2 (Application)**

This dimension was named "Application" because it seeks to answer questions about parents' actions while their child is being taught literacy.

- “I know what I will encounter when my child is learning to read and write.”
- “I know how to hold a pencil correctly.”
- “I know what to do if my child does not want to do the exercises needed to develop their muscles.”

### **Factor 3 (Expectations)**

This dimension of the scale was named "Expectations" because it includes questions asked to determine the parents' expectations of the teacher, the school and their child during the formal teaching of reading and writing.

- “A good teacher should give plenty of homework and make children review their homework.” (reverse item)
- “I expect my child to complete learning reading and writing in two months at the latest.” (reverse item)
- “If my child still has not progressed to the syllable and word stage after the first four sounds, they will not be able to learn to read.” (reverse item)

### **Factor 4 (Anxiety)**

The fourth dimension was named "Anxiety" because it includes questions aimed at determining the level of anxiety that parents will have about their children if they fail to learn how to read and write.

- “If my child learns to read late, they will be unsuccessful at school in the future” (reverse item)
- “If my child's writing doesn't look nice, it means they will fail at school.” (reverse item)
- “If my child has problems with reading, it means there is a problem in their cognitive development.” (reverse item)

### **Factor 5 (Preparation)**

The fifth factor was named "Preparation" because it covers questions about the preparations that need to be made before a child starts to formally learn reading and writing.

- “I have some knowledge about terms such as ‘dictation’, ‘syllables’, ‘sentences’, and ‘text’.”
- “If my child has not received a nursery education, they will not be ready to begin learning how to read and write.” (reverse item)
- “Before they began primary school, my child's eyes and ears were tested and I am aware of the results.”

The process of determining the validity and reliability of this scale was carried out with a normally distributed sample. The sample of the study was limited to parents with children in the first grade only. The fact that these parents may have previously had children attending first grade or may have been familiar with the first formal teaching of literacy for professional reasons can be considered as one limitation of the study. Nevertheless, since there are exceptions in the universe, this confirms the statement that there should be "a set of standard stimuli selected to represent the universe" based on the definition of the scale, in accordance with the structure of quantitative studies (Ozguven, 2012). In addition, using this scale in further studies examining its relationship with different variables thought to be related to parental readiness for early literacy teaching will strengthen its validity and reliability.



## Ethics and Conflict of Interest

The ethical approval for this research was obtained from the Ethics Committee of the Harran University Rectorate on 19.01.2023 with the decision number 2023/164. The author of the study acted in accordance with ethical rules in all processes of the research.

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