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A STUDY OF THE RELİABİLİTY AND VALİDİTY OF THE MİNDFULNESS PARENTİNG SCALE İN INFANCY AND THE EXAMİNATİON OF MOTHERS' MİNDFULNESS İN PARETİNG İN TURKİSH SAMPLES

(Estudio de la fiabilidad y validez de la escala Mindfulness Parenting Scale in Infancy y examen del Mindfulness in pareting de las madres en muestras turcas)

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Abstract

The research aims to assess the reliability and validity of the Mindful Parenting in Infancy Scale (MPIS) for mothers with infants aged 0-24 months and to analyze their mindfulness levels across various variables. The study included 353 mothers from Bursa's Nilüfer and Osmangazi districts, with data collected in private nurseries and daycare homes between December 2023 and March 2024. Teachers distributed the data collection tools, which included the "Mother and Baby Information Form" and the MPIS, developed by Gartstein (2021). Adaptation permissions were secured, and the scale's language, content, and structure were validated. Reliability was measured using the Cronbach Alpha internal consistency coefficient and item-total correlations. Statistical analyses included independent samples t-test and One-way ANOVA to explore MPIS scores across demographic variables. The Levene test assessed homogeneity, while kurtosis and skewness evaluated normal distribution. The internal consistency coefficient was 0.74, with item-total correlations ranging from 0.35 to 0.49. The findings indicated no significant differences in mindfulness based on mothers' age, education, or family type, but highlighted variations based on the birth order of the baby.

Keywords: Mindful Parenting in Infancy, Mindfulness, Parent- Child interaction

Resumen

La investigación tiene como objetivo evaluar la fiabilidad y validez de la Escala de Crianza Consciente en la Infancia (MPIS, por sus siglas en inglés) para madres con bebés de 0 a 24 meses y analizar sus niveles de atención plena a través de diversas variables. En el estudio participaron 353 madres de los distritos de Nilüfer y Osmangazi de Bursa, con datos recogidos en guarderías privadas y hogares de día entre diciembre de 2023 y marzo de 2024. Los profesores distribuyeron las herramientas de recogida de datos, que incluían el «Formulario de información sobre la madre y el bebé» y el MPIS, desarrollado por Gartstein (2021). Se obtuvieron los permisos de adaptación y se validaron el lenguaje, el contenido y la estructura de la escala. La fiabilidad se midió

mediante el coeficiente de consistencia interna Alfa de Cronbach y las correlaciones ítem-total. Los análisis estadísticos incluyeron pruebas t de muestras independientes y ANOVA de una vía para explorar las puntuaciones MPIS en función de las variables demográficas. La prueba de Levene evaluó la homogeneidad, mientras que la curtosis y la asimetría evaluaron la distribución normal. El coeficiente de consistencia interna fue de 0,74, con correlaciones ítem-total que oscilaron entre 0,35 y 0,49. Los resultados no indicaron diferencias significativas en mindfulness en función de la edad, la educación o el tipo de familia de las madres, pero destacaron variaciones en función del orden de nacimiento del bebé.

Palabras clave: Mindful Parenting en la infancia, Mindfulness, Interacción padres-hijos

1. INTRODUCE

The birth of a baby is a transformative event that impacts all aspects of a woman's life. The transition to motherhood involves developmental tasks such as taking full responsibility for the child, bonding with the infant, adapting to changes in spousal relationships, forming a maternal identity, and learning the role of motherhood (Nelson, 2003). This process includes regulating the infant's emotional states and the mother's responses to the child's needs.Stress may arise when a new mother perceives demands that exceed her coping abilities, potentially leading to chronic stress and mental health issues. Challenging infant temperaments are a significant risk factor for maternal mental health problems, even in the first month of life (Britton, 2011). Addressing protective factors is crucial for supporting maternal mental health and enhancing mother-infant relationships.Supporting a mother’s mental health and helping her manage stress and anxiety can foster a healthier bond with her baby. Mindfulness in parenting has proven to positively impact maternal mental health, mother-infant relationships, and communication, highlighting its benefits for mothers.

1.1. Mindfulness in parenting

Mindfulness in Parenting is a vital process that helps parents better understand their children's emotional needs by observing and accepting their own emotions (Kabat-Zinn & Kabat-Zinn, 1997/2014). It includes five key dimensions: attentive listening, non-judgmental acceptance of oneself and the child, emotional awareness, self-regulation in parenting, and compassion for both parent and child (Duncan et al., 2009). This approach promotes secure mother-infant attachment, fostering a positive family environment. Mindful parenting involves accepting one’s reactions, managing negative emotions appropriately, and showing sensitivity to the child's emotions (Duncan, Coatsworth, & Greenberg, 2009).Mothers should exhibit compassion, patience, and sensitivity during early infancy, a critical time for attachment formation. Attachment quality impacts a child’s physical, mental, and developmental health. Warm, stable, and gentle mother-infant communication provides mutual comfort (Joyce, 2005). Poor attachment increases the risk of future emotional and behavioral issues (Perry, 2006). Prioritizing maternal psychological wellbeing supports healthy mother-baby bonds, as mindfulness reduces stress and strengthens attachment (Khoramirad et al., 2021).Siegel

and Hartzell (2003) explained how mindfulness, grounded in attachment and neurobiology, enhances communication and secure relationships, benefiting brain development. They emphasized that parental distraction hinders connection. Mindfulness involves present-focused awareness, understanding inner experiences, and recognizing differences between parent and child. Parents must attune to and care for themselves to connect and show compassion to their children (Siegel, 2007; Siegel & Hartzell, 2003).

Mindful parenting, defined as moment-by-moment awareness with unconditional acceptance, is vital during toddlerhood, a period of significant developmental changes (Laifer et al., 2023). Early parenthood is rewarding but challenging, especially during toddlerhood (Nyström & Öhrling, 2004; Kwon et al., 2013). New mothers juggle responsibilities like regulating sleep, eating, and health concerns, which can impact their career, sleep, relationships, and identity (Dew & Wilcox, 2011). Toddlerhood presents challenges related to growing independence and social development, with limited communication and emotion regulation increasing parental stress. Mindful parenting reduces stress, enhances self-awareness, and improves mother-child attunement (Potharst et al., 2017). Mindful parenting programs, especially for high-stress parents, reduce stress, improve emotional regulation, strengthen relationships, and enhance parenting quality (e.g., Bögels et al., 2014; Singh et al., 2007). Research shows these programs improve relationships, reduce child psychopathology, and promote socio-emotional development (Chapman & Van Gordon, 2018; Neece, 2014). Interventions also lower stress, improve maternal behavior, and help mothers adapt to their child's needs (Ando et al., 2022). Mindfulness training with mothers of infants (0–18 months) improved self-compassion, reduced anxiety, and alleviated depressive symptoms (Boekhorst et al., 2021). Programs like Mindfulness with Your Baby increase mindfulness, self-compassion, and maternal sensitivity (Potharst et al., 2017), highlighting the importance of mindfulness for mothers facing parenting stress.

Programs supporting mindfulness in mothers of infants are crucial, as is developing a tool to assess their mindfulness levels and evaluate interventions. Existing scales mainly target parents of older children. The only scale specifically for parents of infants and toddlers is the Interpersonal Mindfulness in Parenting Infants Scale (IMPIS) by Gartstein (2021). Other scales like the IM-P (Duncan, 2007) and MIPQ (McCaffrey, 2015) were adapted for broader use but lack consistency for younger children (Potharst et al., 2020). Despite its original design for older children, the IM-P includes practices linked to positive parenting outcomes (Dodsworth, 2018). This highlights the need for a standardized tool for assessing mindfulness in parents of infants. The Mindful Parenting in Infancy Scale (MPIS), developed by Gartstein (2021), includes three key dimensions: mindfulness, openness and attention to the child, and regulation of responses. The MPIS offers a concise 10-item format, making it practical for research and clinical use, especially in mindfulness interventions.

Currently, Turkey lacks a measurement tool to assess the mindfulness levels of mothers with infants. Existing tools focus on older children, adolescents, or individual mindfulness (Özyeşil et al., 2011; Kınay, 2013; Turan, 2020; Gördesli et al., 2018). Considering the unique needs of infancy, it is crucial to develop or adapt a tool specifically for mothers with infants. In this context, the *Mindful Parenting in Infancy Scale* (MPIS) should be introduced and adapted for use with Turkish mothers, as it is designed specifically for

assessing mindfulness in parenting during infancy.The second aim of this research is to explore mindfulness in parenting among mothers with infants aged 0–24 months across various variables. Existing studies have not directly addressed this topic but have examined related areas, such as the link between mindfulness levels and psychosocial factors or maternal health. Examples include studies on mindfulness and maternal stress and mother-infant attachment (Khoramirad et al., 2022), mindfulness and maternal well-being (Khan & Laurent, 2019), and mindfulness and mother-infant interaction (Pickard et al., 2017). Additionally, relationships between mindfulness and maternal sensitivity, acceptance (Zeegers et al., 2019), and the impact of mindfulness on maternal depression (Hicks et al., 2018) have been investigated.

In Turkey, studies examining maternal mindfulness have focused on mothers of babies or preschool children. These studies have explored the relationship between maternal mindfulness and child communication, its impact on children's behavioral problems and social competence, and its connection with maternal stress (Kahraman & Alemdar, 2021; Işık & Demircioğlu, 2020; Polat & Yaman, 2023; Durmaz, 2023). However, only one study has examined maternal mindfulness comprehensively, and it involved mothers of preschool-aged children rather than infants (Çakır et al., 2023).It is necessary to investigate maternal mindfulness during infancy in relation to demographic factors of both mother and baby. Understanding the key determinants of maternal mindfulness during this period will provide insights into its variations, aiding the development of programs to enhance mother-infant interaction, strengthen attachment, and reduce maternal stress. Integrating these factors into program design will ensure mindfulness in parenting and secure attachment are adequately addressed, informing future research and interventions. Given the lack of studies directly examining the mindfulness of mothers with infants, the findings of this research are expected to significantly contribute to the literature in this field.

This research has two purposes. The first is to determine the reliability and validity of the Mindful Parenting in Infancy Scale (MPIS), for mothers with babies between 0-24 months, and the second is to examine mothers' mindfulness with babies between 0-24 months according to various variables.

Based on the problems addressed in the research, the sub-objectives of the research were discussed as follows;

1. Is the " Mindful Parenting in Infancy Scale (MPIS) " a reliable measurement tool?
2. Is the " Mindful Parenting in Infancy Scale (MPIS) " a valid measurement tool?
3. Do mothers' mindfulness levels differ according to their age?
4. Do mothers' mindfulness levels differ according to their working status?
5. Do mothers' mindfulness levels levels differ according to family type?
6. Do mothers' mindfulness levels levels differ according to the babies' ages (months)?
7. Do mothers' mindfulness levels levels differ according to the gender of their babies?
8. Do mothers' mindfulness levels levels differ according to the birth order of their babies?

Procedure and Ethical Aspects

Participation in the study was voluntary. Mothers were given all necessary information and included only after completing an informed consent form. Confidentiality was ensured, with data used solely for research purposes. Ethics approval was obtained from the University's Institutional Ethics Committee (E-40839601-50.04-5). The measurement tool was administered in two ways: in private nurseries and daycare homes in Bursa's Nilüfer and Osmangazi districts (December 2023 to March 2024), with teachers distributing and collecting the data; and online via social media, using a Google Doc form that included a consent form and research information.

2. METHOD

This section includes the research model, the study group from which the data was obtained, the tools used in data collection, the data collection process and the statistical techniques used in data analysis.

2.1. Research model

The research model employed a screening approach to adapt the Mindful Parenting in Infancy Scale (MPIS). The research was designed as a quantitative study. In this context, the relational scanning model, one of the scanning models, was employed. Survey models are research approaches that seek to describe a past or present situation in its actual state. Relational screening models are designed to ascertain the presence and degree of co-variation between two or more variables (Karasar, 2016). The research was conducted in two phases. In the initial phase, the adaptation of the Mindful Parenting in Infancy Scale (MPIS) into Turkish and the subsequent validity and reliability analyses were undertaken. In the subsequent phase, the mindfulness levels of mothers with infants aged 0-24 months were examined in relation to several variables.

2.2. Participants

The study group was formed using purposeful sampling, a non-random method that allows in-depth exploration of specific situations. In this approach, the researcher selects the most suitable participants for the research (Balcı, 2015; Johnson & Christensen, 2014). For this study, criterion sampling and easily accessible sampling methods were used. Criterion sampling involves selecting situations that meet predetermined criteria, either created by the researcher or using an existing list (Yıldırım & Şimşek, 2013). The easily accessible sampling method enables researchers to select readily available situations (Yıldırım & Şimşek, 2011). The rationale for this methodology is that mothers of infants aged 0-2 years in Turkey primarily care for their children at home or use external caregivers, with low enrollment in daycare centers. Therefore, nurseries attended by infants aged 0-2 years were identified using easily accessible methods, and mothers were contacted via social media.

The criteria for the study group were: a) being 18 or older; b) being a biological mother; c) no current or past psychiatric diagnosis (self-reported); d) having an infant aged 0-24 months; e) reporting normal infant development (no diagnosis by the mother, health worker, or nursery teacher); f) having Internet access and agreeing to participate.

The study included mothers of infants aged 0-24 months. Based on Knapp and Brown's (1995) recommendation of 5-10 subjects per item for factor analysis, or MacCallum and Austin's (2000) suggestion of at least 200 subjects, 353 mothers were included. The survey, which included scale items and demographic questions, was distributed in two ways: in private nurseries by teachers and via a Google doc link through social media. A total of 353 mothers participated.

Table 1. Demographic characteristics of the study group

Demographic information		**f**	**%**
maternal age	**18-25** **26-32** **33-40**	**19** **200** **134**	**% 5.39** **% 56,65** **% 37,96**
mother education	**Primary education** **High school** **University** **Graduate**	**9** **33** **235** **76**	**% 2,54** **% 9,35** **% 66,58** **% 21,53**
Mother's working status	**Working,** **Not Working**	**180** **173**	**% 50,99** **% 49,01**
Family type	Nuclear family Extended family	**328** **25**	**% 92,92** **% 7,08**
Baby's gender	Girl boy	**164** **189**	**% 46,46** **% 53,54**
Baby's age (months)	0-6 7-12 13-18 19-24	**93** **73** **60** **127**	**% 26,34** **% 20,68** **% 17,00** **% 35,98**
Baby's birth order	**first child** **middle child** **last child**	**221** **22** **110**	**% 62,61** **% 6,23** **% 31,16**
Total		**353**	**%100**

When Table 1 is examined, it is seen that the majority of the mothers participating in the study are between the ages of 56.65% (S: 31.73), 66.58% are university graduates, working and non-working mothers are almost equal, and almost all of them have a nuclear family type. When the demographic characteristics of the babies are examined, it is seen that 46.46% are girls, 53.54% are boys, 35.98% are between 19-24 months, 26.34% are between 0-6 months, and 20.68% are between 7-12 months. When the birth order of the babies is examined, it is found that the majority are 62.61% first child and 31.16% last child.

2.3.The Data Collection Tools

Data collection tools employed in the study were the "Mother and Baby Information Form," a document prepared by the researcher to obtain information about babies and their families, and the Mindful Parenting in Infancy Scale (MPIS), a scale developed by Gartstein (2021).

The Mother and Baby Information Form

The Mother and Baby Information Form is designed to elicit information about the gender, age, birth order, educational level, age, and family structure of the infant. The mother of the infant completed the form.

The Mindful Parenting in Infancy Scale (MPIS)

The Mindful Parenting in Infancy Scale (MPIS) is a 10-item scale developed by Gartstein (2021) in consultation with experts in infant development and mindfulness and parents of infants. It was developed based on existing general mindfulness and mindful in the parenting literature. In developing the scale, the mindful parenting model, which emphasizes present-centered attention and emotional awareness during parenting interactions, openness to the child, non-judgemental understanding, and the regulation of responses to the child's behavior, were taken into account. The purpose of developing the original scale was to create a short inventory that measures mindfulness, especially for parents with babies aged 0 to 24 months. The original scale comprised ten items using a 7-point frequency-quantity scale ranging from 1 (never) to 7 (always). The scale score is calculated as the sum of all items. As the score increases, mothers' mindfulness increases. Four items in the scale are reverse-scored. Reverse-coded items: **Item 1**: *I find myself not being as attentive as I could be to my child, because my mind is preoccupied with other things*. **Item 5**: *I often react too quickly to what my child does*. Item 9: *I rush through activities with my child without being fully attentive to him/her* **Item 10**: *I have difficulty accepting my child's growing independence*

The Mindful Parenting in Infancy Scale (MPIS) is a 10-item scale developed by Gartstein (2021) in consultation with experts in infant development and mindfulness, as well as parents of infants. The scale was developed based on existing general mindfulness and mindful parenting literature. In developing the scale, the mindful parenting model, which emphasises present-centred attention and emotional awareness during parenting interactions, openness to the child, non-judgemental understanding, and the regulation of responses to the child's behaviour, were taken into account. The objective of developing the original scale was to create a brief inventory that could be used to assess mindfulness, particularly in parents of infants aged between 0 and 24 months. The original scale comprised ten items, each of which was rated on a 7-point frequency-quantity scale, ranging from 1 (never) to 7 (always). The scale score is calculated as the sum of all items. As the score increases, there is a corresponding increase in the level of mindfulness exhibited by mothers. Four items in the scale are reverse-scored. The scale includes four reverse-coded items. **Item 1**: *I find myself not being as attentive as I could be to my child, because my mind is preoccupied with other things*. **Item 5**: *I often react too quickly to what my child does*. Item 9: *I rush through activities with my child without being fully attentive to him/her* **Item 10**: *I have difficulty accepting my child's growing independence*

Upon examination of the internal consistency of the original scale, it was found to be internally consistent (a = 0.80). It was determined that the scale has internal consistency, thereby supporting its unidimensional structure. Two studies were conducted on the original scale. The Cronbach's α value calculated for Study 2, although still acceptable, was lower than the internal consistency estimate in Study 1. It has been suggested that this may be due to internal consistency problems in other short (few items) mindfulness scales. The low value obtained may be a consequence of the brevity of the original scale (Coatsworth et al., 2010; Potharst et al., 2018; Gartstein, 2021).

The Mindful Parenting in Infancy Scale (MPIS) and its Adaptation Process

Permission to use the scale was obtained from the legal owner via email during the application process. No changes were made to the number of items in the scale, which had been adapted to be applied to mothers with babies aged 0-24 months.

A measurement tool developed in another country and a different language must undergo several processes to meet the validity and reliability conditions in a new language and culture. In this context, it is first necessary to request scale adaptation permission and then ensure that the language, content, and structure are valid, respectively. Once the validity procedures have been completed, it is possible to proceed with the reliability procedures (Oral & Ersan, 2017; Seçer, 2015).

The following steps were employed in the adaptation process of the scale.

Stage 1: Language Validity

In this study, the language validity of ***The Mindful Parenting in Infancy Scale (MPIS)*** was initially evaluated within the scope of validity studies. The scale was translated from its original language, English, into Turkish by a professional translator with expertise in language and developmental psychology and two child development experts. The translated text was then compared by the researcher, who identified the items agreed upon and those not. Based on this comparison, the translation was given its final form.

Stage 2: Content Validity

To assess the content validity of the measurement tool, the scale was presented to 10 academicians working in child development and psychology. The experts were asked to examine the scale items' clarity and determine whether they suit Turkish culture. The Davis technique was employed for content validity. A four-point Likert evaluation was conducted for each scale item, with the options "1- Not suitable", "2- Should be seriously reviewed", "3- Should be slightly reviewed", and "4- Appropriate" (Davis, 1992). After receiving expert opinions, the number of experts who provided ratings for the scale items was divided by the total number of experts to obtain the Content Validity Index (CVI). An item is deemed sufficient in terms of content validity if its Content Validity Index (CVI) is more significant than 0.80 (Karakoç & Dönmez, 2014).

The experts' suggestions for each item were evaluated, and any necessary corrections were made. A preliminary pilot application was conducted with 15 mothers. The scale items' understandability, applicability, and application time were evaluated. Mothers were asked to provide feedback on whether they needed help understanding the words and expressions, the suitability of the items for the purpose, the clarity of the expressions, and the possibility of missing or misunderstanding. Necessary corrections were made after receiving feedback. The preliminary pilot application indicated that the scale was readily understandable and applicable.

Consequently, the scale was finalized, a working group was constituted, and the scale was prepared for validity-reliability analyses. A study group was formed, and validity and reliability data were collected from 353 mothers. Applications made to mothers in the pilot application were not included in the data set.

Stage 3: Construct Validity

To ensure the scale's construct validity, data was collected from 353 mothers with babies aged 0-2. According to Seçer (2015), confirming factor analysis is considered sufficient when adapting a scale whose validity and reliability have been previously established to a new language. Evaluation of confirmatory factor analysis is achieved by checking some fit indices. The fit indices that are typically considered are the ratio of chi-square to degrees of freedom, the comparative fit index (CFI), the redundancy fit index (IFI), the goodness of fit index (GFI), the adjusted goodness of fit index (AGFI), and the root mean square error of approximation (RMSEA). The square root of the mean square error (RMR) can be listed as the mean fit index (GFI) (Çokluk et al., 2014).

2.4. The data collection process

The data collection process involved contacting the mothers of the babies via the mother and baby information form created as a Google Doc, ***The Mindful Parenting in Infancy Scale (MPIS)*** via social media, and the mothers of babies registered in the nursery via phone and social media. The mothers were asked to read and approve the informed consent form before filling out the form and scale.

Analysis of Data

Study 1

The data was analyzed using SPSS 23 (Statistical Package for Social Sciences) and AMOS programs. The socio-demographic characteristics of the mothers and babies included in the study are presented with descriptive statistics, including number, percentage, mean, and standard deviation. The scale's content validity was evaluated using the Content Validity Index (CVI). To ensure the scale's construct validity, data was collected from 353 mothers with babies aged 0-2. Confirmatory factor analysis was conducted to assess the construct validity of the scale. The confirmatory factor analysis was evaluated by examining some fit indices. These included the ratio of chi-square to degrees of freedom, the comparative fit index (CFI), the excess fit index (IFI), the goodness of fit index (GFI), the adjusted goodness of fit index (AGFI), the root mean square errors of approximation (RMSEA) and the root mean square errors (RMR) (Çokluk et. al., 2014). In this study, Amos 20 software was used for confirmatory factor analysis of ***The Mindful Parenting in Infancy Scale (MPIS)***. The reliability of the ***The Mindful Parenting in Infancy Scale (MPIS)*** in Infancy was examined by calculating the Cronbach Alpha internal consistency coefficient and corrected item-total correlations

Study 2

Analyzes of Mindfulness in Parenting of Mothers with 0-24 Month-Old Babies in Terms of Demographic Variables

In the second part of the research, which constitutes another aim In examining the total score obtained from the ***The Mindful Parenting in Infancy Scale (MPIS)*** in terms of demographic variables related to mothers and babies, an independent samples t-test

was used to determine whether there was a significant difference between the averages of two independent groups; One-way Analysis of Variance (ANOVA) was used to determine whether there was a significant difference between the averages of three or more independent groups. Before the analysis of variance and t-test, the homogeneity of the mean scores of the groups was examined with the Levene test, and their suitability for normal distribution conditions was examined with the kurtosis and skewness values.

3. FİNDİNGS

Study 1

This section presents the findings regarding the validity and reliability of *The Mindful Parenting in Infancy Scale (MPIS)* for mothers with babies aged 0-24 months.

Findings Regarding the Validity of The Mindful Parenting in Infancy Scale (MPIS)

Content Validity Analysis

The content validity index was calculated using the Davis technique. In the Davis technique, the content validity index for an item is determined by dividing the number of experts who stated that the item was appropriate or should be reviewed by 10. The value of 0.80 is stated as the limit in the index. When the opinions of 10 experts regarding the questions in the scale were examined for content validity, it was found that the KGI of each question was more significant than 0.80.

Construct Validity Analysis

Confirmatory factor analysis was employed to assess the construct validity of the Turkish version of the scale. Confirmatory factor analysis is an appropriate analytical approach when adapting a scale whose validity and reliability have been previously established to a new language (Seçer, 2015). The analysis revealed that the standardized factor loading of the fifth item was .16, indicating that the relevant item should be removed and the analysis should be repeated. In confirmatory factor analyses, each item in the scale is expected to have a factor loading of at least .30 (Seçer, 2015). Following the renewed analysis, it was observed that the factor loadings of the scale took values between .31 and .53 (see Figure 1), and the goodness of fit indices were examined. As illustrated in Table 3 the confirmatory factor analysis fit indices of ***the Mindful Parenting in Infancy Scale (MPIS)*** were calculated as .033. In the literature, the ratio of the square to the degree of freedom is below 3. It is reported that CFI, IFI, GFI, and AGFI values above .90 and RMSEA and RMR values below .080 are acceptable fit criteria (İlhan & Çetin, 2014). Consequently, it can be concluded that the construct validity of the ***Mindful Parenting in Infancy Scale (MPIS)*** is assured.

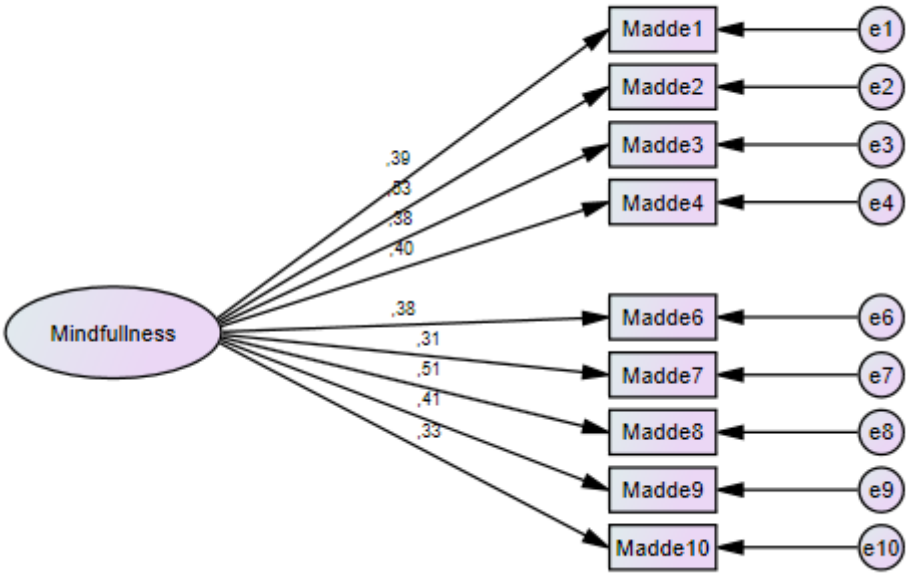

Figure 1. Path diagram for confirmatory factor analysis of the *Mindful Parenting in Infancy Scale (MPIS)*

Table 2: Structural Equation Model Fit Indices for Confirmatory Factor Analysis of the Mindful Parenting in Infancy Scale (MPIS)

Goodness of Fit Indexes Research Fit Values Reference values

Goodness of Fit Indexes	Research Fit Values	Reference values
RMSEA	.050	< .80
CFI	.91	>.90
IFI	.92	>.90
GFI	.97	>.90
AGFI	95	>.90
RMR	.033	< .80
x^2/sd	1.88	< 3

*İlhan & Çetin, 2014.

The findings of the reliability analysis of the scale are as follows.

The Cronbach Alpha internal consistency coefficient and corrected item-total correlations were examined to assess the reliability of the ***Mindful Parenting in Infancy Scale (MPIS)***. In this context, the internal consistency coefficient for the scale was calculated as 74. On the other hand, the item-total correlation coefficients were calculated for the distinctiveness of the scale items. It was observed that the values taken by these coefficients ranged between 35 and 0.49 (see Table 3).

Table 3 The Mindful Parenting in Infancy Scale (MPIS)Corrected Item Total Correlations and Cronbach Alpha Internal Consistency Coefficient

İtem No	İtem Total correlation	Cronbach Alpha
M1	.414	
M2	.496	
M3	.385	
M4	.404	
M6	.400	.74
M7	.357	
M8	.480	
M9	.449	
M10	.385	

When evaluated in terms of the results in Figure 1 and Table 4 it can be said that the *The Mindful Parenting in Infancy Scale (MPIS)* is a valid and reliable measurement tool for Turkish culture (Çokluk et al., 2014; İlhan & Çetin, 2014; Seçer, 2015).

Study 2: Determination of Mindfulness in Parenting of Mothers with 0-24 Month-Old Babies

In the second stage of the research, the total score obtained from *The Mindful Parenting in Infancy Scale (MPIS)* was analyzed regarding demographic variables related to mothers and babies. The relevant values obtained from the analysis are presented in this section.

Examining Mothers' mindfulness in Parenting According to Demographic

Characteristics

Table 4 . Mean scores, kurtosis, and skewness values obtained from the The Mindful Parenting in Infancy Scale (MPIS) in terms of mothers' ages

Mother Age	n	X	sd	kurtosis	skewness
18-25	19	33,40	,95	1,01	,52
26-32	200	33,67	,25	,34	,17
33-40	134	33,71	,28	,41	,20

Table 4 As can be seen, the average scores of the mothers vary between 33.40 and 33.71 in terms of their ages. Kurtosis and skewness coefficients are also between .17 and .1.01. Having kurtosis and skewness values between -2 and +2 indicates that the data has a normal distribution (Tabachnick & Fidell, 2007). One-way analysis of variance was used to test whether there was a significant difference between the scores of mothers on the *The Mindful Parenting in Infancy Scale* during infancy, depending on their age. The results of the variance analysis are presented in the Table 5.

Table 5. Analysis of variance results regarding the scores the mothers received from The Mindful Parenting in Infancy Scale in terms of their ages.

Mother age	n	X	sd	F	P	difference
18-25	19	33,40	,95	.065	,937	-

26-32	200	33,67	,25
33-40	134	33,71	,28
Levene= 1.18; p=,306			

No significant difference was found between the scores of mothers on *The Mindful Parenting in Infancy Scale*, depending on their age. Furthermore, the fact that the p-value is greater than 0.05 as a result of the Levene test constitutes evidence of the variance's homogeneity.

Table 6. Mean scores, kurtosis, and skewness values obtained from the The Mindful Parenting in Infancy Scale (MPIS) in terms of Mother's Education Level

Mother's Education Level	n	X	sd	kurtosis	skewness
Middle school	9	31,76	1,33	1,40	,71
High school	33	33,54	,68	,79	,40
University	235	33,91	,22	,31	,15
Postgraduate	76	33.21	.40	.54	.27

Table 6 presents the results of a one-way analysis of variance (ANOVA) conducted to test for a significant difference in the scores of *The Mindful Parenting in Infancy Scale*, stratified by their education levels. The table displays the mean scores and standard deviations for each education level.

Table 7. Analysis of variance results regarding the scores the mothers received from The Mindful Parenting in Infancy Scale in terms of Mother's Education Level

Mother's Education Level	n	X	sd	F	P	differ
Middle school	9	31,76	1,33	1.72	.161	-
High school	33	33,54	,68			
University	235	33,91	,22			
Postgraduate	76	33.21	.40			
Levene= .488; p=,691						

Table 7: The data indicates no significant difference in the Mindful Parenting in Infancy Scale scores regarding mothers' education levels. Furthermore, the p-value exceeding 0.05, as determined by the Levene test, provides evidence for the homogeneity of the variance.

Table. 8 Mean scores, kurtosis, and skewness values obtained from the The Mindful Parenting in Infancy Scale (MPIS) in terms of mothers' employment Status

mothers' employment	n	X	sd	kurtosis	skewness
Working	180	33,50	,25	,36	,18
Not working	173	33,84	,26	,36	,18

Table 8 As can be seen, the average score of the mothers varies between 33.50 and 33.84, depending on their working status. Kurtosis and skewness coefficients are also between .18 and .36. One-way analysis of variance was used to test whether there was a significant difference between the scores of the Mindful Parenting in Infancy Scale, depending on mothers' employment status. The results of the variance analysis are presented in the Table 9.

Table 9. Analysis of variance results regarding the scores the mothers received from The Mindful Parenting in Infancy Scale in terms of mothers' employment Status

mothers' employment	n	X	sd	t	p
Working	180	33,50	,25	-,88	,375
Not working	173	33,84	,26		

Table 9 As can be seen in the table, a t-test was performed to determine whether the mean scores of the Mindful Parenting in Infancy Scale differed significantly according to their working status. According to the t-test results, whether mothers are employed or not does not create a significant difference in terms of the Mindful Parenting in Infancy Scale score averages (p>.05).

Table 10. Mean scores, kurtosis, and skewness values obtained from the The Mindful Parenting in Infancy Scale (MPIS) in terms of family type

Family type	n	X	sd	kurtosis	Skewness
Nuclear family	328	33,76	,19	,36	,13
Extended family	25	32,50	,65	,90	,46

Table 10 As can be seen, the average score varies between 32.50 and 33.76, depending on family type. Kurtosis and skewness coefficients are also between .13 and .90. One-way analysis of variance was used to test whether there was a significant difference between the scores they received from *The Mindful Parenting in Infancy Scale*, according to family types. The results of the variance analysis are presented in the Table 11.

Table 11. Analysis of variance results regarding the scores the mothers received from The Mindful Parenting in Infancy Scale in terms of family type

Family type	n	X	sd	t	p
Nuclear family	328	33,76	,19	1,73	,08
Extended family	25	32,50	,65		

Table 12 As seen in the table, a t-test was performed to determine whether the mean scores of the mothers on *The Mindful Parenting in Infancy Scale* differed significantly according to family type. According to the t-test results, there is no significant difference in terms of *The Mindful Parenting in Infancy Scale*, score averages according to family type (p>.05).

Examination of Mothers' Mindfulness in Parenting According to Babies' Demographic Characteristics

Table 12. Mean scores, kurtosis, and skewness values obtained from the The Mindful Parenting in Infancy Scale (MPIS) in terms of Baby Gender

Baby Gender	n	X	sd	kurtosis	skewness
Girl	164	33,98	,26	,37	,19
Boy	189	33,39	,26	,35	,17

Table 12 As can be seen, the average score varies between 33.39 and 33.98, depending on the baby's gender. Kurtosis and skewness coefficients are also between .17 and .27. Having kurtosis and skewness values between -2 and +2 indicates the data has a normal distribution (Tabachnick & Fidell, 2007). One-way analysis of variance was used to test whether there was a significant difference between the scores mothers received from *The Mindful Parenting in Infancy Scale*, depending on the baby's gender. The results of the variance analysis are presented in the table 13.

Table.13 Analysis of variance results regarding the scores the mothers received from The Mindful Parenting in Infancy Scale in terms of baby's gender

baby's gender	n	X	sd	t	p
Girl	164	33,98	,26	1,59	,11
Boy	189	33,39	,26		

Table 14 As seen in the table, a t-test was performed to determine whether the mean scores of *The Mindful Parenting in Infancy Scale* during infancy differed significantly according to the babies' gender. According to the t-test results, it was determined that there was no significant difference in terms of *The Mindful Parenting in Infancy Scale* during infancy score averages according to the gender of the babies (p>.05).

Table 14. Mean scores, kurtosis, and skewness values obtained from the The Mindful Parenting in Infancy Scale (MPIS) in terms of birth order

Birth order	n	X	sd	kurtosis	skewness
First child	221	34,17	,24	,32	,16
Middle child	22	32,01	,73	,95	,49
Last child	110	33,00	,29	,45	,23

Table 14 As can be seen, the average score varies between 32.01 and 34.17 depending on the birth order of the baby. Kurtosis and skewness coefficients are also between .16 and .49. One-way analysis of variance was used to test whether there was a significant difference between the scores mothers received from *The Mindful Parenting in Infancy Scale*, according to the birth order of the baby. The results of the variance analysis are presented in the Table 15.

Table.15 Analysis of variance results regarding the scores the mothers received from The Mindful Parenting in Infancy Scale in terms of birth order

Birth Order	n	X	sd	F	P	differ

First child	221	34,17	,24	6.97	.01	First – Middle- First - Last
Middle child	22	32,01	,73			
Last child	110	33,00	,29			
Levene= 1.05; p=,351						

According to the ANOVA test results, the birth order of the babies differs significantly in terms of their average scores on *The Mindful Parenting in Infancy Scale*. The results of the post-hoc LSD test performed to determine which birth order of babies caused this difference show that it was between the first and middle babies and the first and last birth order babies. In this context, while the average score of first-born babies is significantly higher than that of middle babies, similarly, first-born babies also have a higher average score than babies with the last birth order. On the other hand, the mean scores of babies with the median and last birth order do not differ significantly.

Table 16.Mean scores, kurtosis, and skewness values obtained from the The Mindful Parenting in Infancy Scale (MPIS) in terms of Baby's age

Baby age (Month)	n	X	sd	kurtosis	skewness
0-6	93	34,40	,35	,49	,25
7-12	73	33,39	,44	,55	,28
13-18	60	33,11	,46	,60	,30
19-24	127	33.55	.29	.42	.21

Table 16 As can be seen, the average score varies between 32.11 and 33.55 depending on the baby's age (months). Kurtosis and skewness coefficients are also between .21 and .60. One-way analysis of variance was used to test whether there was a significant difference between the scores of mothers on *The Mindful Parenting in Infancy Scale*, depending on the age of the baby. The results of variance analysis are presented in the Table 17.

Table 17 Analysis of variance results regarding the scores the mothers received from The Mindful Parenting in

Baby's age (months)	n	X	sd	F	P	differ
0-6	93	34,40	,35	2.08	.10	-
7-12	73	33,39	,44			
13-18	60	33,11	,46			
19-24	127	33.55	.29			
Levene= .735; p=,531						

Infancy Scale in terms of Baby's age

Table 17 As can be seen from this, no significant difference was found between the scores of the mothers on *The Mindful Parenting in Infancy Scale* in terms of the ages of

the babies. In addition, the fact that the p-value is greater than .05 as a result of the Levene test constitutes evidence for the homogeneity of the variance**.**

4. RESULT AND DİSCUSSİON

Study 1

The initial objective of this research was to adapt *The Mindful Parenting in Infancy Scale* for mothers with infants aged 0-24 months. This is the inaugural reliability and validity study of the Turkish version of *The Mindful Parenting in Infancy Scale* conducted with mothers of babies. The scale's psychometric properties, designed to measure the level of mindfulness of the mother during her interaction with her baby, have been extensively examined. Reliability refers to the consistency of measurement, and validity, which evaluates the accuracy of what the scale purports to measure, are critical components of these evaluations. The internal consistency coefficient of *The Mindful Parenting in Infancy Scale* was calculated as .74. On the other hand; it was observed that the item-total correlation coefficients calculated for the distinctiveness of the scale items took values between .35 and .49. *The Mindful Parenting in Infancy Scale* demonstrated internal consistency and construct validity in a sample of mothers with babies aged 0-24 months. The scale has shown acceptable validity and reliability for mothers with babies aged 0-24 months in Turkey.

In the study, as a result of the confirmatory factor analysis of *The Mindful Parenting in Infancy Scale*, the standardized factor loading of the fifth item was found to be 0.53. The number was determined to be. 16; thus, the pertinent item was removed, resulting in a renewed analysis. In confirmatory factor analyses, each item in the scale is expected to have a factor loading of at least 30 (Seçer, 2015). Following the renewed analysis, the factor loadings of the scale were observed to range between 31 and 0.53.

Validity is the extent to which a scale accurately reflects the concept it is designed to measure (Mokkink et al., 2010). The original scale demonstrated acceptable internal consistency, as indicated by the failure of the two explanatory factor analytic approaches to indicate a multidimensional structure ($\alpha = 0.67$). The model's fit was assessed using the chi-square test, which yielded a value of $\chi 2 = 42.56$, with a p-value of 0.18. The root mean square error of approximation (RMSEA) was 0.06, the comparative fit index (CFI) was 0.92, the Tucker-Lewis index (TLI) was 0.90, and the standardized root mean square (SRMR) was 0.07. The error of approximation (RMSEA) was found to be 0.06, the comparative fit index (CFI) was 0.92, the Tucker-Lewis index (TLI) was 0.90, and the standardized root mean square (SRMR) was 0.07. Although the RMSEA was not below the 0.05 threshold, the remaining indicators were consistent with a single-factor solution (Hu & Bentler, 1999). This study used confirmatory factor analysis to verify the scale's validity. The goodness of fit indices were examined to assess the scale's construct validity. The scale's confirmatory factor analysis fit indices were calculated as x2/df=1.88, CFI=.91, IFI=.92, GFI=.97, AGFI=.95, RMSEA=.050, RMR=.033. In the literature, the square to the degree of freedom ratio is below 3; CFI, IFI, GFI, and AGFI values. It has been reported that values above 90 and RMSEA and RMR values below 0.080 are acceptable fit criteria (İlhan & Çetin, 2014). Therefore, it can be concluded that the construct validity of *The Mindful Parenting in Infancy Scale*, has been demonstrated.

The findings of the reliability analysis revealed similarities with those obtained in the research conducted on the American sample. The internal consistency of the original scale was found to be satisfactory (a = 0.80). It was determined that the scale has internal consistency supporting its unidimensional structure. In the current study, the internal consistency coefficient was calculated as .74. Conversely, the item-total correlation coefficients calculated for the distinctiveness of the scale items exhibited values between .35 and .49. According to DeVellis (2003), a Cronbach's α of 0.70 or higher represents the minimum acceptable range for scale development.

The findings indicated that the '*Infancy Mindfulness Parenting Scale'* exhibited satisfactory reliability and validity in accordance with the developmental study conducted in other countries (Gartstein, 2021). Following the translation, cultural adaptation, and reliability and validity tests, it was determined that the Turkish version of the *The Mindful Parenting in Infancy Scale'* comprised nine (9) items and exhibited satisfactory reliability and validity.

The findings obtained show that the scale exhibits a valid and reliable structure in the Turkish sample. The internal consistency coefficient was found to be at an acceptable level, and the factor analysis results supported the structural integrity of the scale. Measurements aimed at understanding the quality of mother-infant interaction can form the basis for early childhood development, parent education, and psychological support programs. In this context, the relevant scale is considered a usable tool in both clinical practice and academic studies.

However, the study has some limitations. Since the sample consisted only of mothers with babies aged 0–24 months, the scale should also be tested on fathers or larger parent groups. Additionally, cross-cultural validity studies are crucial for the widespread application of the scale.

In future studies, the scale can be used longitudinally to examine the change in parental awareness over time. At the same time, the relationships between parental awareness and the developmental outcomes of the baby can be investigated in depth.

The relationship between mothers' age, level of education, family type, and mindfulness practice is complex and not simple. While there are similar findings in the literature, there are also different findings. Recent studies in the literature suggest that these factors do not significantly differentiate mindfulness practices among mothers, contradicting previous claims that older mothers or those with higher levels of education practice more mindful parenting. For example, Khotimah (2022) showed in her study that demographic factors, such as the mother's age, level of education, and employment status, did not predict the mother's mindful parenting. Similarly, Larkin et al. (2019) applied a mind-mindedness intervention for mothers with infants. The intervention was found to be equally effective in facilitating mindfulness in young and older mothers. Further supporting this, studies show that maternal mind-mindedness is stable across age groups and is not significantly affected by mothers' education level or socioeconomic status Barreto et al., 2018; Dai et al., 2019) Durmaz (2023) found no significant difference in parents' mindfulness based on factors such as parents' age,

education, number of siblings, or the presence of family members living together. Çakır et al. (2023) found that only the mother's level of education affected mindfulness, while age, family type, and number of children did not show significant effects. Sezgin (2022) found that fathers' mindfulness levels were affected by their education, the age of their children, and their weekend work status, but not by the number of children, the child's gender, daily working hours, or SES. Burgdorf and Szabó (2021) found no significant associations between mindfulness practices and demographic variables, except for weak positive correlations with child age. Boekhorst et al. (2020) similarly found no differences in mindfulness practices according to the gender of the infant. Medeiros et al. (2016) found no significant associations between mindfulness practices and child gender or age in mothers of preschool children. These studies suggest that mindful parenting is a skill that does not depend on the child's developmental stage. Although factors such as maternal education, mental health, and stress are associated with mindfulness in parenting, more research is needed to draw definitive conclusions. However, further research is needed to investigate the relationship between maternal demographic variables and infant mindfulness levels.The findings of the study found that mothers' mindfulness levels differed significantly according to the birth order of their children. Mothers with their first child were found to exhibit higher mindfulness of parenting compared to mothers with their middle or last child.The literature does not directly address how mindfulness levels vary by birth order but instead focuses on the general impact of mindfulness on mother-child relationships and child developmental outcomes (Siu et al., 2016; Parent et al., 2021; Broening & Brandt, 2022). The findings of the current study demonstrate a statistically significant variation in maternal mindful levels based on the child's birth order. This outcome may be attributed to the tendency of parents to allocate greater time and attention to their firstborn, particularly during the initial stages of parenthood when caregiving is approached with heightened sensitivity and involvement (Salmon, 2003). While the parenting experience with the first child is generally a more careful and structured process, it may become more routine and familiar with subsequent children. This may cause mindfulness levels to vary according to birth order.

Although there is no direct evidence in the literature that mindful levels differ according to birth order, it is frequently emphasized that family dynamics and parental behaviors change according to birth order (Hertwig et al., 2002). It is stated that parental roles can change significantly depending on whether the child is the first, middle, or last child according to birth order. For example, firstborn children may elicit different parental reactions compared to siblings born later due to their unique positional characteristics, such as increased expectations or differences in parental attachment (Ulusoy & İnceoğlu, 2021; Sputa & Paulson, 1995). This difference in reactions may lead to differences in how conscious behaviors are expressed. In particular, parents of firstborn children may show a more structured and disciplined approach, which may be indicative of higher levels of sensitivity aimed at fulfilling role expectations (Someya et al., 2000). Research to date has focused on the relationships between parental mindfulness and demographic variables, including age, education level, number of children, and gender.Although birth order is known to influence family dynamics, the question of whether it affects parental mindfulness has not been sufficiently addressed in the literature. This represents a meaningful gap, especially considering that birth order plays an important role in shaping how family roles develop, how parents interact with each child, and how attention is distributed among siblings. While firstborn children generally

receive more parental attention, middle- and lastborn children often differ in that parental attention is divided among siblings. These differences may reveal critical psychosocial factors that influence the level of parental mindful.Therefore, investigating how birth order affects parental mindfulness crucial to fill a significant gap in the existing literature. In addition to contributing to filling the gap in the literature, the results of this research will contribute to the development of mindfulness-based parenting strategies, improvement of the design of support programs, and the creation of more comprehensive and inclusive policies in the field of child development. Future studies that incorporate birth order as a variable and examine the formation of mindful parenting from a more holistic perspective are likely to make valuable contributions to the academic discourse.

5. CONCLUSİON AND LİMİTATİONS

This study adopted a newly developed mindfullness scale for parents with babies from different cultures, and the " *The Mindful Parenting in Infancy Scale* " was introduced to Turkey. *The Mindful Parenting in Infancy Scale* demonstrated internal consistency and construct validity in a sample of mothers with babies aged 0-24 months. The scale showed acceptable validity and reliability for mothers with babies aged 0-24 months in Turkey. The scale is simple and easy to understand. The scale is relatively brief, making it suitable for widespread use in measuring the mindfulness of mothers with babies aged 0-2 years. The results obtained contribute significantly to the existing literature. However, some limitations must be noted. First, the study group was relatively small and homogeneous. This is because there are a limited number of nurseries, and mothers with babies aged 0-2 years should look after their children at home or with a carer rather than in a nursery. Therefore, the study group was formed with an easily accessible sample. However, participation in the study was voluntary, and mothers volunteered to participate. The mindfulness of the mothers in the risk group was not assessed. Secondly, the mindfulness of the mothers in the study was only examined in terms of demographic information about the mothers and babies. Other factors were not examined (e.g., quality of care (e.g., sensitivity/responsiveness, infant temperament)

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Scale İtems -Engilish

1. I find myself not being as attentive as I could be to my child, because my mind is preoccupied with ot
2. When I'm upset with my child, I notice how I am feeling before I take action
3. I notice how changes in my child's mood affect my mood
4. I always do what is best for my child, even if it inconveniences me
5. *I often react too quickly to what my child does*[a] *(Removed)*
6. I am aware of how my moods affect the way I treat my child
7. Even though it sometimes makes me uncomfortable, I allow my child to express him/herself
8. When I become upset with my child, I am able to calm down, and not have it affect my mood or the v my child
9. I rush through activities with my child without being fully attentive to him/her[a]
10. I have difficulty accepting my child's growing independence[a]

a Reverse-coded items.

Scale İtems -Turkish

1. Zihnim başka şeylerle meşgul olduğu için kendimi, çocuğuma karşı olabileceğim kadar dikkatli olamıyorken buluyorum. [a]
2. Çocuğuma kızgın olduğumda, harekete geçmeden önce nasıl hissettiğimi fark ederim.
3. Çocuğumun ruh halindeki değişikliklerin benim ruh halimi nasıl etkilediğini fark ediyorum.

4. Beni rahatsız etse bile her zaman çocuğum için en iyi olanı yaparım.
5. ölçekten çıkarıldı [a]
6. Ruh halimin, çocuğuma yönelik davranış biçimimi nasıl etkilediğinin farkındayım.
7. Bazen beni rahatsız etse de, çocuğumun kendini ifade etmesine izin veriyorum.
8. Çocuğuma kızdığımda sakinleşebiliyorum ve bunun ruh halimi ya da çocuğumla ilgilenme şeklimi etkilemesine izin vermiyorum.
9. Çocuğumla yaptığım etkinliklerde onunla yeterince ilgilenmeden etkinliği geçiştiriyorum. [a]
10. Çocuğumun artan bağımsızlığını kabullenmekte zorlanıyorum [a]