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The Effects of "Mother Education Program" on Mothers' Parenting Knowledge, Parenting Self-Efficacy and Their Children's Development *

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Abstract

The aim of this study is to examine the effect of the "Mother Education Program" on parenting knowledge and task self-efficacy of mothers with 24-36-month-old children and their children's social-personal, language, fine motor, and gross motor development. This study employs a mixed model, and it is in intervention design. The study group was composed of 22 mothers and their children 11 of whom were included in the experimental group and 11 of whom were included in the control group. As a result, it was found that the mother education program applied for 12 weeks caused significant differences in mothers' scores for parenting tasks, their scores on the Knowledge of Effective Parenting scale, and their scores in the nurturance, discipline, and play subscales of the Self-Efficacy for Parenting Tasks scale. It was determined that there was a significant difference between the pretest-posttest mean scores of children in the experimental and control groups regarding personal-social, fine motor, language, and gross motor development subscales of the Denver Developmental Screening Test. Mothers' views on the contributions of the program mostly fell into categories of 'contributions to mothers' and 'contributions to children'. As a result of the study, it was found that the mother education program offered to the mothers contributed to the mothers' knowledge of effective parenting and to their self-efficacy in parenting in addition to contributing to their children's development.

Keywords

Mother education program
Parenting knowledge
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Introduction

One of the fundamental responsibilities of parents, in the context of societal welfare, is to raise individuals who exhibit healthy development. Providing environmental conditions appropriate to children's developmental stages and preparing them for life using methods suitable for these stages is critically important for supporting their optimal development. By meeting their children's physical, economic, and psychosocial needs, parents establish the necessary foundation for a healthy

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developmental process. This process depends on providing children with essential life components, such as love, attention, nutrition, clothing, shelter, and healthcare services (Smith, Perou, & Lesesne, 2002). Parenting practices and responsibilities vary according to the child's developmental stage, ranging from infancy to young adulthood. To enhance the well-being of their children, parents must undertake evolving and interrelated tasks that align with the child's developmental process (Sanders & Turner, 2018). Although parenting plays a crucial role in every stage of a child's life, the responsibilities parents face are particularly pronounced and challenging during infancy and early childhood (Barnard & Solchany, 2002). During these periods, a child's physical, cognitive, communicative, and emotional development undergoes continuous and rapid changes. Each developmental area is assessed by the achievement of certain tasks. For example, in normal physical development, a child is expected to acquire motor skills such as lifting their head, rolling over, crawling, standing up, walking, and running within specified age ranges. These skills represent significant milestones in a child's development, and recognizing these milestones enables parents to promote healthy lifestyles and establish effective interactions with their children (Aldayel et al., 2020; Alhwoaimel et al., 2023). Therefore, it is crucial for parents to provide environmental conditions that align with their child's developmental needs, monitor their developmental progress, and prepare them for life using appropriate methods to ensure optimal development (Ertem, 2011). Parents' knowledge of child development processes is important for distinguishing between typical and atypical development (Güven Baysal et al., 2023). Early detection of developmental delays or abnormalities can increase opportunities for early intervention, which can significantly improve the child's health and prevent illnesses. Thus, parental knowledge plays a vital role in supporting children's healthy development and shaping their interactions with their families and social environments (Aldayel et al., 2020; Bornstein, Cote, Haynes, Hahn, & Park, 2022).

Contemporary research on parenting increasingly focuses on studies that emphasize the importance of parental awareness in child development and upbringing (Aldayel et al., 2020; Alhwoaimel et al., 2023; Al-Maadadi & Ikhlef, 2015; Al-Qadri, Saraa, Boudouaia, & Nargiza, 2022; Bornstein, Yu, & Putnick, 2020; Bornstein et al., 2022; Chen, Tu, Huang, & Huang, 2021; Huang, Caughy, Genevro, & Miller, 2005; Zhong, He, Gao, Wang, & Luo, 2020). Dichtelmiller et al. (1992) describe parenting knowledge as an aspect of adult social cognition that includes an understanding of child development processes, caregiving, parenting skills, and developmental norms. Bornstein (2006) states that parents' developmental knowledge encompasses a broad range of information about child development and upbringing. Parenting knowledge includes understanding appropriate approaches to meet children's biological, physical, cognitive, social, and emotional needs; developing a realistic understanding of developmental processes and the skills and achievements children acquire as they grow; and implementing strategies for effectively managing child health and childhood illnesses (Bornstein et al., 2022; MacPhee, 2002; Zand et al., 2015).

Accurate and effective developmental knowledge plays an important role in establishing healthy and supportive relationships with children. Research demonstrates that parents who have accurate knowledge of their children's developmental processes not only enhance the quality of parent-child interactions but also contribute positively to their children's development (Conrad, Gross, Fogg, & Ruchala, 1992; Güven Baysal et al., 2023; Huang et al., 2005; Reich, 2005). Parents with effective developmental knowledge can detect their children's developmental problems at an early stage and make effective interventions in response. Moreover, these parents are better able to identify situations where their children require professional help and develop more effective strategies to prevent and protect their children's health (Bornstein et al., 2022; Chen et al., 2021; Kirkman, Dadds, & Hawes, 2018; Vally & El Hichami, 2020; Zand et al., 2015). Research conducted in Western countries has emphasized the importance of maternal knowledge about child development, as childcare and interventions are often based on the mother's observations. Pediatricians frequently rely on parental observations to monitor developmental milestones; when parents can recognize these developmental steps, their interactions with doctors become more effective (Ertem et al., 2007; Reich, 2005). In this context, it is crucial for parents to observe their children's physical, language, cognitive, social, and emotional development, possess sufficient developmental knowledge, recognize developmental delays, and

provide appropriate stimuli and support early on (Güven Baysal et al., 2023). Research has shown that parenting knowledge is associated with both positive child developmental outcomes and parenting self-efficacy (Conrad et al., 1992; Jones & Prinz, 2005; Morawska, Winter, & Sanders, 2009; Sanders & Woolley, 2005). Self-efficacy pertains to an individual's knowledge necessary to perform a behavior and how this behavior is interpreted by the environment. In the context of parenting, self-efficacy refers to a parent's beliefs in their ability to effectively parent their child during and after pregnancy (Binda & Crippa, 2000; Coleman & Karraker, 1997). Parenting knowledge is related to a parent's self-efficacy, satisfaction, and positive self-perceptions regarding their parenting roles (Bornstein et al., 2022). When parenting knowledge is high, there is a positive relationship between self-efficacy and parenting competence, whereas this relationship may reverse when knowledge is low (Hess, Teti, & Hussey-Gardner, 2004). In this context, the perceived competence level of parents significantly impacts their parenting skills and quality (Conrad et al., 1992).

Parenting knowledge enables parents to interpret their children's behaviors more accurately and develop the cognitive framework needed to adapt to or anticipate developmental changes (Bornstein et al., 2022). However, many parents face common challenges in demonstrating behaviors appropriate to their children's development and engaging in effective interactions (Sanders & Woolley, 2005). Particularly during the toddler years, as children begin to gain autonomy, they exhibit more stubborn and challenging behaviors. Parents frequently experience conflict when trying to manage their children's behaviors, increasing their responsibilities and potentially leading to various issues (Laible, Panfile, & Makariev, 2008). In this context, many parents may feel the need for professional support to develop their parenting skills and increase their confidence (Kirk, 2016). Family education programs, an important component of family education services, can strengthen families by providing various supports for topics and developmental areas that parents need. Dunst (1995) explains family support as "initiatives that empower and support individuals to act on their own behalf, particularly in enhancing and strengthening child-rearing capabilities and prioritizing the enhancement of individual and family functioning." This view underscores the importance of carefully selecting activities to identify, create, develop, and strengthen program processes (Dunst, 1995; Smith et al., 2002). Home visits conducted by experts and educational programs designed to improve parenting practices play an important role in supporting parent-infant and toddler interactions. These programs can positively affect parents' mental and psychological health by boosting their confidence and reducing symptoms of depression. Furthermore, they can increase parents' motivation to read, support their active participation in their children's educational processes, and contribute to improvements in the home environment (Gilinsky, 1981; Rafoth & Knickelbein, 2005; Richman, 2004, as cited in Levenstein & Levenstein, 2008). Education programs provide parents with more accurate developmental information, helping them develop more realistic expectations for themselves and their children and demonstrate appropriate developmental approaches toward their children. In this context, family education programs provide positive contributions to the holistic development of children by strengthening parent-child interactions (Petch & Halford, 2008). The results of studies in this area show that educational programs strengthen parents' communication, improve their parenting skills and self-confidence, support their personal development and thus support the development of their children (Allen et al., 2007; Ginandes & Roth, 1973; Gomby, 2000, as cited in Levenstein & Levenstein, 2008). According to the related literature, it was found that as the level of parenting knowledge of mothers increased as a result of the educational programs, the level of reflecting this knowledge to the home environment and other family members also increased (Ekici & Temel, 2023; Jeong, Franchett, Ramos de Oliveira, Rehmani, & Yousafzai, 2021). According to Bronfenbrenner's theory, there are bi-directional influences in family relationships and accordingly, family members influence each other directly and indirectly. Parents influence the development of child through their direct interactions and thus it is necessary that such interactions are consistent over a long period of time (Tudge, Merçon-Vargas, Liang, & Payir, 2022). Conducted in parallel with the above-mentioned theory, this study will support the mother herself and other family members in the development of the child through the mother educational program, and for this reason, it is important that the program will contribute positively to the development of the child.

The significance of parental knowledge extends across several crucial areas: parenting cognitions and practices, parental self-efficacy, child development and well-being, and clinical decision-making and health. Research underscores the critical impact of parental knowledge on parents, children, and family relationships. To enhance children's development, it is essential that parents are informed about developmental milestones and norms and adjust their parenting roles accordingly to support their children effectively (Al-Qadri et al., 2022; Bornstein et al., 2020, 2022; Benasich & Brooks-Gunn, 1996; Bond & Burns, 2006; Bornstein & Cote, 2004; Hess et al., 2004; Huang et al., 2005). The need for various policy and program attempts is emphasized to support parenting knowledge in evidence-based practice recommendations published by American Psychological Association Task Force on Evidence-Based Practice with Children and Adolescents, by the Centers for Disease Control and Prevention, and by the World Health Organization (WHO) (National Academies of Sciences, Engineering, and Medicine, 2016). Integrating parental knowledge into family education programs is crucial for aligning parents' understanding of child development with their parenting practices and behaviors (Okagaki & Bingham, 2005). Parents who are well-informed about child development are more likely to employ appropriate disciplinary methods, improve parent-child interactions, and set realistic expectations for their children's behavior (Huang et al., 2005). This research, which emphasizes parental knowledge and self-efficacy, is significant as it aims to support mothers' parenting knowledge through the development and implementation of a home-based Mother Education Program. Additionally, this initiative will educate other family members about child development and use feedback from the program to enhance early intervention strategies. It is anticipated that this research will promote the widespread adoption of one-on-one programs focused on mother-child interactions and make a valuable contribution to the literature on parental knowledge and self-efficacy.

The Current Study

Parents, as the primary caregivers of young children, recognize that the scope and quality of their knowledge are critical in improving children's development and health. Even though the responsibilities for baby caring differ in different cultures, primarily mothers are responsible for caring for the baby in most of the cultures. Thus, mothers play unique roles in children's development (Bornstein & Güngör, 2018; Bornstein et al., 2022). Parenting programs designed for infants and toddlers aim to enhance effective communication and interaction between parents and children, provide health, safety, and care services, encourage desirable behaviors or prevent problem behaviors, and educate parents about their children's development (Frydenberg, Deans, & Liang, 2014; Jeong et al., 2021). These programs help parents understand their children's specific developmental needs based on individual differences and recognize typical developmental stages. With this knowledge, parents can more effectively detect developmental issues early and adapt the home environment to support their children's growth (Donnalley, 2013). Furthermore, parental knowledge aids in safeguarding child health, preventing diseases, determining when to seek medical care, and utilizing healthcare services efficiently (Bornstein & Cote, 2004; Bornstein & Güngör, 2018; Bornstein et al., 2022).

In the light of the evaluations made above, training programs should be developed so as to improve the maternal skills of mothers and thus to raise the quality of their interactions with their toddlers. Studies concerning parenting knowledge and self-efficacy (Conrad et al., 1992; Elliott, 2007; Hess et al., 2004; Jeong et al., 2021; Jones & Prinz, 2005; Morawska et al., 2009; Sanders & Morawska, 2005) pointed out the need for further studies in the area. The studies in the literature mostly include studies examining the relationship between effective parenting skills (Bornstein et al., 2020; Ertem et al., 2007; Guo, Morawska, & Filus, 2017; September, Rich, & Roman, 2016; Winter, Morawska, & Sanders, 2012a, 2012b) and various variables such as parenting styles, socioeconomic level, mother's level of education or the relationship between effective parenting and parental self-efficacy (Elliott, 2007; Hess et al., 2004; Jones & Prinz, 2005; Morawska, Filus, Haslam, & Sanders, 2017; Morawska et al., 2009). In this context, it is considered important in this study to focus on both mothers' parenting knowledge about child development and their self-efficacy in parenting tasks and to deal with these variables together with the child's development as a whole. Hence, this current study aims to investigate the effects of mother education program on parenting knowledge and task self-efficacy of mothers with 24-

36-month-old children and their children's social-personal, language, fine motor, and gross motor development. In line with this aim, the following specific objectives have been addressed: (1) Does the mother education program have an effect on mothers' parenting knowledge? (2) Does the mother education program have any effects on nurturance, discipline, play, and routines in relation to mothers' parenting tasks? (3) Does the mother education program have any effects on behavioral self-efficacy and setting self-efficacy in relation to mothers' parenting tasks? (4) Does the mother education program have any effects on the personal-social, language, fine motor, and gross motor development of children aged 24-36 months? (5) What are the mothers' opinions on the contributions of the mother education program? The hypotheses developed for this study are listed below.

- The mother education program has a positive effect on the mother's parenting knowledge.
- The mother education program has a positive effect on the mother's nurturance, discipline, play and routines regarding her self-efficacy in parenting tasks.
- The mother education program has a positive effect on behavioral self-efficacy and setting self-efficacy regarding mothers' parenting tasks.
- The mother education program has a positive effect on the personal and social, language, fine motor and gross motor development areas of 24–36-month-old children.

Method

Study Design

Evaluations were made in this study through measurements in the study group prior to and after the experiment. Qualitative as well as quantitative methods were used in the analyses. Using qualitative and quantitative data in combination enables researchers to provide more data for research problems and thus results in better understanding on the part of readers (Creswell, 2014). Therefore, this study employs a mixed model and it is in intervention design. Qualitative data are collected in studies of intervention mixed methods so as to support the intervention, to understand the contextual factors capable of influencing the results during the intervention or to describe the results after the intervention. Researchers test an experiment, application or program which involve interventions in such areas of application as the school, home, classroom and so on in such a design (Fetters, Curry, & Creswell, 2013). More valid and more reliable information can be obtained in this design since it involves collecting data from more than one source of information and interpreting it from more than one perspective (Nastasi et al., 2007). The current study evaluates the effectiveness of the "Mother education program".

Participants

The study group of the research consisted of mothers with 24–36-month-old children and their children. The criterion sampling method, one of the purposive sampling methods, was used to determine the study group (Büyüköztürk, Akgün, Karadeniz, Demirel, & Kılıç, 2013). Accordingly, the criteria for the children included in the study were that they live with their parents, have not participated in any educational program, are aged between 24-36 months, and have normal development. The criterion of normal development is that children exhibit behavior line with the developmental level expected for their age and have no diagnosed developmental disability or retardation. People living in the same region were contacted using the records of Keçiören Family Health Centers of Ankara Public Health Directorate. The 24-month-old children in the records of family physicians were listed and each of them was contacted and informed about the study. Families who wanted to participate in the study were visited and interviewed at their homes and explained that the materials to be used in the study will be provided by the Scientific Research Projects Coordination Unit of Gazi University and that the toy sets used, and the game activities taught will be gifted as a booklet at the end of the training. The mothers were informed about the study and then their written consent was obtained. Based the records obtained, 24 children and their mothers, being 12 in the experimental group and 12 in the control group, constituted the study group. Before the application of the education

program, one mother voluntarily left the control group due to moving from Ankara and one mother voluntarily left the experimental group due to her health condition. 11 mothers and their children were finally included in the experimental and control groups of this study. 54.55% of the children (n=6) included in the experimental group were girls whereas 45.45% of them (n=5) were boys and 63.64% of the children (n=7) in the control group were girls while 36.36% of them (n=4) were boys. They were aged between 24 months old and 36 months old. Demographic information of the children and their mothers included in the study is shown in Table 1.

Table 1. Demographic Characteristics of the Participants

Demographic Characteristics	Subgroup	Experimental group (n=11)		Control group (n=11)	
		n	%	n	%
Child's gender	girl	6	54.55	7	63.64
	boy	5	45.45	4	36.36
Child's age	24 months	1	9.09	7	63.64
	25 months	2	18.18	4	36.36
	26 months	3	27.27	2	18.18
	27 months	4	36.36	4	36.36
	28 months	1	9.09	1	9.09
Mother's age	25 age and under	1	9.09	2	18.18
	26-30 age	2	18.18	6	54.55
	31-35 age	5	45.45	1	9.09
	36-40 age	1	9.09	2	18.18
	41 age and above	2	18.18	-	-
Mother's education status	primary school graduate	1	9.09	2	18.18
	secondary school graduate	8	72.73	6	54.55
	high school graduate	2	18.18	3	27.27
Mother's pregnancy age	25 age and under	5	45.45	7	63.64
	26-30 age	5	45.45	4	36.36
	31-35 age	1	9.09	-	-
Mother's number of children	1	5	45.45	6	54.55
	2	6	54.55	3	27.27
	3	-	-	2	18.18

Instruments

The Knowledge of Effective Parenting Scale (KEPS)

The scale was developed by Winter et al. (2012a) and was adapted into Turkish by Özkan Kunduracı (2021). The scale assesses parenting knowledge across four broad areas, promoting development (developing positive relationships, encouraging desirable behavior, and teaching new skills and behaviors), principles of effective parenting (ensuring a safe and engaging environment, creating a positive learning environment, having realistic expectations, and taking care of oneself as a parent), using assertive discipline, and causes of behavior problems. In the scale, 22 situations that mothers encounter or are likely to encounter in their relationship with their children in their daily lives are provided as questions. The scale includes questions such as, "Two children aged two and three scattered all their toys. The toys are all over the place. Which of the following is the most effective approach that their parents should exhibit?", "A two-and-a-half-year-old child comes to his father to show him a horse picture he colored. In this situation, which of the following can the father say to help his child learn new things?". Respondents choose their answer to 22 multiple-choice questions from four possible response options. While the incorrect answers are marked as zero points, the correct are marked as one point each. The KR-20 reliability coefficient calculated as a result of the measurements following the construct validity analyses for the scale was found as 0.61. When the linguistic, theoretical and statistical validity evidence and reliability results obtained from the study conducted for the

adaptation of the scale to Turkish culture are considered together, it is concluded that the final 22-item adapted form of the scale is appropriate for use in the Turkish culture (Özkan Kunduracı, 2021). In this study, the scale was used to measure parenting knowledge of mothers and applied one-to-one and took approximately 12-15 minutes to complete.

Short Form of The Self-Efficacy for Parenting Tasks Index-Toddler Scale (SEPTI-TS)

A short form of the Self-Efficacy for Parenting Tasks scale was re-arranged by van Rijen, Gasanova, Boonstra, and Huijding (2014) to measure the self-efficacy of 0-4-year-old babies' parents and was adapted into Turkish by Özkan Kunduracı and Aksoy (2021a). The scale consists of 4 factors labeled as nurturance (expressing loving and caring feelings towards the child and responding empathically) (f=7), discipline (setting limits for a child) (f=5), play (getting involved in child's play) (f=6), and routine (establishing structure and routine in a child's daily activities, eating, and sleeping) (f=6) and 24 items. The scale contains items such as "I can notice when my child starts to feel distressed.", "It is quite easy for me to set limits for my child.", "I can always find something to play with my child.", "I could not set a regular bedtime for my child.", and "I could not set a regular bedtime for my child.", which cover the factors of nurturance, discipline, play and routine. Each item is evaluated using a five-point Likert scale that ranges from "strongly agree" to "strongly disagree". The total scores range from 24 to 120, with higher scores indicating stronger self-efficacy. Cronbach's Alpha was found as .90 for the factor of nurturance,.70 for the factor of discipline, .81 for the factor of play, and as .80 for the factor of routine. Thus, the four sub-scales were found to be highly reliable and the Cronbach's Alpha was found as .91 for the overall scale. Özkan Kunduracı and Aksoy (2021a) found as a result of analyses they conducted in their study that the scale is a valid and reliable measurement tool for measuring the self-efficacy of parents of children between the ages of two and four and that it is suitable for use in future studies.

Parenting Tasks Checklist (PTC)

The parenting tasks checklist was developed by Sanders and Wooley (2005) to assess parents' self-efficacy in their parenting tasks and was adapted into Turkish by Özkan Kunduracı and Aksoy (2021b). In the adaptation process, the scale was first translated from the source language to the target language. Then, the Turkish form that secured the linguistic equivalence was finalized before the primary implementation considering the expert opinions and pilot study results. Confirmatory factor analysis was made to determine the scale's construct validity, and the results showed that the Turkish form consisted of two sub-dimensions. In addition to factor load values, the study also used specific fit indices indicating the model-data fit. The scale consists of two subscales that measure parents' confidence in dealing with difficult child behaviors (behavioral self-efficacy) and parents' confidence in dealing with difficult behavior in different settings (setting self-efficacy). The two sub-scales consist of 14 items each. The scale contains items that define how confident parents are in overcoming behaviors such as "waking your child up and getting him/her out of bed, when helping your child take a bath, when going to the doctor, when your child has a tantrum, when your child yells". Each item in the scale is scored from 1 to 5, starting from "I cannot overcome all" to "I can completely overcome". In all subscales, high scores show that parents' self-efficacy beliefs in their tasks are at a high level, while low scores show that parents' self-efficacy beliefs in their tasks are at a low level. Cronbach's Alpha was found as 0.88 for the factor of behavioral self-efficacy and as 0.91 for the factor of setting self-efficacy. The stratified Cronbach's Alpha coefficient for the overall scale was calculated as 0.94. It was concluded as a result of the study that the scale was adapted to the Turkish culture and is a valid and reliable measurement tool to measure the self-efficacy of mothers with 24–48-month-old children (Özkan Kunduracı & Aksoy, 2021b). In this study, the scale was applied to the mothers one-to-one and took about 5-6 minutes.

Denver Developmental Screening Test (DDST)

The test is an instrument of evaluation developed by Frankenburg and Dodds in 1967 so as to evaluate the social-emotional, linguistic and motor development of 0–6-year-old children and to determine children who are at developmental risks. Denver II was adapted into Turkish and was standardized by Yalaz, Anlar, and Bayoğlu (2009). The test contains 116 items in total in the areas of

personal-social, fine motor, language, and gross motor skills. Children and their caregivers are available while administering the test and the test is given face-to-face. Evaluation of the test enables to compare of children's levels of development with their peers' development. The interrater reliability of the test was reported as .90 while the test-retest reliability was found as .86 (Yalaz et al., 2009). The test was applied to the children face-to-face by the researcher and took approximately 15-20 minutes. This scale was preferred in this study as it is a quick and practical tool to evaluate children's development. Considering that the attention span of the 24-month-old children in the study group is limited, the Denver Developmental Screening Test was used in this study because the number of items of the Denver Developmental Test is compatible with children's attention span and the test is a reliable measurement tool to evaluate four different developmental areas of children.

The Interview Form

In this study, a semi-structured interview form was used to evaluate the views of the mothers in the experimental group regarding the contributions of the program. Thus, the semi-structured interview form was developed and the content validity as well as face validity for the form was checked by consulting the opinions of three university lecturers who had relevant expertise and experience (Merriam, 2015). The form was finalized after making corrections based on the suggestions of the experts, such as ensuring that the questions in the form are open-ended and inclusive, and five questions were included in the form. The form included questions about the contributions of the training program and the topics included in the training program, such as "What contributions did the training program make to the mother, child and other members of the family at home? Which of the topic(s) in the training program do you think you benefited the most? Explain why. What are your other opinions and suggestions on the training program, on which topic and how would you like to participate in a training program in the future?". The interviews lasted approximately 15-20 minutes.

The Intervention

The home-based Mother education program was developed in order to develop the mothers' parenting knowledge and self-efficacy in their parenting tasks and to support their children's development. The stages during the preparation of the "Mother education program" are given in Figure 1.

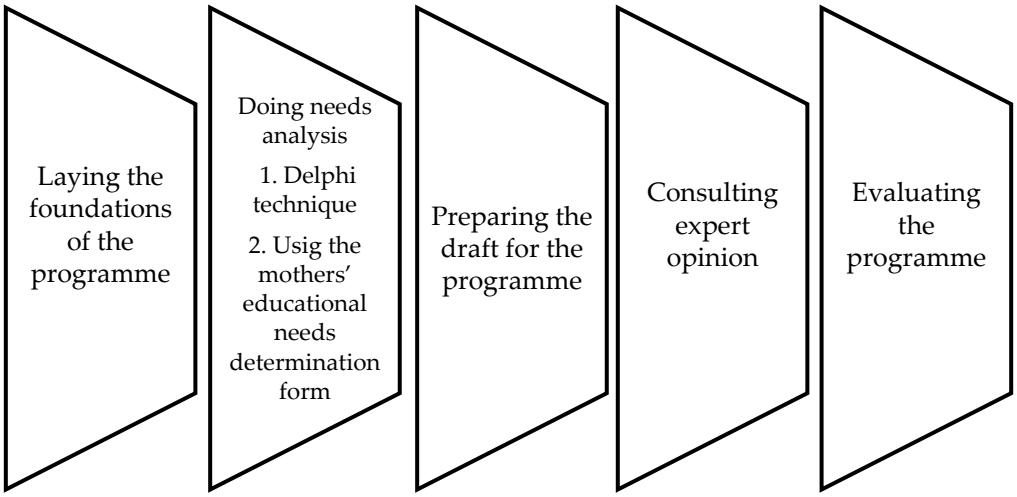

Figure 1. Stages of Developing the Mother Education Program (MEP)

As can be seen in the figure, such stages as laying the foundations of the program, doing needs analysis, preparing the draft for the program, consulting expert opinion and evaluating the program were followed in developing the program. The mother education program was developed on the basis of Bandura's social cognitive learning theory- which emphasised that parent-child interaction was mutual-, on Bronfenbrenner's theory of ecological systems-which emphasised that children were influenced by the interaction with their multi-layer environment and on the model of family system-

which emphasised that the behaviors and interactions of family members had direct effects on each other. According to Bronfenbrenner, the expected interaction with the people with whom the child establishes mutual and continuous bonds in the first years of life will positively affect the child's development (Levenstein & Levenstein, 2008; Tudge et al., 2022). Accordingly, a mother education program was developed for the person with whom the child interacts and the home environment where the child grows up in order to support the development of children at the highest level, to look after the best interests of the child and to contribute to the acquisition of the necessary knowledge, skills and attitudes for parents to raise their children in the best way possible. The session topics of the program prepared in this study included topics related to the healthy interaction of the child with his/her parents and other family members around him/her and the arrangement of the home environment in line with the child's development. In this context, the purpose of this program is to reinforce mothers' parenting knowledge and skills, to increase their self-confidence in their parenting tasks, to help them structure the home environment in a manner to support the child's development, and therefore, to support the holistic development of their children by means of positive parenting practices.

Having laid the theoretical foundations, needs analysis was done and the Delphi technique as well as mothers' needs determining form were used in determining the educational needs of the study group. The common opinions of a group of experts on a subject are obtained by using the Delphi technique with a view to reconcile individuals who look at a problem situation from different perspectives without meeting in person (Demirel, 2012). In the Delphi analysis, eight university lecturers who were experts in family training were sent the Delphi survey one and Delphi survey two so as to obtain expert opinion on the subjects available in the training program. In the first stage, the experts were sent the Delphi survey one to find out the subjects of the sessions in the mother education program and were asked to list and send as many subjects as possible. The results of the Delphi one from the experts were combined and 28 subjects were identified by the experts. The subjects were listed in items and each item was assigned a rating from 1 (strongly disagree) to 7 (strongly agree). The Delphi survey two was sent to the experts again. According to the feedback given by the experts, descriptive statistical results of the subjects included in the Delphi survey two were found. The statistical results were sent to the experts, a consensus was reached, and it was found that it is not needed to repeat the survey. According to the results of the Delphi study, that the experts were found to have a consensus on eight subjects. At the second stage of needs determining, 'mothers' educational needs determination form' was developed to determine the mothers' needs and expectations in relation to the mother education program. Thus, the form included personal information about the mothers and their children, their expectations of the education program and the subjects for the program which were determined through the Delphi technique. The form was administered to 103 mothers with children of 24-36 months old. At the end of the implementation, 81.6% of the mothers stated that they needed training on the development of their children and that they wished to join the 12-week "Mother education program".

The draft for the program was prepared after needs determination, the goals were set and the content was formulated. Bloom's taxonomy was used in classifying the goals hierarchically and thus they were ordered from the easiest to the most difficult, from the simplest to the most complicated. The indicators of the play activities prepared for children at the end of the sessions were based on the MoNE's education program for 0-36-month-old children (Ministry of National Education [MoNE], 2013). While defining the development indicators, attention was paid to support the child's social emotional, cognitive, language, gross and fine motor development areas in a balanced way. Play activities that mothers can easily play with their children and diversify the play are included. The subjects were organised in clusters while organising the content for the program sessions, and thus, an approach of modular programming was adopted. Due care was taken to move from concepts to generalisations, from the nearest to the farthest, from the present day to the past, from the concrete to the abstract and from the simplest to the most complicated and to be meaningful for the individuals in the study group in organising the content (Demirel, 2012). Teaching methods such as direct teaching, discussion, case study, show-and-ask-to-do and problem solving were employed in handling the subjects in the sessions. As to the teaching techniques, such techniques as question-and-answer, role

playing, games, dramas, demonstration and story completion were used. Thus, each session contained presentation of a subject in part one and two play activities in which mothers could play with their children in part two.

Seven experts were consulted for their opinions in terms of the goals and gains in the sessions, the methods and techniques employed in the "Mother education program" and in terms of the suitability of the evaluation. Accordingly, an expert opinion form was created to obtain the opinions of seven experts, including six experts who are faculty members in the field of child development and education and one expert who is specialized in curriculum development in education. The form included questions about the compatibility of the goals and gains of the session subjects with the content, the compatibility of the questions asked to the content of the subjects, the integrity of the given cases with the subject, the compatibility of the transitions in the content of the sessions, the integrity of the sessions within themselves, the clarity of the instructions given to the mothers, and the compatibility of the play activities developed for children with the level of development of children. The experts were asked to assess the questions in the form as "appropriate, partially appropriate and not appropriate" and to express their recommendations. In accordance with the expert opinion, recommendations for covering the subject of '24-36-month-old children's developmental properties' in three sessions, allocating more space to methods and techniques which made mothers more active and using greater number of materials directed to using such elements as videos, visuals and stories were taken into consideration, the required regulations were made and the program was made ready for implementation. The topics for the 12 sessions of the "Mother education program" which were formed following the stages of program development are shown below in Table 2.

Table 2. Information on the Sessions in the Mother Education Program

Sessions	Topics	Play activities available at the end of the sessions	Areas of development supported by play activities *
Session 1	Acquaintance and introducing the program	• Is it fruit or vegetable? • 1,2,3 touch your feet	Cognitive, linguistic, social-emotional development
Session 2	Being a father and mother	• Show performance • It sinks or it floats	Gross motor, cognitive, linguistic development
Session 3	24-36 month-old children's developmental properties "physical and motor development"	• Let's make a ball with socks • Let's batter	Social-emotional, gross motor, fine motor development
Session 4	24-36 month-old children's developmental properties "cognitive and linguistic development"	• Colour boxes • Rowing	Cognitive, fine motor, social-emotional development
Session 5	24-36 month-old children's developmental properties "Social/emotional development"	• I am as free as the wind • Where is my toy?	Social-emotional, gross motor, linguistic development
Session 6	Children's basic needs and meeting them	• Club sandwich • Let's string beads	Social-emotional, cognitive, fine motor development
Session 7	Children, health and security	• Teddy bear's sports day • Let's do a jigsaw puzzle	Gross motor, fine motor, cognitive development
Session 8	Communicating with children	• I am imitating animals • Footprints	Linguistic, cognitive, gross motor development
Session 9	Children and behavioural management	• Target ball • I am reading a book	Cognitive, gross motor, linguistic development
Session 10	Children and play	• Steped stones • Horses are in the forest	Social-emotional, gross motor, fine motor development
Session 11	Preparing toys and materials for playing	• On/under • Guess what	Cognitive, gross motor, linguistic development
Session 12	Evaluation	• Keys • I am drawing a picture	Cognitive, gross motor, fine motor

* Areas heavily supported in play activities are shown

As apparent from the Table, the program was divided into 12 sessions labelled as acquaintance and introducing the program; being a father and a mother; 24-36-month-old children's developmental properties (physical and motor development, cognitive and linguistic development, social/emotional development); children's basic needs and meeting the needs; children, health and security; communicating with children; children and play; preparing toys and materials for playing and evaluation. In addition to that, two plays that mothers could play with their children were also included at the end of each session, and care was taken with the equal distribution of areas of development supported by the play activities. Information on the content of the sessions of the program is given below in Figure 2.

Figure 2. The Program Sessions

Procedures

The stages described below were followed in performing the research. First, appointments were made with the mothers in the study group, and they were visited in their home. They were asked to complete the informed consent form by making them informed of the research in detail. The mothers and their children were given the research pre-test after their permission was obtained. The Denver developmental screening test was conducted by sitting opposite to the child on a table or coffee table suitable for the child's height and each application took 15-20 minutes. After the test was applied to the children, the mothers were given and asked to fill in the Knowledge of Effective Parenting Scale, the Short Form of the Self-Efficacy in Parenting Tasks Scale and the Parenting Tasks Checklist, which were used in the study. The researcher played games with the child so that the mother can fill in the scales comfortably. The mothers were informed that home visits will be made again, and the study will continue, and the visits were ended by thanking them. Each home visit took about one hour. After the pre-tests applied to children and mothers were completed, the forms were assigned a record number and filed together.

The education program was applied to the participants by the researcher for 12 weeks after collecting the pre-test. The mothers told when they were available for the program and thus, weekly program for them was formed. They were visited in their home according to the schedule and the implementations were made thus. Each session lasted approximately an hour. The subjects of each session was presented to the mothers in the first 30 minutes through question and answer, role playing,

presentation, play, drama, cases study and demonstration. Following the presentation of the subject, mothers were shown two play activities in which they could play with their children. First the researcher played with the children and then the mothers were asked to play with their children. The materials used in the program were provided by department of scientific research and were given to the mothers in the study group and to their children.

The mothers and their children's in the experimental group and in the control group were given the post-test after implementing the MEP. The mothers were also given the semi-structured interviews. The post-tests were also made one-to-one at the mothers' homes. In the post-tests, the children in the control group were gifted a toy set used in the study and an activity booklet for two-three-year-old children. After the post-tests applied to children and mothers were completed, the forms were assigned a record number and filed together. The tests were given again to the mothers and their toddlers' in the experimental group five weeks after administering the post-test for retention. The participating mothers and their children were thanked, and the study was finished.

Data Analysis

In this study, it was decided to use nonparametric statistical techniques considering the number of individuals in the experimental and control groups. Because it is more appropriate to use nonparametric statistics when the number of individuals in the sample is small or when the assumptions required for the execution of parametric tests are not provided (Pallant, 2007). This study includes the pre-test and post-test scores obtained from the experimental and control groups and the score obtained from the retention test given to the experimental group. Before making the statistical significance tests to find out the effect of the experiment, the experimental and control groups should be equivalent in terms of the variables to be studied in the research (Campbell, Stanley, & Gage, 1963). In the first stage of data analysis, descriptive statistics were determined for the pre-test scores obtained from the experimental and control groups, and the statistical significance of the difference between the pre-test scores was examined using the Mann-Whitney U tests (Field, 2005). It was found following the analysis that there were no significant differences between the experimental group and the control group pre-test scores and that the groups were equivalent in the variable.

Second, the statistical significance of the differences between the experimental group and the control group pre-test and post-test scores was analyzed through Wilcoxon signed rank test. The Wilcoxon Signed-Rank Test is used to test the significance of the difference between two sets of related measurements and is the nonparametric equivalent of the dependent samples t-test (Field, 2005). Then, whether or not the scores obtained from the measurements made for the retention test differed significantly from the post-test scores was analyzed in Wilcoxon signed rank test. The effect size was calculated to the see effects of the statistically significant results in practice. The formula $z\sqrt{N}$ was used in calculating the effect size and thus, 0.1 was interpreted as the small effect size, 0.3 as the medium effect size and 0.5 as the large effect size (Pallant, 2007).

In the study, a semi-structured interview form was used to evaluate the opinions of mothers in the experimental group regarding the contributions of the program. Descriptive analysis, which includes the process, was used to analyze the qualitative data obtained for evaluating the opinions of mothers (Miles & Huberman, 2014). Before the analysis of data, the interview records were transcribed by the researchers and transferred to Microsoft Word and the forms were coded and numbered. When the answers given by the mothers to the interview questions were analyzed, the obtained data were grouped into coding and certain categories were created. According to the obtained codes and categories, the interview data were organized in a certain systematic way. At this stage, it was important to be as descriptive as possible and to present the findings obtained to the reader firsthand (Yıldırım & Şimşek, 2013). In order to ensure systematicity in the analysis process, the data were shown in two separate tables as "mothers' views on the contributions of the program" and "mothers' views on the subjects of the program". Analyses of interrelated questions were shown in the same table to provide the integrity. Samples of the participants' views were quoted below so as to provide evidence for the validity of the data. Inter-rater reliability was used to ensure the reliability of the analysis of the data obtained. Five interview texts randomly selected from the interview texts were examined separately by two independent raters and re-analyzed according to the categories defined. The level of reliability

between the researchers was calculated as 94% by finding out the frequencies of disagreement and agreement in the five interview texts. If the result calculated with the reliability formula is above 70%, then this means that reliability between the raters is ensured (Miles & Huberman, 2014).

Ethical Consideration

Primarily, the researchers applied to University Ethics Committee to get permission for the research. Having obtained the necessary permission, family health centers were visited and the study group was formed through the records in the centre. The mothers who wished to take part in the study were visited at home, they were informed of the study, they were given the approval form and their written consent was taken. It was explained to them that the data obtained during the application would not be used for other purposes and nowhere else and that the process would continue on the basis of volunteering. Code names were used so as to keep the mothers and their children's identities confidential.

Findings

In this part, findings are given by tables and figures.

Quantitative Findings Concerning the Evaluation of The Effectiveness of the Program

Table 3 shows descriptive statistics of pre-test and post-test scores obtained from the experimental and control groups and the score obtained from the retention test given to the experimental group.

Table 3. Descriptive Statistics Related to the Pre-Test, Post-Test and Retention Test Scores of the Scales

		Experimental Group						Control Group			
Scale	**Sub-dimensions**	**Pre-test**		**Post-test**		**Retention test**		**Pre-test**		**Post-test**	
		$\bar{X}$	**ss**	$\bar{X}$	**ss**	$\bar{X}$	**ss**	$\bar{X}$	**ss**	$\bar{X}$	**ss**
SEPTI	Nurturance	31.45	1.69	33.27	1.42	32.91	1.76	30.73	2.10	32.09	1.87
	Discipline	15.27	3.00	18.09	2.70	19	2.19	17.55	3.36	15.55	2.66
	Play	22.91	4.23	26.09	2.59	26.18	3.74	23.91	4.16	23.64	2.69
	Routine	22.00	2.45	23.18	1.33	26.09	2.98	24.36	2.62	22.27	3.50
PTC	Behavioral self-efficacy	55.82	6.15	61.36	4.34	63.27	5.22	59.91	5.84	58.73	6.25
	Setting self-efficacy	52.00	7.77	56.27	6.92	61	5.71	55.09	4.66	53.91	5.20
KEPS		13.55	2.30	16.27	1.90	16.18	1.99	13.82	2.75	14.45	3.11
DDST	Personal-social	13.91	0.83	16.27	0.65	16.36	0.67	14.55	0.82	16.27	0.47
	Fine motor	10.82	1.17	12.91	0.83	13.09	0.54	10.91	0.70	12.36	0.50
	Language	28.82	1.83	32.82	2.09	33.45	1.81	28.09	2.12	30.82	1.78
	Gross motor	13.73	1.19	16.00	1.10	16.09	1.04	13.55	1.04	15.18	0.98

It is apparent from Table 3 that there are differences between the experimental group and the control group mothers' pre-test and post-test scores. Accordingly, it was determined that the post-test scores obtained from the experimental group were higher than the pre-test scores.

Table 4 shows the results of Wilcoxon signed rank test which was done to find whether or not the pre-test and post-test score differences in the experimental and the control groups in the knowledge effective parenting scale were statistically significant.

Table 4. The Wilcoxon Signed Rank Test Results for the Mothers' Pre-Test and Post-Test Scores from the Knowledge of Effective Parenting Scale

	Groups	Post-test-pre-test	n	Rank averages	Rank total	z	p	Effect size
KEPS	Experimental	Negative rank	0	.00	.00			
		Positive rank	10	5.50	55.00	-2.820*	.005	.60
		Equal	1					
	Control	Negative rank	1	9.00	9.00			
		Positive rank	8	4.50	36.00	-1.652*	.098	-
		Equal	2					

*based on negative ranks

According to the Table 4, there are significant differences between the pre-test and post-test score averages obtained from the Knowledge of Effective Parenting scale given to the mothers in the experimental group ($z=-2.820$, $p<.05$, $r=0.60$). An examination of the effect size for the differences found in the experimental group showed that the effects of difference were great in practice. No differences were found between the pre-test and post-test score averages in the knowledge effective parenting scale which was given to the mothers in the control group ($z=-1.652$, $p>.05$).

Table 5 shows the results of the Wilcoxon signed rank test which was done to find whether or not there were any statistically significant differences between the experimental group and the control group mothers' pre-test and post-test scores in the nurturance, discipline, play and routine sub-scales of the Self-Efficacy for Parenting Tasks Index-Toddler scale.

Table 5. The Wilcoxon Signed Rank Test Results for the Mothers' Pre-Test and Post-Test Scores from the Sub-Scales of the Self-Efficacy for Parenting Tasks Scale

	Groups	Post-test-pre-test	n	Rank averages	Rank total	z	p	Effect size
Nurturance	Experimental	Negative ranks	0	.00	.00			
		Positive ranks	9	5.00	45.00	-2.694*	.007	.57
		Equal	2					
	Control	Negative ranks	1	3.00	3.00			
		Positive ranks	7	4.71	33.00	-2.154*	.031	.46
		Equal	3					
Discipline	Experimental	Negative ranks	3	2.67	8.00			
		Positive ranks	8	7.25	58.00	-2.227	.026	.48
		Equal	0					
	Control	Negative ranks	6	5.17	31.00			
		Positive ranks	2	2.50	5.00	-1.827	.068	-
		Equal	3					
Play	Experimental	Negative ranks	2	1.50	3.00			
		Positive ranks	9	7.00	63.00	-2.679	.007	.57
		Equal	0					
	Control	Negative ranks	6	4.92	29.50			
		Positive ranks	4	6.38	25.50	-.206	.837	-
		Equal	1					
Routine	Experimental	Negative ranks	3	3.67	11.00			
		Positive ranks	6	5.67	34.00	-1.379	.168	-
		Equal	2					
	Control	Negative ranks	6	5.33	32.00			
		Positive ranks	2	2.00	4.00	-1.970	.049	.42
		Equal	3					

*based on negative ranks

It is apparent from Table 5 that there are significant differences between the experimental group (z=-2.694, p<.05; r=0.57) and the control group (z=-2.154; p<.05; r=0.46) mothers' pre-test and post-test score averages for the nurturance subscale of index and that the differences were in favor of the experimental group mothers. Significant differences were also found between the mothers' pre-test and post-test score averages in the subscales of discipline (z=-2.227, p<.05; r=0.48) and play (z=-2.679, p<.05; re=0.57). On the other hand, no significant differences were found between their score averages in the subscales of routine (z=-1.379, p>.05).

The table 6 shows the results of the Wilcoxon signed rank test which was done to find whether or not the differences between the experimental group and the control group mothers' pre-test and post-test scores obtained in the behavioural efficacy and setting self-efficacy sub-scales of the parenting tasks checklist were statistically significant.

Table 6. The Wilcoxon Signed Rank Test Results for the Mothers' Pre-Test and Post-Test Scores from the Parenting Tasks Checklist

	Groups	Post-test-pre-test	n	Rank averages	Rank total	z	p	Effect size
Behavioural self-efficacy	Experimental	Negative rank	1	2.50	2.50			
		Positive rank	10	6.35	63.50	-2.717*	0.007	.58
		Equal	0					
	Control	Negative rank	5	5.10	25.50			
		Positive rank	3	3.50	10.50	-1.054	0.292	-
		Equal	3					
Setting self-efficacy	Experimental	Negative rank	3	3.17	9.50			
		Positive rank	7	6.50	45.50	-1.841	.066	-
		Equal	1					
	Control	Negative rank	6	6.67	40.00			
		Positive rank	5	5.20	26.00	-.624	.533	-
		Equal	0					

*based on negative ranks

According to Table 6, there are significant differences between experimental group (z=-2.717, p<.05; r=0.58) mothers' pre-test and post-test score averages in the behavioral self-efficacy subscale of the parenting tasks checklist, and the differences are in favor of the post-test scores. However, no significant differences were found between the mothers' pre-test and post-test score averages in the subscale of setting self-efficacy.

Table 7 shows the results of the Wilcoxon signed rank test which was done to find whether or not the differences between pre-test and post-test scores received from the personal-social, fine motor, language, and gross motor development factors of the Denver developmental screening test given to the children in the experimental group and in the control, group are statistically significant.

Table 7. The Wilcoxon Signed Rank Test Results for Childrens' Pre-Test and Post-Test Scores from the Sub-Factors of the Denver Developmental Screening Test

	Groups	Post-test-pre-test	n	Rank averages	Rank total	z	p	Effect size
Personal-social development	Experimental	Negative rank	0	.00	.00			
		Positive rank	11	6.00	66.00	-3.035*	.002	.65
		Equal	0					
	Control	Negative rank	0	.00	.00			
		Positive rank	11	6.00	66.00	-3.002*	.003	.64
		Equal	0					
Fine motor development	Experimental	Negative rank	0	.00	.00			
		Positive rank	11	6.00	66.00	-2.971	.003	.63
		Equal	0					
	Control	Negative rank	0	.00	.00			
		Positive rank	11	6.00	66.00	-3.017	.003	.64
		Equal	0					
Language development	Experimental	Negative rank	0	.00	.00			
		Positive rank	11	6.00	66.00	-2.992	.003	.64
		Equal	0					
	Control	Negative rank	0	.00	.00			
		Positive rank	11	6.00	66.00	-3.020	.003	.64
		Equal	0					
Gross motor development	Experimental	Negative rank	0	.00	.00			
		Positive rank	11	6.00	66.00	-3.002	.003	.64
		Equal	0					
	Control	Negative rank	0	.00	.00			
		Positive rank	11	6.00	66.00	-2.994	.003	.64
		Equal	0					

*based on negative ranks

Accordingly, it was found that there were significant differences between the experimental group and the control group children's pre-test and post-test score averages for the personal-social, fine motor, linguistic and gross motor development factors of the Denver developmental screening test ($p<.05$). An examination of the two groups' rank average and rank total showed that the differences were in favour of the post-test in both groups. As to the effect size, it was found that the effects of the differences in practice were large in the control group as well as in the experimental group.

Findings for the Retention of the Program

The tests were given to the mothers in the experimental group and their children five weeks after the post-test and thus retention measurement was made. Table 8, 9, 10 and 11 show the findings for the retention of the program which was applied to the experimental group.

Table 8. The Wilcoxon Signed Rank Test Results for the Mothers' Post-Test and Retention Test Scores from the Knowledge of Effective Parenting Scale

	Retention- post-test	n	Rank averages	Rank total	z	p
KEPS	Negative rank	5	5.00	25.00		
	Positive rank	4	5.00	20.00	-.333**	.739
	Equal	2				

**based on positive ranks

An examination of the Table 8 makes it clear that there are no significant differences between the mothers' post-test and retention test score averages and that the experimental procedure is retained in parenting knowledge.

Table 9. The Wilcoxon Signed Rank Test Results for the Mothers' Post-Test and Retention Test Scores from the Sub-Factors of Self-Efficacy for Parenting Tasks Scale

	Retention-post-test	n	Rank averages	Rank total	z	p
Nurturance	Negative ranks	4	2.75	11.00		
	Positive ranks	1	4.00	4.00	-.966**	.334
	Equal	6				
Discipline	Negative ranks	3	3.67	11.00		
	Positive ranks	5	5.00	25.00	-.986*	.324
	Equal	3				
Play	Negative ranks	3	4.50	13.50		
	Positive ranks	4	3.63	14.50	-.085*	.932
	Equal	4				
Routine	Negative ranks	1	6.00	6.00		
	Positive ranks	9	5.44	49.00	-2.200*	.028
	Equal	1				

**based on positive ranks. *based on negative ranks.

As clear from the Table 9, there are no significant differences between the participants' post-test score averages in the nurturance, discipline and play subscales of Self-Efficacy for Parenting Tasks scale. and in the score averages in retention tests; and therefore, the experimental procedure can be said to have retention. It was also found through the Self-Efficacy for Parenting Tasks scale administered to the mothers that the post-test score averages for the sub-factor of routine ($z=-2.200$; $p<0.05$) and the score averages for the retention tests differed significantly and thus, it was concluded that the difference was in favour of the retention scores.

Table 10. The Wilcoxon Signed Rank Test Results for the Mothers' Post-Test and Retention Test Scores from the Sub-Factors of Parenting Tasks Checklist

	Retention-post-test	n	Rank averages	Rank total	z	p
Behavioural self-efficacy	Negative rank	2	3.75	7.50		
	Positive rank	7	5.36	37.50	-1.785*	.074
	Equal	2				
Setting self-efficacy	Negative rank	1	2.00	2.00		
	Positive rank	10	6.40	64.00	-2.764*	.006
	Equal	0				

*based on negative ranks

According to the Table 10, while there are no significant differences between the score averages in the behavioural self-efficacy subscale of the parenting tasks checklist, there are significant differences between score averages in the subscale of setting self-efficacy. Thus, it may be said that the experimental procedure is retained in the behavioural self-efficacy.

Table 11. The Wilcoxon Signed Rank Test Results for the Childrens' Post-Test and Retention Test Scores from the Sub-Factors of the Denver Developmental Screening Test

	Retention-post-test	n	Rank averages	Rank total	z	p
Personal/ social	Negative rank	0	.00	.00		
	Positive rank	1	1.00	1.00	-1.000*	.317
	Equal	10				
Fine motor	Negative rank	0	.00	.00		
	Positive rank	2	1.50	3.00	-1.414*	.157
	Equal	9				
Language	Negative rank	0	.00	.00		
	Positive rank	7	4.00	28.00	-2.646*	.008
	Equal	4				
Gross motor	Negative rank	0	.00	.00		
	Positive rank	1	1.00	1.00	-1.000*	.317
	Equal	10				

*based on negative ranks

An examination of the results shown in the Table 11 makes it evident that there are no significant differences between the post-test score averages for the personal-social, fine motor and gross motor development factors of the Denver developmental screening test and the score averages for the retention test. Thus, it may be said that the effectiveness of the experimental procedure had retention in the personal-social development factor of the test. It was also found that the children's post-test scores for the linguistic development ($z=-2,646$; $p<0.05$) sub-factor of Denver developmental screening test and their score averages for retention test differed significantly and that the difference was in favour of retention scores.

Qualitative Findings on the Evaluation of the Program

The findings obtained from the interviews on the evaluation of the program with the participants are considered here within the framework of the contributions made by the program and the subjects available in the program. The results obtained from the mothers' responses to the question "what contributions do you think the education program has made?" are shown in Figure 3. The results were divided into three categories as contributions to mothers, contributions to children and contributions to family members.

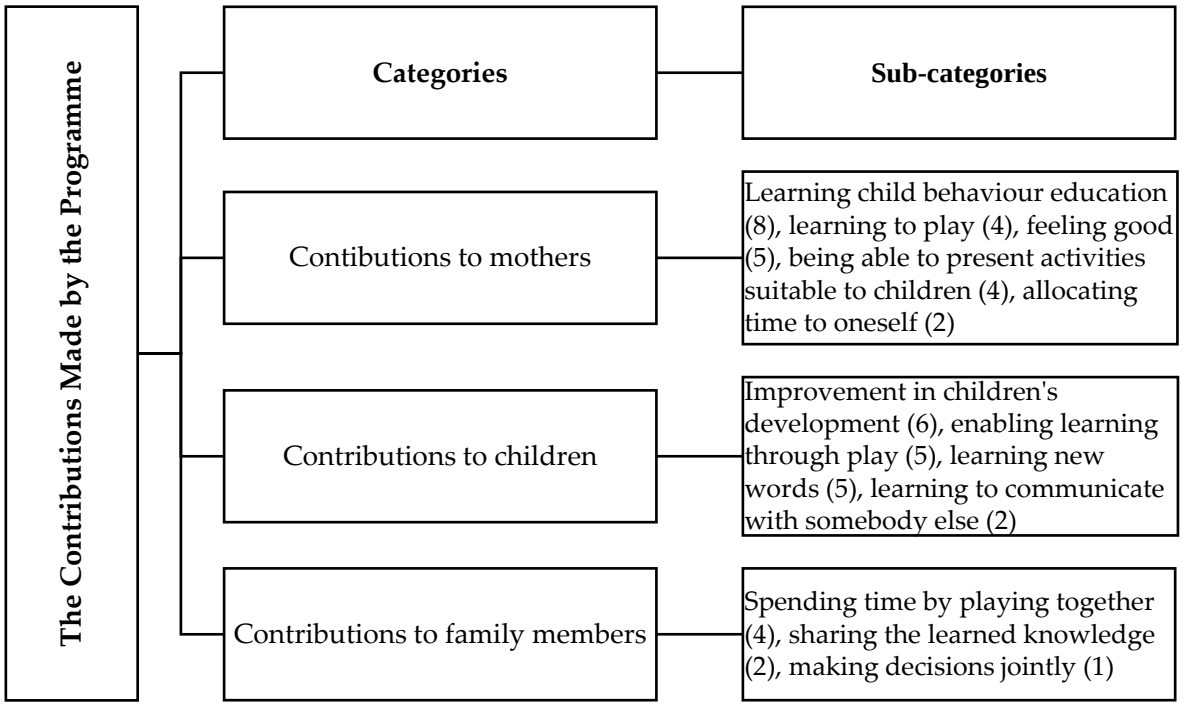

Figure 3. The Mothers' Views on the Contributions Made by the Program

The mothers' views on were divided into three categories labelled as "contributions to mothers" (f=23), "contributions to children" (f=18) and "contributions to family members" (f=7). The mothers' views mostly clustered in the category of "contributions to mothers" and were divided into 5 sub-categories. They were labelled as "learning child behaviour education" (f=8), learning to play (f=4), feeling good (f=4), being able to present activities suitable to children (f=4) and allocating time to oneself (f=2). The views in the category of contributions to mothers were as in the following: Ozge, one of the mothers, described the contributions of the program lo learning how to treat children as "P*rimarily, we began to do activities and display behaviors suitable to my child's age. Beside raising our consciousness, it also amused us very much."*

The views in the category of contributions to children were divided into four sub-categories as "improvement in children's development" (f=6), "enabling learning through play" (f=5), "learning new words" (f=5) and "learning to communicate with somebody else" (f=2). One of the mothers, Dilek, described the contributions made by the program to children's development as *"my child has learnt a lot of new play, he has learnt new words through finger play. It contributed to his language development in this way."*

The participants' views on "contributions to family members" were divided into three sub-categories. They were labelled as "spending time by playing together" (f=4), "sharing the learnt knowledge" (f=2) and "making the decisions jointly" (f=1). A mother, Filiz, described the contributions of the program to other family members as "*I have shared what is learnt in the program with the other family members; it was also instructive to them."* It may be said on evaluating the findings that the contributions to mothers were prioritised the most and that the situation also made contributions to children and to the other members in the family.

The results obtained from the mothers' answers to the question "what subjects and activities available in the program do you think were the most beneficial to you?" are shown in Figure 4.

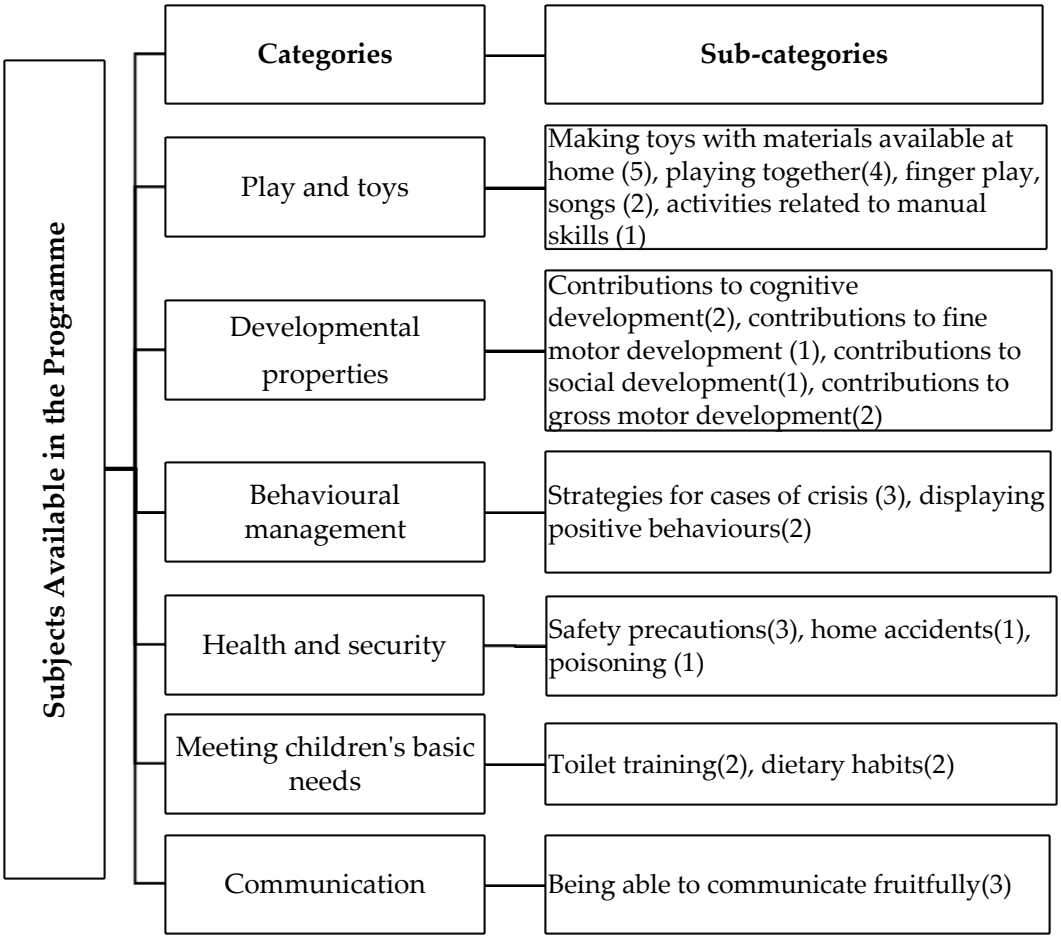

Figure 4. The Mothers' Views on the Subjects Available in the Program

As apparent from Figure 4, the subjects that mothers thought offered the most benefits clustered in six categories that were labelled as "play and toys" (f=12), "developmental properties" (f=6), "behavioural management" (f=5), "health and security" (f=5), "meeting children's basic needs" (f=4) and communication (f=3). Even though the mothers' views on the subject in which the program was beneficial were diverse, most of them stated views on the subject of "play and toys". Accordingly, it may be said that showing mothers examples for play in which they can join with their children at the end of each session was influential.

Some of the examples for the mothers' views on the category of "play and toys" are as in the following: One of the mothers, Filiz stated her view *as "I learnt to make toys for my child by using my imagination and the materials available at home instead of buying expensive toys and I also learnt how enjoyable it was to play together."*

Mother who was given the code name Ozge stated her views on the category of "developmental properties" as *"for instance, we noticed the physical movements suitable to my son's age while talking about the subject of physical development. We highlighted activities such as cycling and jumping; and they were useful to him."*

The mother with the code name Çigdem stated her view in the category of "behavioural management" as "*even though my daughter cries, I got rid of my past habits. I can now leave her on her own. I didn't use to do it in the past."*

Another mother coded as Büşra stated her thoughts in the category of "health and security" as *"The subject of poisoning was very useful. We experienced an incidence of poisoning. Then, I remembered what we had talked about."*

Çiğdem said, in the category of *"meeting children's basic needs, "the subject of moving on the toilet training was influential. Now I take her to the toilet and leave her free there with no diapers. She began to show indications of getting bored by diapers."*

In the category of "communication", Didem, another mother stated her views as *"I think it is communication. All mothers have the question of what I should say in such a case in their mind. They think about such questions as how can I solve it better? How can I do it without hurting my child's feelings?"*

Discussion

It was found at the end of the study that home-based mother education program had positive effects on the mothers' knowledge of effective parenting. This knowledge encompasses various aspects, including child development, health, safety, and parenting strategies, all of which are closely linked to positive developmental outcomes for children. Effective parenting knowledge allows parents to identify developmental issues in their children earlier and more accurately, underscoring the importance of early intervention to prevent long-term adverse outcomes (Bornstein et al., 2022). The literature supports the notion that the accuracy of a mother's knowledge about parenting and child development is crucial for effective parenting. Accurate knowledge helps in recognizing appropriate developmental milestones and facilitates the implementation of effective parenting behaviors (Benasich & Brooks-Gunn, 1996; Bornstein et al., 2020; Huang et al., 2005; Karuppannan, Ramamoorthy, Rammamoorthi, & Ravichandran, 2020; Kirkman et al., 2018; Reich, 2005; Veddovi, Gibson, Kenny, Bowen, & Starte, 2004). Conversely, parents with limited knowledge may struggle to understand their children's development accurately, potentially leading to frustration and neglectful behavior when their children do not meet expected developmental standards (Karuppannan et al., 2020; Vally & El Hichami, 2020). Parental knowledge is also important in pediatric practice, as informed parents play a key role in identifying developmental delays. During child health visits, healthcare professionals assess parents'—especially mothers'—observations, expectations, concerns, and opinions regarding their children's health and development. Therefore, accurate developmental assessment and monitoring largely depend on parents' correct information and observations (Alhwoaimel et al., 2023; Bornstein et al., 2022). Winter et al. (2012a) found that families' knowledge of effective parenting had changed in positive ways at the end of family training. Significant increase is expected in parents' sensitivity and positive behaviors when family training is offered to support the development of their parenting knowledge (Kılınç & Aral, 2015; Leerkes & Crockenberg, 2002). Kirkman et al. (2018) found in their study that the behavioral parent training program applied to parents with children between the ages of three and twelve had a positive contribution to the knowledge scores of parenting strategies. Additionally, research by Pala et al. (2023) found that the effective parenting program for parents of children aged two to six positively influenced parents' attitudes and behaviors, as well as their ability to manage their children's negative emotions. Other studies (Culp, Culp, Blankemeyer, & Passmark, 1998; Donnalley, 2013; Landy & Menna, 2006) have also found that child development and behavior programs implemented for families lead to an increase in effective parenting knowledge. The increase in mothers' knowledge of parenting in this current study may be attributed to the fact that the education program included such fundamental subject as children's developmental properties, children's basic needs and behavioural management. Thus, the mothers included in the study group might have displayed effective parenting behaviors suitable to their children more consciously at the end of the training.

Another finding significant in this study was that the program had contributed to the mothers in the nurturance, discipline and play subscales of Self-Efficacy for Parenting Tasks scale. Another finding significant in this study was that the program had contributed to the mothers in the nurturance, discipline and play subscales of Self-Efficacy for Parenting Tasks scale. The literature indicates that knowledge and processes related to child-rearing and development are instrumental in shaping parenting practices. The relationship between parenting self-efficacy and self-efficacy in specific parenting tasks is influenced by parenting knowledge. High levels of parenting knowledge are associated with a positive relationship between self-efficacy and parenting competence, whereas this relationship can be reversed when knowledge is lacking (Bornstein et al., 2022). Hess et al. (2004) found

that parents with extensive knowledge about typical infant development exhibited high self-efficacy and parenting competence. Other studies have also shown that educational programs for families enhance their knowledge of child development and care, thereby improving their self-efficacy (de Graaf, Speetjens, Smit, De Wolff, & Tavecchio, 2008; Nowak & Heinrichs, 2008; Sanders, 2008). According to Coleman and Karraker (1997), mothers' adequate knowledge of child development is an important factor that helps them to have high self-efficacy. According to Bandura's self-efficacy theory, learning effective strategies to manage a problem increases the individual's perception of self-efficacy and influences his/her behavior. This view is often used in the basis of family education programs. For this reason, teaching behavior management strategies is of great importance in order for parents to increase their self-efficacy and change their parenting behavior (Kirk, 2016). This finding obtained in this study about mothers' self-efficacy in parenting tasks is in parallel with Bandura's theory. It can be suggested that the inclusion of subjects related to communication with children and behavior management in the training program was effective in obtaining this finding. Therefore, self-efficacy of the mothers improved as they learned effective behavior strategies. Other studies also concluded that raising parents' knowledge of child development and care up to adequate levels through training programs would increase their self-efficacy (de Graaf et al., 2008; Nowak & Heinrichs, 2008; Sanders, 2008). It may be stated that the mothers' self-efficacy was influenced in positive ways by the increase in their knowledge of effective parenting in this study. Another factor which contributed to the increase in the mothers' scores in the subscales of nurturance, play and discipline was that the education program had play in its content, that it included examples for play activities, that it included such principles as precision, determination, continuity and rewarding in relation to discipline and that they were all associated with daily life. Studies in the literature also concluded that parents with knowledge of child development and with self-confidence in this respect tended to employ verbal and physical encouragement more and punishment strategies less with their children and to be more sensitive in interaction with their children (Huang et al., 2005; Morawska et al., 2009; Winter et al., 2012b). That the mother education program implemented in this study led to increase in scores received from the routine subscale of Self-Efficacy for Parenting Tasks but that it did not cause any significant differences were among the results obtained in this study. The interpretation for these results might be that regulating daily routines is a skill which requires more scope and more time. It is because toddlers do not want too many alternatives in their environment, but they want most actions to occur in the same way and consistently (Swim & Watson, 2011). They can resist to newly formed routines and therefore regulating the routines may need time. Thus, it may be said that mother need more time to regulate the routines for their children and for increase in their self-efficacy in this respect.

Another finding obtained in this study was that the mother education program had contributed to the increase in mothers' skills of setting self-efficacy. It was a finding similar to the ones obtained in relation to the one obtained in the nurturance and play subscales of the Self-Efficacy for Parenting Tasks scale and was supportive of the evidence for the effectiveness of the program. In order for parents to fulfill their duties towards their children, they must ensure that their children's needs are met in a timely manner, show interest in their children, provide a safe separation and individualization, and teach them the skills of independent movement and effective communication. When parents respond appropriately and in a timely manner to their children's needs, their parental self-efficacy develops and continues to grow in a positive relationship (Edwards & Liu, 2002; Heinicke, 2002). According to Coleman and Karraker (1997), mothers' sufficient level of knowledge about childcare is an important factor that contributes to high maternal self-efficacy. In a study by Hallam (2000), it was found that mothers of 12-36 month-old children who participated in the Head Start family education program, and gained knowledge about their children's development and parenting, experienced a positive effect on their parental self-efficacy. Bloomfield and Kendall (2010) also found in a similar vein that the parents who had joined the training program which involved preventing undesired child behaviors, encouraging the positive behaviors and strengthening parent-child interactions increased their self-efficacy and that they managed their children's behaviors more effectively. These findings support the idea that parenting education programs play a significant role in enhancing mothers' self-efficacy and helping

them perform their parenting tasks more effectively. On the other hand, no significant differences were found in the mothers' behavioural self-efficacy skills. Thus, the program may be said to contribute positively to mothers in coping with their children's difficult behaviors; yet they need more time in coping with such behaviors in differing situations. This finding is supportive of Belsky's (1984) view that social context had significant effects on parenting. Such a variable can be considered in studies conducted with larger samples by using complicated modelling techniques.

It was concluded that the education program had contributed to children's personal-social, language, and gross motor development. It was a finding in parallel the ones obtained in relevant literature (Bornstein et al., 2020; de Graaf et al., 2008; Hallam, 2000; Kim & Mahoney, 2004; Nowak & Heinrichs, 2008; Vale-Dias & Nobre-Lima, 2018). Research has concluded that parenting programs are influential in reducing children's behavioural problems, in increasing their social adaptation and in developing parents' children raising skills (de Graaf et al., 2008; Morawska et al., 2009; Nowak & Heinrichs, 2008; Pala et al., 2023). The relevant literature emphasizes that the support, encouragement, and appropriate environment provided by parents have a positively impact on children's development (Swim & Watson, 2011). Effective parenting, characterized by an understanding of child development, significantly influences children's interactions and development, correlating strongly with positive parenting practices (Alhwoaimel et al., 2023; Hess et al., 2004; Reich, 2005).In this context, it is essential for parents to closely observe their children's language, cognitive, motor, social and emotional behaviors, maintain adequate developmental knowledge, identify developmental delays, and offer suitable stimulation and support during early childhood (Bornstein et al., 2020; Güven Baysal et al., 2023). This approach ensures that children receive the necessary support to achieve their developmental milestones and thrive in their early years. Kim and Mahoney (2004) found that the interaction-oriented early education program offered to mothers contributed to children's development. Support that children receive from their parents, encouragement and the environment created for them affect their development in positive ways (Swim & Watson, 2011). Mahoney, Boyce, Fewell, Spiker, and Wheeden (1998) emphasise that family training programs do not have clear effects child development unless mothers change their way of interaction with their children and unless they believe in their self-confidence in this respect. It is also pointed out in relevant literature that self-efficacy in parenting and knowledge of effective parenting are closely associated with knowledge about child development and about childcare services, having the ability to apply the knowledge and having belief that can influence children's development in positive ways (Coleman & Karraker, 1997, 2003). It was also found in this study that the mother education program offered to mothers contributed to mothers' knowledge of effective parenting and to their self-efficacy in parenting in addition to contributing to their children's development. It may be said that focusing on parents' interaction with their children and on their children's developmental properties in the mother education program implemented in this study and showing mothers play activities that supported their children's development at the end of each session were all influential in the result that was obtained.

Another result of the study revealed that mothers' views on the contributions provided by the program were mostly categorized under 'contributions to mothers', followed by 'contributions to children' and 'contributions to family members'. When evaluated, it was observed that the educational program not only provided the most benefit to the mother but also contributed to the child and other family members. According to Bronfenbrenner's theory, the environment in which the child lives and the network of close relationships such as parents, family members, peers and school are important for the child's healthy development. Parents influence the child's development through their direct interactions, and it is necessary that these interactions are consistent over a long period of time. (Bronfenbrenner, 1979, as cited in Lerner, Rothbaum, Boulos, & Castellino, 2002; Tudge et al., 2022). In their study, Umberson and Thomeer (2020) suggested that family structure, family dynamics and the quality of intra-family relationships have significant effects on lifelong health and that family experiences in early childhood are associated with health in later periods of life. In this context, it can be suggested in this study that the contribution of the program to the mother and other family members with whom the child interacts in daily life has a positive effect on the holistic development of the child

in parallel with the Bronfenbrenner's theory. Although mothers' views on the topics that the educational program provided the most benefit varied, it was determined that they mostly expressed their opinions on "play and toys" and "developmental properties". In light of these results, it can be said that the views obtained from the mothers in the study support the quantitative data obtained in this study. In the relevant literature, home-based programs that strengthen parent-child interaction positively affect the development of children by increasing parents' skills. Educational programs positively impact parents' mental and psychological well-being by increasing their self-confidence, reducing symptoms of depression, and enhancing their motivation to engage in reading. Additionally, these programs support parents' active participation in their children's educational processes and contribute to improvements in the home environment (Gilinsky, 1981; Rafoth & Knickelbein, 2005; Richman, 2004, as cited in Levenstein & Levenstein, 2008). The results of studies (Allen et al., 2007; Ginandes & Roth, 1973; Gomby, 2000, as cited in Levenstein & Levenstein, 2008) show that family education programs strengthen parents' communication, improve their parenting skills and self-confidence, encourage them to return to school or work, and thus support the development of their children.

Conclusion

This study has found that the mother education program contributed both to mothers' effective parenting knowledge and to their self-efficacy in parenting tasks. It was another finding obtained here that the program also contributed to children's development. Thus, it may be said that parents' acquisition of accurate knowledge about their children's development affect their parenting self-efficacy and their children's development in positive ways. The finding can be interpreted consistently with Bandura's theory of self-efficacy as that learning effective strategies to manage problems increases individuals' perceptions of self-efficacy and it in turn influences their parenting behaviors.

Besides, parents' knowledge of effective parenting and their self-efficacy in parenting tasks also increase if they are encouraged to teach their children certain behaviors and to investigate, discuss and implement the strategies through which they can manage their children's behaviors. It may be said, therefore, that the situation also affects children's development in positive ways. Thus, effective training programs can be employed in strengthening mothers' knowledge and skills of parenting, in increasing their self-confidence in parenting tasks and in supporting their children's holistic development with positive parenting practice.

Limitations and Future Directions

This study has certain limitations despite theoretical and practical contributions to the literature, which could be considered in future studies. The fact that this study was conducted with only with mothers and children was a limitation. Studies which include fathers in addition to mothers and which consider both mothers' and fathers' knowledge of effective parenting and self-efficacy in parenting can be planned in the future. In addition, the program accessible to greater masses by laying more emphasis on such routine subjects as sleep and nutrition in the mother education program prepared within the scope of this study and by adding activities such as field trips and social activities.

The limitation of this study is that the sample group is small and selected from a region with the same socio-economic and cultural properties through the Family Health Centre. Larger sample groups selected from different regions across Turkey and studies using mixed modelling techniques can be planned. The fact that the training program applied in this study was implemented by the researcher constitutes another limitation of the study. The application of the training program by other researchers and the inclusion of experts such as social workers, nurses, child psychologists in the sessions may ensure that different disciplines work together and contribute to the effectiveness of the program in the future studies.

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