THE INFLUENCE OF POVERTY ON SCHOOL READINESS OF 5-YEAR-OLD CHILDREN: MEDIATING ROLES OF HOME ENVIRONMENT AND PARENTING

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ŞÜKRAN OKUR

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Approval of the Graduate School of Social Sciences

Prof. Dr. Meliha Altunışık Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.

Prof. Dr. Tülin Gençöz Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

Prof. Dr. Sibel Kazak Berument Supervisor

Examining Committee Members

Prof. Dr. Zehra Uçanok	(HU, PSY)	
Prof. Dr. Sibel Kazak Berument	(METU, PSY)	
Assist. Prof. Dr. Başak Şahin-Acar	(METU, PSY)	

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name: Şükran Okur

Signature :

ABSTRACT

THE INFLUENCE OF POVERTY ON SCHOOL READINESS OF 5-YEAR-OLD CHILDREN: MEDIATING ROLES OF HOME ENVIRONMENT AND PARENTING

Okur, Şükran M.S., Department of Psychology Supervisor: Prof. Dr. Sibel Kazak Berument

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The current study investigated the mediating roles of home environment characteristics such as chaos and stimulation, in addition to the mediating roles of maternal factors such as maternal depression and parenting quality in the relationship between poverty variables (income, parental education, material hardships including availability of materials and opportunities and food insecurity) and school readiness outcomes including vocabulary, mathematic skills and phonological awareness. Participants were 5 year-old children and their mothers living in socioeconomically disadvantaged regions of Ankara and Mersin. A path analysis using structural equation modeling (SEM) was performed to test the hypotheses of the study. The results indicated that among the poverty variables, family income level positively but food insecurity of the household negatively predicted children's school readiness outcomes through household chaos, stimulation in the home

environment and maternal hostility. Stimulation in the home environment was positively associated with children's vocabulary and mathematic skills, whereas maternal hostility was negatively associated with vocabulary, mathematic skills and phonological awareness of children. The findings of the study are consistent with the literature, suggesting that the influence of poverty on children's school readiness is mediated by the characteristics of the home environment and parenting quality. The findings of the study were discussed for further research and social policies.

Keywords: Poverty, School Readiness, Home Environment, Parenting, Maternal Depression

ÖZ

YOKSULLUĞUN 5 YAŞ ÇOCUKLARININ OKUL OLGUNLUĞU ÜZERİNE ETKİSİ: EV ORTAMININ VE EBEVEYNLİĞİN ARACI ROLÜ

Okur, Şükran Yüksek Lisans, Psikoloji Bölümü Tez Yöneticisi: Prof. Dr. Sibel Kazak Berument

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Bu çalışma, yoksulluk ve okul olgunluğu arasındaki ilişkide, ev ortamının karmaşıklığı ve uyarıcılığı gibi özellikleri ile anne ile ilgili depresyon ve ebeveynlik kalitesi gibi faktörlerin aracı rolünü incelemiştir. Yoksulluğun tanımlanmasında, ailenin geliri, ebeveynlerin eğitim düzeyi, gıda güvencesizliği gibi materyal sıkıntıları temel alınmıştır. Okul olgunluğu kapsamında ise çocukların alıcı kelime bilgileri, matematik becerileri ve sesbilgisel farkındalıkları değerlendirilmiştir. Çalışmanın katılımcıları, Ankara ve Mersin'in düşük sosyo-ekonomik bölgelerinde yaşayan 5 yaş çocukları ve anneleridir. Çalışmanın hipotezleri Yapısal Eşitlik Modeli kullanılarak "Path" analizi aracılığı ile test edilmiştir. Çalışmanın sonuçlarına göre, yoksulluk değişkenlerinden ailenin gelir düzeyi pozitif, gıda güvencesizliği negatif olarak, ev ortamının karmaşıklığı, uyarıcılığı ve annelerin saldırgan/düşmanca ebeveynliği aracılığı ile

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çocukların okul olgunluğunu yordamıştır. Ev ortamının uyarıcılığı, çocukların kelime bilgileri ve matematik becerileri ile pozitif olarak ilişkili iken, annelerin saldırgan/düşmanca ebeveynliği çocukların kelime bilgileri, matematik becerileri ve sesbilgisel farkındalıkları ile negatif olarak ilişkili olarak bulunmuştur. Çalışmanın bulguları, literatürdeki diğer çalışmalar ile de tutarlıdır. Çalışma sonuçlarına göre, yoksulluk, çocukların okul olgunluğunu ev ortamının özellikleri ve ebeveynlik kalitesi aracılığı ile etkilemektedir. Çalışmanın bulguları, daha sonraki çalışmalara yön verecek ve sosyal politikaların geliştirilmesine ışık tutacak şekilde tartışılmıştır.

Anahtar Kelimeler: Yoksulluk, Okul Olgunluğu, Ev Ortamı, Ebeveynlik, Annenin Depresyonu

To my lovely parents &

all the suffering children

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CHAPTER 1

INTRODUCTION

1.1 General Introduction

Poverty is a part of everyday life and almost every country faces with the poverty problem. According to the Organisation for Economic Co-operation and Development (OECD) statistics for the year 2012, 18 % of the individuals in the United States and 18 % of the individuals in Turkey were reported to be living in poverty conditions (www.oecd.org). Moreover, Turkish Statistical Institute (TUIK) reported that 16% of individuals in Turkey were living in poverty conditions in 2012 and 15% in 2013 (www.tuik.gov.tr).

Every individual, including children is somewhat affected from the conditions of poverty. With the availability of human, material and psychological resources, children develop well and exhibit good adjustment and achievements in their life (Barbarin et al., 2006). If these resources are not available, or are deficient, the development of children slows down and remains behind the levels of their age mates'. Living in socioeconomically low conditions restricts the opportunities of children to reach certain materials and resources (Bradley & Corwyn, 2002). All these risk factors have either direct or indirect effects on the development of children. In the literature, it is indicated that children living in socioeconomically adverse conditions show poorer outcomes in their cognitive development, social-emotional functioning, and later achievement compared to children living in higher socioeconomic conditions (Ayoub et al., 2009; Bradley & Corwyn, 2002; Corapci, 2008; Hackman & Farah, 2009; Kiernan &Huerta, 2008). One of these outcomes that is negatively influenced by poverty conditions is school readiness of children (Duncan & Magnuson, 2005; High, 2008).

In the present study, the influence of poverty on children's school readiness was examined. In the following section, firstly, the definition of poverty from different perspectives will be summarized and the indicators of poverty used in this study will be defined. Then, poverty related factors that have significant impact on children's outcomes will be explained. Finally, as the outcome variable, children's school readiness will be defined and indicators of school readiness including vocabulary knowledge, phonological awareness, mathematics skills and color knowledge will be described.

1.2 The Definition of Poverty

Poverty is an issue that has various definitions according to different approaches. Different perspectives focus on different aspects of poverty such as economic well-being, lack of capabilities and social exclusion (Wagle, 2002). Economic well-being is the most commonly used dimension in poverty literature. In the measurement of this type of poverty, mainly measured variables are income, consumption and welfare. The definitions of economic poverty are classified into three categories: having less than objectively defined poverty line, having less than others, and the feeling of not having enough to get along (Hagenaars & de Vos, 1988). The first category, namely having less than objectively defined level, is characterized as absolute poverty and emphasizes the lack of basic needs for survival. Therefore, people living in poverty have difficulty meeting their basic needs and have a high food/income ratio, high fixed cost/income ratio and high expenditure/income ratio. The second category is characterized as relative poverty and it compares a family's opportunities with that of others living in the same society. If a family lacks certain commodities such as a refrigerator, a washing machine or a car, while others in the society have them, the family can be determined to be living in poverty. According to the third category which is defined as subjective poverty, if a family has an income that is less than the amount they consider as "just sufficient" to get along, then, the family is considered to be suffering from poverty. Among these three categories, the first and second ones define poverty based on objective measures; whereas, the third one defines poverty subjectively.

The second dimension of poverty is related to lack of facilities (Wagle, 2002). People living in poverty are unable to attain certain services such as education and health; and lack of these services decreases their well-being. Finally, the third dimension of poverty is social exclusion. Even if people have sufficient income and capabilities, they might be poor due to exclusion from the society (Wagle, 2002). For instance, people might have no access to economic, political or cultural activities in the society due to discrimination. In conclusion, the definition of poverty shows variations among different approaches and based on the chosen approach, the extent and the percentage of poverty change.

The socioeconomic status (SES) is a measure that is commonly used in psychological research. The SES level represents a person's or family's position in the society and it is mainly measured through income, education and the occupation status of the family members (Bradley & Corwyn, 2002). If the family members have low income, low education and no regular occupation, the family is considered as being low-SES. Low SES families do not have sufficient access to certain materials; and it is associated with poor outcomes for the family members. Therefore, families living in poverty can also be thought as being low SES; and, in the later sections, low-SES related researches and findings will also be pointed out.

In summary, poverty should be considered as a multidimensional construct and combining different aspects of poverty is necessary in poverty research (Akindola, 2009). Family income is an important indicator of poverty, however, it is not enough to capture all aspects of poverty. Parental education might be another factor that has an impact on poverty. For instance, having a higher education might increase a person's opportunities such as having a higher income or attaining better health services. Therefore, in the present study, family income, parental education, availability of certain materials and opportunities, and food insecurity were utilized as the indicators of poverty in order to incorporate different aspects of poverty. The importance of these poverty indicators and their associations with child development are summarized thereinafter.

1.2.1 Family Income and Parental Education

The income of a household is the main indicator of poverty in the literature; however, parental education is also offered as a measure of socioeconomic status of a family (Hauser, 1994). Blau (1999) has reported that the main predictor of child outcomes is not income; rather, it is the "fixed factors" that determine child outcomes that are not affected by the changes in the income level such as parental education. Moreover, as mentioned before, the lack of opportunities to attain a good education constitutes another aspect of poverty. In the literature, it is reported that living in poverty conditions increases the risk for drop out of school (Brown & Park, 2001), therefore, individuals living in poverty are more likely to have lower education levels. Moreover, it is also reported that the income level of a family has a causal impact on the educational outcomes (Blanden & Gregg, 2004). As the income inequality increases, the educational inequality also increases. Therefore, the income level and educational attainment of individuals are associated.

The income level of the family and parents' education levels are important predictors of children's academic achievements (Davis-Kean, 2005). Especially parental education have been reported to be the stronger predictor of child outcomes compared to family income (Davis-Kean, 2005). Parental education has an impact on child outcomes through providing a more stimulating home environment. Parents with higher education levels read books, engage in interactions, help homework more frequently compared to parents with lower education levels. In addition, parents' expectations about achievement also foster parents' motivation for providing a more stimulating home environment. Therefore, families with lower income and lower education levels may not provide a stimulating environment to foster the development of their children.

1.2.2 Material Hardship and Food Insecurity

In addition to income, material hardship is also reported as an important aspect of poverty conditions and it shows the consumption opportunities and living standards of households (Beverly, 2001). It is also claimed that the family income may not be a good predictor of poverty because income levels are not stable but show variations from time to time, and families might have undeclared incomes or their consumptions might be different due to savings or outside support even if they have the same income levels (Mack & Lansey, 1985, pp. 129-132). In addition to income, consumptions of a household

should also be taken into consideration because income is an indirect measure of poverty whereas the consumption is a more direct measure (Ringen, 1988).

In this regard, material hardships reflect another dimension of poverty because households in poverty experience material hardships due to economic restraints (Beverly, 2001). These hardships include housing problems, difficulty in paying the rent and bills, access to phone service and vehicles, medical and food related hardships. Accordingly, the living standards of households are also important for evaluating the poverty conditions of families.

One of the hardships that is crucial for the functioning of households is food insecurity. People living in poverty might have difficulty in reaching sufficient food in certain periods of their lives (Coleman-Jensen, Nord, & Singh, 2013). Experiencing food insecurity means that the food intake of the family members is reduced; and, there are changes in the eating routines due to the lack of sufficient food in the household. Therefore, family members, including children, who live in food insecure families experience insufficient nutrition as a result of the lack of financial resources (Cook & Frank, 2008).

In addition to low income levels and low parental education, food insecurity is also a risk factor for the development of children. In a household in which the family suffers from food security, children are at risk for certain developmental problems related to physical, cognitive and behavioral development (Cook & Frank, 2008). Children are reported to show poorer developmental outcomes as the severity of the food insecurity of the household increases. Children of these families were documented to display cognitive delays in their development. Experiencing food insecurity in the early years of life is also risky for the development of children in the long term. In a longitudinal study (Jyoti, Frongillo, & Jones, 2005) in which children were followed from preschool to third grade, it was found that food insecurity experienced in the preschool years negatively predicted children's later academic achievements, particularly in reading and mathematics.

Food insecurity predicts lower cognitive achievements of children, even after the physical health conditions of children are controlled (Rose-Jacobs et al., 2008). The

influence of food insecurity on poor cognitive outcomes of children might be through two mechanisms. Firstly, in a household with insufficient food, children might be exposed to malnutrition; and, malnutrition leads to poorer cognitive outcomes. Secondly, if a family suffers from food insecurity, it means that the family suffers from severe economic problems which are related to many other risk factors such as lower education of parents, unemployment and lower environmental stimulation and so on. The reasons for the relationship between food insecurity and poor developmental outcomes are not clearly identified, but, these children have been documented three times more likely to show delays in their development when compared to children living in food secure houses.

To sum up, it is difficult to capture all the aspects of poverty conditions that a family experiences. However, including various poverty dimensions provides more comprehensive information about the poverty levels of households. In sum, in addition to family income and parental education, material hardships including availability of materials and food security are important indicators of poverty. Each of these factors has great impact on children's development either directly or indirectly. In the literature, the factors that explain the link between poverty and poor child outcomes are commonly reported to be related to problems in mothers' psychological health such as depression, poor parenting, and lack of certain materials and activities to foster children's development (Najman et al., 2009). In the following part, the roles of these variables on children's outcomes will be discussed.

1.3 Home Environment

In an optimal home environment, children need to have an access to certain materials such as children's books and educational toys, and activities such as book reading and storytelling to foster their development (Iltus, 2007). The income level of the household and parents' education levels are important predictors of stimulation in the home environment (Davis-Kean, 2005; Kluczniok et al., 2013). As the income and parental education increases, opportunities of having materials that foster literacy skills of children increase and parents become more likely to organize the environment to make it more stimulating and to engage in activities to support the development of their children (Davis-Kean, 2005).

Home literacy environment contributes to children's knowledge of alphabet, phonological awareness (Aram et al., 2013; Niklas & Schneider, 2013), vocabulary (Martin, Razza, & Brooks-Gunn, 2012) and mathematics (Sonnenschein & Galindo, 2014). Stimulating home environment in the preschool period is also prominent for children's later cognitive development; for instance, if children live in a home environment which is stimulating for their development in the preschool period, they have high academic achievement scores in mathematics and English when they enter formal schooling (Sylva et al., 2013).

In a poverty situation, through multiple risk factors in the home environment such as poverty related financial difficulties, low maternal education and maternal depression; the likelihood of opportunities that children will receive literacy related stimulation decreases (Kluczniok et al., 2013; Marcella, Howes, & Fuligni, 2014). In a study with Indian children living in economically disadvantaged regions of India, children were reported to be living in home environments that were lacking language stimulating materials and activities (Malhi, Sidhu, & Bharti, 2014). For instance, books and toys were unavailable for these children in their houses to foster their development. Moreover, it was also reported that their mothers were less likely to talk to them, include them in conversations, tell stories and read books to these children.

If children live in home environments which are not stimulating for their development, they might show cognitive delays beginning from the early years of life. For instance, children living in less stimulating houses were reported to show fewer cognitive gains than children living in stimulating houses from 14 to 36 months (Ayoub et al., 2009). Moreover, stimulation at home in the early years of life predicts children's development in the long term. Children experiencing economically adverse conditions during infancy show poor outcomes in their preschool cognitive development including language and literacy skills, and these negative outcomes are mediated by the low stimulation in the home environment (Mistry et al., 2010).

In addition to lack of stimulation in home environment, these households also suffer from chaos in their houses due to poverty conditions (Evans, 2004). Chaos has been reported to be associated with lower socioeconomic status and lower parental education levels (Matheny, Wachs, Ludwig, & Phillips, 1995). A chaotic home environment can be defined as a home that is unstructured, crowded and without routines (Evans et al., 2005). Living in a chaotic home environment is risky for the development of children since children are exposed to disorganization and overstimulation. Children adapt to this environment by ignoring the unwanted stimulation but they may not distinguish the beneficial stimuli from the irrelevant ones (Evans, Kliever, & Martin, 1991). For instance, if children are exposed to overstimulation in their environment such as living in a noisy and crowded home, their cognitive strategies might be disrupted to deal with these unwanted stimuli and they have difficulty in choosing the necessary information among distractors. Then, distortions in these cognitive strategies can be generalized and they have negative effects on children's development.

In the literature, children living in orderly houses were reported to perform better in their vocabulary development, phonological awareness and early reading skills (Johnson et al., 2008). However, a chaotic and instable home environment was stated as a risk factor for health conditions (Dush, Schmeer, & Taylor, 2013) and cognitive development of children (Brown, Ackerman, & Moore, 2013) including expressive and receptive language skills (Vernon-Feagans et al., 2012). Children living in chaotic houses were found to show developmental delays in their school readiness related skills in the preschool period. It has been reported that if children live in houses which lack routines show delays in their receptive vocabulary development (Martin, Razza, & Brooks-Gunn, 2012). This relationship is partially mediated by stimulating materials in the home environment because their mothers may not be organized enough to provide their children stimulating materials or activities in the home environment. In addition to stimulation, parenting styles were also reported as a mediator between disorganization in the household and child outcomes (Vernon-Feagans et al., 2012). It has been reported that positive and negative parenting styles partially mediate the link between household disorganization and children's vocabulary development. The relation between chaos and parenting styles might be related to psychological health of mothers because a chaotic home is also a source of stress for all family members as well as children (Evans et al., 2005).

Various studies reported that chaos had a negative impact on children's cognitive development (Hart et al., 2007; Johnson et al., 2008; Martin, Razza, & Brooks-Gunn, 2012; Petrill et al., 2004). However, Shamama-tus-Sabah, Gilani, and Wachs (2011) suggested that there might be cultural differences because these studies were conducted in Western developed countries and the role of chaos might be different in non-Western developing countries. They conducted a study in Pakistan and reported that chaos in the home environment did not predict children's cognitive outcomes, rather it predicted children's internalizing and externalizing behavior problems. Therefore, more research is needed in non-Western developing countries to understand the cultural differences for the role of chaos in child development.

1.4 Maternal Psychological Health and Parenting

All members of a family living in poverty need to deal with problems related to poverty conditions. If they cannot deal with these adverse conditions and stresses, their psychological health suffers (Hill et al., 2013). Mothers living in poverty conditions, especially in chaotic home environments were reported to be suffering from depression (Pike et al., 2006). Maternal depression has harmful effects on child outcomes especially when accompanied with poverty conditions but it may not be severe if the family lives in more affluent conditions (Petterson & Albers, 2001). Therefore, having a depressive mother is a risk factor particularly for the development of children who live in poverty conditions.

According to the literature, financial problems mainly predict cognitive development of children, whereas maternal psychological health mainly predicts children's behavioral outcomes (Kiernan & Huerta, 2008). McMunn and colleagues (2001) have reported that parents' psychological distress and poor parenting are associated with poorer emotional and behavioral outcomes of children. Similarly, it has been also documented that maternal depression is related to children's internalizing and externalizing problems in addition to general psychopathology (Goodman et al., 2011).

However, there are also studies reporting that maternal depression has an influence on cognitive development of children living in poverty conditions (Petterson &

Albers, 2001), including school readiness (Okado, Bierman, & Welsh, 2014), mathematics and reading achievement (Burchinal et al., 2006). Depressive mothers might be less likely to engage in literacy activities with their children. Okado, Bierman, and Welsh (2014) reported that maternal depressive mood was associated with lower child-mother conversations and it shows that parental depression might be a barrier to being responsive to children's needs and attending stimulating activities such as engaging in conversations. Furthermore, children's interactions with mothers were reported to be a predictor of better performance in cognitive tasks (Ayoub et al., 2009) since through interactions with mothers, children learn many new things that foster their development. For instance, Connell and Prinz (2002) have reported that children's interactions improve receptive language of these children.

The effect of maternal depression on child outcomes is reported to be indirect via decreases in parenting quality (Kiernan & Mensah, 2009; Newland et al., 2013) in addition to stimulation in the home environment (Baker & Iruka, 2013). Maternal depression is accompanied by less sensitive parenting, declines in reciprocal interactions, being more rigid and showing less positive affect (Albright & Tamis-LeMonda, 2002). In a study, Burchinal and colleagues (2006) studied African American children living in multiple risk conditions including family and social risk factors. They found that parenting mediated the link between multiple risks and child outcomes. Sensitive parenting was associated with reduced problems in social skills and behavioral outcomes, in addition to better reading and mathematics skills. Moreover, sensitive parenting was reported as a protective factor for the mathematic skills of children. That is, children living in poverty were protected from the negative influences of poverty related risk factors in their mathematic achievement if they had sensitive mothers. In short, according to literature, poverty seems to affect mothers' psychological health negatively; in turn, poor psychological health of mothers decreases their parenting quality. Then, the outcomes of children change in accordance with the type of parenting their mothers provide.

Among the dimensions of parenting, parental warmth is reported as a prominent predictor of positive child outcomes including cognitive development (Mistry et al., 2010; Watkins-Lewis & Hamre, 2012), and it predicts higher achievement scores, better self-regulation skills and lower levels of problem behaviors. However, negative parenting practices are associated with poorer child outcomes due to problems in psychological adjustment of children (Rohner, Khaleque, & Cournoyer, 2005). Especially perceived rejection of children by their parents is associated with problems in psychological adjustment (Rohner & Khaleque, 2002). The role of negative parenting in children's cognitive development is not commonly studied in the literature and further research is needed to understand the role of negative parenting in the relation between poverty and children's cognitive outcomes. In the present study, negative parenting dimensions of Parental Acceptance-Rejection Theory (PARTheory; Rohner, Khaleque, & Cournoyer, 2005) including *Indifference/Neglect*, *Undifferentiated Rejection*, *Hostility/Aggression* will be investigated in relation to poverty and child outcomes.

In conclusion, the literature shows that poverty is associated with many other risk factors such as less stimulating and chaotic home environment, maternal depression and poor parenting quality. Through these risk factors, poverty leads to negative child outcomes. One of these negative outcomes influenced by poverty conditions is the school readiness of children.

1.5 School Readiness

School readiness is an important issue for the academic achievement of children. It can be defined as children's competency level when they start school; and these competencies predict children's later school achievements (Snow, 2006). School readiness is composed of multiple skills from different domains of development and in order to understand readiness, multiple dimensions should be considered.

School readiness has a long history which includes different definitions from different viewpoints. According to nativist/idealist view, external factors have very small contribution to readiness; instead, school readiness is mainly determined by the endogenous factors; children are thought to be ready for school when they have a certain

maturity (Gesell, 1925; cited in Snow 2006). In contrast, the empiricist/environmental view emphasizes the influence of external forces on readiness (Kohlberg & Mayer, 1972; Smith & Shepard, 1988; cited in Meisels, 1998). Rather than mental attributes, readiness involves externally observable characteristics of children such as identifying colors, shapes, and letters; counting; and adapting behaviors in a socially appropriate way. In order to understand children's competencies, the effects of home, school and the neighborhood need to be identified (Rimm-Kaufman & Pianta, 2000). Each of these contexts has indirect influences on children's competencies.

Another view is the social-constructivist view (Graue, 1992; cited in Meisels, 1999) which defines readiness in a broader context emphasizing the contributions of the family, school, society and culture. This view asserts that the readiness of children might change from one context to another. There is also another view called as interactionist view (Meisels, 1999) which integrates the contribution of child characteristics and the environmental forces for school readiness. Readiness is determined both by the current characteristics of children such as certain skills and a certain level of knowledge, and the environmental factors in which they grow up. Therefore, according to the interactionist view, there is an interaction between child characteristics and the environment.

Despite the inconsistency in the definitions, school readiness is a common issue that is taken into consideration by parents, educationists and policy makers. Especially in the United States, school readiness is regarded as an important issue and certain policies and regulations have been developed in order to increase the school readiness of children. In the National Education Goals Panel (1991), it was reported that "by the year 2000, all children in America will start school ready to learn". In this panel, five dimensions of school readiness were determined (Kagan, Moore, & Bredekamp, 1995). These dimensions included physical/motor development (fine and gross motor skills), social-emotional development (cooperation, self-confidence, and empathy), approaches to learning (curiosity, creativity, independence, and temperament), language development (competency in oral and written language such as speaking, vocabulary, and literacy knowledge) and cognitive development-general knowledge (spatial ability, numeracy skills, and sound-letter association).

Children's preschool learning-related skills mentioned above are critical for their later academic achievement. In a meta-analysis (La Paro & Pianta, 2000), the correlation between children's achievement scores in the preschool and first/second grade was found as ranging between .12 and .78 for cognitive outcomes, and between .11 and .42 for social/behavioral outcomes. In addition, the effect sizes were moderate for cognitive domain and small for social/behavioral domains. Similarly, McClelland, Acock, & Morrison (2006) examined the association of preschool skills and elementary school academic performances especially in reading and math scores. Children who had lower scores in learning-related skills in the preschool period such as self-regulation, cooperation, taking responsibility and independence, also had lower scores in their later reading and mathematics. The gap was widely increasing from kindergarten to second grade and being more stable from second grade to sixth grade when they were compared to children who had better academic skills in the preschool period. Moreover, even after controlling for IQ score, age, ethnicity and maternal education, preschool skills were still significant predictors of later academic achievement. Therefore, preschool skills are predictors of later reading and mathematics scores in the elementary school especially in the early years.

Children living in adverse conditions such as poverty are influenced negatively later in their achievement due to poor preschool skills. It was indicated that children who experienced multiple poverty related risk factors had poorer preschool skills and they performed poorer and got lower grades when they were at 12th grade (Gutman, Sameroff, & Cole, 2003). Additionally, higher IQ and good mental health were not found as protective factors; they only promoted the scores of children who had lower levels of risk factors. In sum, if children have multiple risk factors and have poorer learning-related skills in the preschool period, they are likely to have a poor academic life later. In the literature, children's school readiness related skills, especially vocabulary knowledge, phonological awareness and mathematics/numeracy skills are reported as predictors of later reading and mathematics skills (Hogan, Catts, & Little, 2005; La Paro & Pianta, 2000; Storch & Whitehurst, 2002). Therefore, in the current study, these three variables were evaluated as indicators of children's school readiness.

1.5.1 Language Skills

The literature shows that oral language skills, phonological awareness and print knowledge are important predictors of later reading achievement when children enter formal schooling (Lonigan, 2006). Oral language skills involve vocabulary and syntactic knowledge, speech, understanding and narrating skills. Phonological awareness is the children's sensitivity to the sounds of their language involving syllables and phonemes.

In a two-year longitudinal study (Muter et al., 2004) from the beginning of formal schooling, it was indicated that phoneme awareness and letter knowledge were predictors of later word recognition; whereas, vocabulary knowledge and grammar skills were predictors of children's later reading comprehension abilities. Prior, Bavin and Ong (2011) reported that the most important contributors of school readiness were language skills and literacy knowledge such as letter knowledge and phoneme awareness. In a meta-analysis, early language skills including vocabulary and letter knowledge were found to be predictors of later reading skills and the effect size of language skills was reported as .17 (Duncan et al., 2007). Therefore, phonological awareness skills and they are crucial for later reading skills of children.

1.5.1.1 Phonological Awareness

Phonological awareness skills develop in time beginning from the preschool period and, even if it is a single unit of skills, they appear in different forms (Anthony & Francis, 2005). These skills involve combining sounds, dividing sounds of words or evaluating the similarity of sounds in different words. The phonological awareness includes different components such as the awareness of phonemes, syllables and words (Anthony et al., 2002). Even if all these components show the competency in phonological awareness, their developmental processes are different. For instance, children develop rhyme awareness before they gain awareness of sounds (Carroll et al., 2003). Therefore, the awareness of larger units is easier for children and it develops earlier compared to the awareness of smaller units. These skills are important for the acquisition of later literacy skills. Storch and Whitehurst (2002) showed that phonological awareness

is a predictor of later reading skills. Hence, phonological awareness is one of the important components of school readiness.

1.5.1.2 Vocabulary

Children learn new words easily through fast mapping in a single experience when they are exposed to a new word (Carey, 1978). Based on the context in which the child hears the word, s/he stores the necessary information related to that word and starts using it later on. Therefore, children's vocabulary development is influenced mainly from the stimulation they receive. Reading books to children seems to be the optimal situation in which children are exposed to new words. Book reading activities have been reported to be the predictors of better receptive and expressive language skills of children (Asgeirdottir, 2011). During book reading activity, if parents elaborate on the topics and instruct children about the concepts and words, the gains of children become greater. These activities are not only contributor to vocabulary, but also, to phonological awareness. Especially, formally instructing children during book reading activity predicts their phonological awareness skills. In addition to reading books, there are other activities that foster children's language skills such as telling nursery rhymes, poetry and availability of stimulating toys at home (Eleardo, Bradley, & Caldwell, 1977).

The availability of stimulating materials at home is helpful for the development of children's language skills, but mothers' responsiveness and their interactions with their children also contributes to this developmental process (Rodriguez et al., 2009). When stimulating materials and maternal responsiveness exist together, they predict better language outcomes than they would predict alone (Schmitt, Simpson, & Friend, 2011). Among the maternal factors, mothers' education level (Rodriguez et al., 2009) and their language skills (Vernon-Feagans et al., 2013) are important predictors of children's language skills. Mothers with higher education levels and mothers who have better language skills provide more language stimulating contexts to their children. Therefore, especially a stimulating home environment and maternal responsiveness are the main predictors of children's language competence. Children living in low socioeconomic conditions start school with less competent language skills compared to children living in higher socioeconomic conditions (Barbarin et al., 2006; Grissmer et al., 2010; Rauh et al., 2003). Also, Barbarin and colleagues (2006) found language as the only domain in which these children were behind their peers. As mentioned before, environmental factors are important for the stimulation of language skills and the absence of these stimulations influences children's language development negatively. For instance, children living in low socioeconomic families receive less maternal language input both in quantity and quality (Hoff, 2003). Mothers of these children tend to speak less frequently with their children and engage in conversations that involve less syntactic complexity. In addition, mothers from low socioeconomic backgrounds are reported to be reading books to children less frequently (Raikes et al., 2006). Therefore, insufficient language input predicts poor vocabulary knowledge of these children.

The language skills are important for children's later academic achievement. For instance, improved language skills might act as a protective factor for the later academic achievements in the presence of multiple risk factors (Burchinal et al., 2006). In sum, language skills including phonological awareness and vocabulary knowledge are important predictors of school readiness, and children living in economic adversity are at risk for the development of these skills.

1.5.2 Mathematics and Numeracy Skills

In the preschool period, children are expected to have some knowledge of mathematics. These skills are mainly related to number knowledge, comparing numbers, counting skills, and, addition and subtraction abilities (Jordan & Levine, 2009). In the preschool period, children have knowledge of abstract numeracy even if they are not taught these skills (Barth, Beckman, & Spelke, 2008). Therefore, the abstract representations of numeracy develop before formal schooling. For instance, 5-year-old children can accomplish addition and comparison of the quantities (Barth et al., 2005).

There are many factors that contribute to the development of numeracy skills in the preschool period. Anders and colleagues (2012) have reported that parental language skills, mothers' education levels and socioeconomic status of the family are the main predictors of preschool children's numeracy skills. In addition, home activities related to teaching children numeracy skills have been found to be important for children's numeracy development. Therefore, if children live in a stimulating home environment in which their parents engage in learning related activities and provide stimulation, they develop the numeracy skills adequately. Additionally, if these children attend preschool education where they receive adequate stimulation, their mathematic performances and their overall school readiness increase (Magnuson et al., 2004).

Children's mathematic skills in the preschool period are predictors of their later mathematics achievement (Grissmer et al., 2010). Even after controlling for demographics, children's numeracy skills in the preschool years predict their later arithmetic skills and their overall mathematics achievement when they enter formal schooling (Aunio & Niemivirta, 2010). In a meta-analysis, mathematics skills were determined as the strongest predictor of later achievements (Duncan et al., 2007). The effect size of early mathematics skills for predicting later achievements was reported to be .34; indicating the importance of preschool mathematics skills. Therefore, children living in the economic adversity are at risk for problems in later mathematics achievement (Burchinal et al., 2006).In the absence of stimulation as in the case of poverty; children are influenced negatively in their school readiness.

Even if preschool skills of children are important for their later achievement, many children do not start school as ready and they lack certain achievements in some of the dimensions of school readiness due to adversities in the family (High, 2008). Children from low socioeconomic families start school as less ready and get lower scores on achievement tests almost half standard deviation (Duncan & Magnuson, 2005). Parents cannot provide their children with good nutrition, a stimulating environment either at home or in the neighborhood if they have lower levels of income. Therefore, children get lower scores, especially on reading and mathematics tests. Each risk factor due to low socioeconomic status or poverty has a unique impact on different domains of development (Rouse & Fantuzzo, 2009). In conclusion, poverty is associated with poor child outcomes such as inadequate school readiness related skills.

1.6 The Present Study

Like in many other countries in the world, poverty is also a problem of Turkey and almost one fifth of the individuals live in poverty conditions (Gurses, 2009). Among the demographics of the people who live in poverty in Turkey were reported as living in crowded households, being unemployed, having low education level, not having a regular job, and living in rural regions (Saatci & Akpinar, 2007). These households were reported to be experiencing difficulty to have access to services related to education, health and housing (Adaman & Keyder, 2006). More importantly, children were determined as the most vulnerable group to be affected by the changing conditions related to poverty (Aran et al., 2010). Statistically, 1 out of 4 children were identified as living in poverty conditions in Turkey.

Ministry of Education in Turkey, prepared a curriculum for preschools which pointed out the skills that children need to acquire in kindergartens (Okul Öncesi Eğitim Programı, 2013). Among the cognitive gains, it was assumed that children should be able to count the objects, identify geometrical shapes and colors, and do basic addition and subtraction problems using objects before the formal schooling. Among the language gains, children are assumed to show improvements in their vocabulary and have phonological awareness. Therefore, children are expected to have these skills properly before they enter formal schooling.

In Turkey, poverty studies have been mainly conducted in economics (Gurses, 2009; Sengul & Tuncer, 2005) and sociology (Adaman & Keyder, 2006; Bayram et al., 2012; Buğra & Keyder, 2005; Dansuk, Özmen, & Erdoğan, 2007). These studies provide information on the statistics and characteristics of poverty, the demographics of individuals and their living standards. In addition, school readiness have been commonly studied in educational research in Turkey (Unutkan, 2006; Wise, 2007; Yangın, 2009; Yüksel, Kadıköy, & Ünsal, 2013). Moreover, there are interventions applied to preschool children to improve their academic achievements (Bekman, 2004; Bekman, Aksu-Koç, & Erguvanlı-Taylan, 2011; Kagitcibasi et al., 2009). However, there are not any comprehensive studies which examine the roles of poverty related factors in the relationship between poverty and school readiness. Moreover, there is not any study in
the literature that examine the association between multiple indicators of poverty and children's school readiness through the mediation of different characteristics of home environment in addition to diverse mother-related factors. All these factors were reported as associated in the literature but there is not a comprehensive study that has investigated these relations simultaneously. Therefore, present study which enables to test relationships between various poverty variables and mediators in addition to school readiness outcomes will be a unique contribution to the literature.

The aim of the present study was to examine the impact of poverty on children's school readiness. As the indicators of poverty, parental education, income-to-needs ratio and material hardships related to the availability of materials and opportunities, in addition to the food insecurity were included. The focus of the present study was on the mediating roles of the characteristics of home environment, parental psychological health and perceived parenting quality. Therefore, in the present study, the effect of poverty on school readiness outcomes of children including color knowledge, mathematics/numeracy skills, vocabulary and phonological awareness, through the mediation of home environment characteristics such as stimulation and chaos in addition to maternal depression and perceived parenting quality was examined.

1.6.1 Hypotheses of the Study

1. a) Based on the first model (Figure 1), among the poverty variables, higher levels of parental education and income will be positively associated with stimulation in the home environment, whereas higher levels of food insecurity and material hardship will be negatively associated with home stimulation.

b) Stimulation at home will be positively associated with performance in color knowledge, mathematics, vocabulary, and phonological awareness of children.

c) Stimulation in the home environment is expected to mediate the link between poverty variables and school readiness related outcomes.

2. a) Higher levels of parental education and income will be negatively related to household chaos, but higher levels of food insecurity and material hardship will be positively related to household chaos.

b) Household chaos will be negatively related to children's performance in color knowledge, mathematics, vocabulary, and phonological awareness skills.

c) Chaos in the home environment is expected to mediate the relation between poverty variables and school readiness outcomes of children.

3. a) Based on the second model (Figure 2), higher levels of parental education and income will be negatively associated with maternal depression, whereas higher levels of food insecurity and material hardship will be positively associated with maternal depression.

b) Maternal depression will be negatively related to maternal warmth; and positively related to negative parenting dimensions.

c) Maternal warmth is expected to positively predict school readiness variables, whereas negative parenting dimensions are expected to negatively predict school readiness variables.

d) Maternal depression is expected to mediate the link between poverty variables and parenting dimensions.

e) Parenting dimensions are anticipated to mediate the relationship between maternal depression and school readiness variables.



Figure 1.1 The Proposed Model for the Effect of Poverty on School Readiness through the Characteristics of Home Environment



Figure 1.2 The Proposed Model for the Effect of Poverty on School Readiness through Maternal Characteristics

CHAPTER 2

METHOD

2.1 Participants

A total of 209 children and their mothers living in Ankara (N = 40) and Mersin (N = 169) participated in the study. Participants in Ankara were recruited from a Public Education Center and a nursery class of a primary school. Participants in Mersin were recruited from preschools and through snowball sampling.

Two participants were excluded from the study. One of the children had difficulty in concentrating and completing the tests and his teacher reported that he might have an attention problem. The other participant was excluded because data for two of the scales were totally missing. The ages of children ranged between 59 and 73 months (M = 65.77, SD = 3.54). Of the 207 children, 109 (52.7%) were girls and 98 (47.3%) were boys. 85% of the children were attending a preschool (N = 176).

The age range of mothers varied between 22 and 49 years (M = 33.19, SD = 5.27). The average years of education was 7.25 years (SD = 3.07) and average income of working mothers was 687 TL (SD = 309.67). Detailed demographic information of mothers are given in Table 2.1.

	N	Percentage
Education		
Illiterate	4	1.9%
Literate without education	2	1%
Primary school	100	48.3%
Secondary school	46	22.2%
High school	48	23.2%
University	7	3.4%
Working status		
Housewives	185	89.4%
Farmers	10	4.8%
Other	12	5.9%
Having a regular job	8	3.9%
Having a social security	9	4.3%
Longest time period resided in		
Big city	16	7.7%
City	67	32.4%
Town	68	32.9%
Village	53	25.6%
Marital status		
Married and living with husband	203	98.1%
Married but living apart from husband	1	0.5%
Divorced	2	1%
Widow	1	0.5%

Table 2.1 Demographic information of mothers

The age range of fathers were between 27 and 51 years (M = 37.46, SD = 5.29). The average years of education of fathers was 7.25 years (SD = 3.01) and average income was 1140.71 TL (SD = 493.09). Demographics of fathers are given in Table 2.2 in detail.

	N	Percentage
Education		
Illiterate	2	1%
Literate without education	1	0.5%
Primary school	110	53.1%
Secondary school	36	17.4%
High school	50	24.2%
University	7	3.4%
Having a regular job	116	56%
Having a social security	126	60.9%
Longest time period resided in		
Big city	17	8.2%
City	76	36.7%
Town	71	34.3%
Village	39	18.8%

 Table 2.2 Demographic information of fathers

The family demographics related to the characteristics of the household are given in Table 2.3.

	N	Percentage
Number of children		
1	30	14.5%
2	119	57.5%
3	47	22.7%
4	8	3.9%
5	3	1.4%
Presence of people other than family	25	12.1%
Presence of people working other then	13	6 30/
mother and father	15	0.370
Housing		
Owner	108	52.2%
Rent	86	41.5%
Public housing	6	2.9%
Living in a relative's house	5	2.4%
Having aid from an institution	18	8.7%
Having aid from relatives	8	3.9%
Having real estate	72	34.8%

Table 2.3 Demographic information of the household

2.2 Measures

2.2.1 Demographic Information Form

A detailed demographic information form was developed for the current study (Appendix A). In the development of the form, the demographic questions and the Household Income- Expense Questionnaire used in the Study of Early Childhood Developmental Ecologies in Turkey (TEÇGE; Baydar et al., 2008) were considered. The demographic information form included the education level, occupation and income of both parents, number of children in the household, detailed income and expense information about the family such as financial aid from relatives or institutions, rent for the house or credit card debt. Moreover, the availability of certain devices and opportunities in the household that gave information about the socioeconomic status of the family such as VCD/ DVD player, internet connection, car, smart phone, and opportunity for having a holiday were included.

2.2.2 Poverty

Parental education, income-to-needs ratio, material hardships related to the availability materials and opportunities and food insecurity of the household were used as indicators of poverty.

2.2.2.1 Parental Education

Education levels of mothers and fathers were taken from the demographic information form. Education levels were scored in a rank order (1- Illiterate, 2 - Literate without education, 3 - Primary school, 4 - Secondary school, 5 - High school, 6 - University). In the calculation of education score, the scores of both parents were summed and averaged.

2.2.2.2 Income-to-needs Ratio

Income to needs ratio was calculated by dividing the income of the family to the official poverty line of the country. Turkey Statistical Institution reported 3971 TL monthly income for a family of four as the poverty threshold in 2013 when the lowest 40% was taken into consideration (www.tuik.gov.tr). Based on this ratio, families living in poverty conditions were identified. If the family had an income-to-needs ratio lower than 1 or equal to 1, then the family was identified as living in poverty. Lower scores indicated higher levels of poverty. The ratio was adjusted for the number of people living in the household. All the families included in this study had 1 or lower income-to-needs ratios.

2.2.2.3 Food Insecurity

Community Childhood Hunger Identification Project (CCHIP) Hunger Index (Food Research and Action Center, 1995) was used to assess the food security of the children and adults living in a household (Appendix B). The aim of the CCHIP Hunger Index is to evaluate the food insufficiency due to lack of resources in a household with a child under the age of 12. The scale was translated into Turkish; and then, back-translated into English. The items of the scale are related to the availability and sufficiency of resources for making meals, existence of food shortage and changes in the eating routines due to food shortages. The scale has 8 questions and the answers are in yes/no format (e.g. "Did your household ever run out of money to buy food to make a meal?"). If the answer is "Yes", then the score for that question is taken as 1. The scores of each item are summed to create a food insecurity score. Therefore, the scores ranges between 0 and 8. If a household gets a score of 5 or above, that household is considered as food insecure. In addition, if the household gets a score between 1 and 4, that household is considered as at risk for being food insecure. The reliability of the original scale was assessed in six different states of the United States and the Cronbach's alpha coefficients were found to be ranging from .80 to .89 (Wehler, 1994). The internal consistency of the scale in this study was .78. The total score of the 8 items were used as the food insecurity score for each household in the present study.

2.2.2.4 Materials and Opportunities of the Household

The availability of materials and opportunities in a household was measured using the reports of mothers in the Household Income- Expense Questionnaire (TEÇGE; Baydar et al., 2008). In this measurement, availability of plasma television, computer, internet connection, car, dish washer, smart phone, summer house, credit card debt, having the opportunity of a domestic holiday and paying rent for the house were taken into account. If they were not available in the household, families were given 1 point for each one (credit card debt and paying rent for the house were reverse items). Higher scores indicated higher levels of poverty. Then, the scores of each item were summed. The internal consistency of the measure was .61.

2.2.3 Home Environment

2.2.3.1 Home Environment Questionnaire

In order to assess stimulation in the home environment, Home Environment Questionnaire (HEQ) was used (Miser & Hupp, 2012). The questionnaire was translated into Turkish and back-translated into English. In the translation process, the items were adapted to Turkish culture. HEQ is a 17 item questionnaire that can be completed individually or in an interview format (Appendix C). The questionnaire assesses different dimensions of home environment that can be stimulating for the development of children (e.g. "About how often do you (or someone else) read stories to your child?"). The items are mainly related to the availability of books, toys or CDs; activities such as reading books, teaching numbers, letters, colors, and shapes and taking children to outside activities. In order to improve the scale, additional items were added from HOME which was originally developed by Bradley and Caldwell (1984); and adapted to Turkish language by Baydar and Bekar (EGÖ-TR; 2007). EGÖ-TR consists of 52 items and it is based on the observation of home environment in addition to an interview about the activities and interactions with children. Additional 14 items were added from HOME to HEQ. These items are related to additional materials and activities that are not included in HEQ such as availability of jigsaw puzzles, toy blocks, crayons, and teaching children songs, poems and so on.

The parents reported the average number of materials (e.g. number of children's books etc.) and the frequency of activities (e.g. how often they read to their children etc.). Based on the number and frequency of the materials and activities, a HEQ score was calculated. The coding scheme of the original HEQ (Miser &Hupp, 2012) was used in the study; all the scores were "dummy scored" (0 to 5 based on the number of options). For instance, if there were 10 or more children's books at home, it was coded as 3; availability of 3 to 9 books coded as 2; 1 or 2 books coded as 1; and no books coded as 0. Then, these scores were summed to create a home stimulation score. The internal consistency of the scale was found as .78.

2.2.3.2 Confusion, Hubbub, and Order Scale (CHAOS)

Confusion, Hubbub, and Order Scale (CHAOS) was used to evaluate the chaotic conditions in the home environment (Appendix D). The scale was developed by Matheny, Wachs, Ludwig, & Philips (1995); and it was translated into Turkish language [Aile Çevresi Kaos Ölçeği] by Sümer, Harma, & Solak (2013). The scale was composed of 15 items that measured disorganization and chaos in the household (e.g. "We almost always seem to be rushed"). The participants answered the items in a Likert type format (1 to 6).

The scale had a one-factor structure and higher scores indicated higher levels of chaos in the household. Internal reliability of the scale was reported to be .82 in the Turkish adaptation and it was found as .79 in the current study.

2.2.4 Maternal Depression

Brief Symptom Inventory (BSI; Derogatis, 1992) was used to assess maternal depression. BSI includes 53 items in which a person reports his/her psychiatric symptoms in a 5 point Likert type scale through self-report. The inventory reflects 9 dimensions of symptoms: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. The Turkish adaptation of the measure was conducted by Şahin and Durak (1994). The factor analysis revealed a 5-factor solution, namely, hostility, somatization, interpersonal sensitivity, depression and anxiety. In the present study, only depression subscale was used (Appendix E). In the depression subscale, there are 12 items (item 9, 14, 16, 17, 18, 19, 20, 25, 27, 35, 37, 39); and the items reflect the depressive symptoms of the participants (e.g. "Feeling lonely"). Mothers rated their symptoms in 5 point Likert-type scale (1 indicating "not at all", 5 indicating "extremely"). Mothers' reports for each item were summed and averaged to calculate a depression score. The internal consistency of the scale in the current study was .85.

2.2.5 Parenting

Early Childhood Parental Acceptance-Rejection Questionnaire (PARQ) was used to assess parenting quality of mothers. Early Childhood PARQ is a measure developed for children between the ages of 4 and 7 (Rohner, 2012). The measure is based on selfreport of children. The measure includes 24 items that tap into 4 dimensions of parenting: Warmth/Affection, Hostility/Aggression, Indifference/Neglect, and Undifferentiated Rejection (Appendix F). According to the Parental Acceptance Rejection Theory (PARTheory; Rohner, Khaleque, & Cournoyer, 2005), these dimensions of parenting are placed along a continuum:

Parental Warmth: The warmth dimension describes one end of a continuum. This dimension is mainly associated with the affectional bond between mothers and their

children; and, this type of relationship might be defined as involving care, comfort, love and support.

The other end of the continuum is described as parental rejection; and this dimension is composed of three different parenting styles, namely, indifferent, hostile and undifferentiated rejection.

Indifference/Neglect: It describes a relationship in which the parent is not available for the needs of the child. This type of parenting is physically and psychologically harming for children. In this type of relationship, there is not an affectional bond between the dyads.

Undifferentiated Rejection: This dimension is related to children's feelings about rejection of their parents, even if there is not a clear behavioral evidence of rejection. Children feel as if their parents do not love them or care about them.

Hostility/Aggression: This dimension describes parents who harm their children physically or emotionally, show verbal or physical aggression toward them through hitting or shouting.

The items of the scale are statements about children's perceptions of how their parents treat them (e.g. Says nice things about me). Children assess each statement in a 4 point Likert type scale (1 - almost never true, 4 - almost always true). The total score summed from the 24 items shows the perceived rejection.

Since participants are younger children, the measure is administered in a game format. The measure was applied after children's school readiness was tested. Therefore, school readiness tests acted as a warm-up activity and children were comfortable while answering the questions of the measure. In the administration process, there are two flash cards (see Figure 2.1). On one side of the flash cards, there are images; and on the other side "yes/no" is written. Children are instructed to choose the "Yes" card if they agree with the statement and to choose the "No" card if they do not agree with the statement. If children choose the "Yes" card, then they are asked whether it is almost always or sometimes. If children choose the "No" card, then they are asked whether it is not very

often or almost never. However, in the application process, many children could not understand which card was appropriate for their choices. Therefore, children were asked to express themselves verbally, as well as showing the flash cards. Then, their verbal answers were coded regardless of their choices for the flash cards. The administration of the measure lasted approximately 10 minutes. In the Greek adaptation, the Cronbach's alpha was found as .84; and the Cronbach's alpha for the subscales ranged between .62 and .84 (Giotsa, 2012).



Figure 2.1 Flash Cards of Early Childhood PARQ

A factor analysis was performed on 24 items of Early Childhood PARQ to investigate the factor structure of the questionnaire in the Turkish version. In order to confirm the appropriateness of data for factor analysis, Kaiser-Meyer-Olkin Measure of Sampling Adequacy was checked; and it was found as .83. In addition, Bartlett's Test of Sphericity was significant, X^2 (276, N = 207) = 1238.89, p < .001. These results indicated that the data was factorable.

In order to determine the number of factors, different methods were utilized. Principal Component Analysis (PCA) without rotation, scree plot and parallel analysis (O'Connor, 2000) were examined and they offered a 2-factor structure. However, these two factors were both negative dimensions of parenting, and inclusion of a third factor provided a positive parenting dimension. Ultimately, 3 factors were extracted from the analysis.

Factor analysis with varimax rotation was conducted by forcing a 3-factor solution. Principal Axis Factoring was used as the extraction method. The communalities of the items ranged between .11 and .50. Three factors explained 30.5 % total variance. The eigenvalue of the first factor was 5.89 and it explained 11.4 % variance. The eigenvalue of the second factor was 2.09 and it explained 10.4 % variance. Lastly, the third factor's eigenvalue was 1.35 and explained 8.7 % variance. Then, rotated factor loadings were examined. Item 7 (Is too busy to answer my questions) and Item 15 (Forgets important things I think she should remember) did not load on any of the factors. When these two items were excluded from the analysis, item 1 (Says nice things about me) also did not load on any of the factors. Therefore, item 1, 7 and 15 were deleted from the analysis.

The analysis was conducted again after deleting three items. The communalities of the items ranged between .15 and .56. Three factors explained 33 % total variance. The eigenvalue of the first factor was 5.5 and it explained 12.8 variance. The eigenvalue of the second factor was 2.1 and it explained 11.6 % variance. Lastly, the third factor's eigenvalue was 1.3 and explained 8.6 % variance. Then, rotated factor loadings were examined (Table I). The first factor was named as "Hostility/Aggression" and it included 9 items; item loadings ranged between .35 and .58. The second factor was named as "Neglect" and it included 6 items. Item loadings ranged between .44 and .63. The third factor was named as "Warmth" and there were 6 items in this factor. Item 8 (Seems to dislike me) cross loaded on the second and third factors, however, it was included in the third factor considering its relation with the content of the factor. Item loadings ranged between .35 and .69 for the warmth dimension.

The internal consistency of the factors was checked by using Cronbach's alpha which was acceptable for all three factors ($\alpha = .76$ for Factor 1, $\alpha = .72$ for Factor 2, $\alpha = .74$ for Factor 3). Therefore, the measure seemed to have appropriate psychometric properties.

Items	Hostility/ Aggression	Rejection	Warmth	Original Factor		
10. Says many unkind things to me	.58	-	-	Hostility/Aggression		
4. Hits me, even when I do not deserve it	.56	-	-	Hostility/Aggression		
18. Frightens or threatens me when I do something wrong	.56	-	-	Hostility/Aggression		
5. Sees me as a big problem	.55	-	-	Undifferentiated Rejection		
14. Goes out of her way to hurt my feelings	.53	-	-	Hostility/Aggression		
16. Makes me feel unloved if I misbehave	.47	-	-	Undifferentiated Rejection		
20. Feels other children are better than I am no matter what I do	.42	-	-	Hostility/Aggression		
6. Punishes me very hard when she is angry	.36	-	-	Hostility/Aggression		
21. Makes me feel unwanted	.35	-	-	Undifferentiated Rejection		
9. Is really interested in what I do	-	63	-	Warmth/Affection		
11. Pays no attention when I ask her to help me	-	.55	-	Indifference/Neglect		
12. Makes me feel wanted and needed	-	52	-	Warmth/Affection		
3. Makes it easy for me to tell her things that are important to me	-	49	-	Warmth/Affection		
2. Pays no attention to me	-	.45	-	Indifference/Neglect		
17. Makes me feel what I do is important	-	44	-	Warmth/Affection		
8. Seems to dislike me	-	.44	44	Undifferentiated Rejection		
24. Treats me gently and with kindness	-	-	.69	Warmth/Affection		
19. Asks what I think about something, and likes me to talk about it	-	-	.51	Warmth/Affection		
23. Pays no attention to me if I do not bother her	-	-	45	Indifference/Neglect		
13. Pays a lot of attention to me	-	-	.42	Indifference/Neglect		
22. Makes me feel that she loves me	-	-	.35	Warmth/Affection		

 Table 2.4 Factor loadings of 21 items of Early Childhood Parental Acceptance-Rejection Questionnaire

Even though the questionnaire had 4-factors originally (Warmth/ Affection, Hostility/ Aggression, Indifference/ Neglect and Undifferentiated Rejection), the results of the current analyses provided a 3-factor structure. In the new factor structure, the "Hostility/ Aggression" factor was composed of the items of "Hostility/ Aggression" and "Undifferentiated Rejection" of the original factor structure. The "Neglect" factor in the new analysis consisted of items from "Indifference/ Neglect" and "Warmth/ Affection" (as reverse). Lastly, "Warmth" factor in the new factor structure mainly included items from the "Warmth/ Affection" dimension of the original factor structure. Moreover, one or two items from other factors also loaded on this factor. The third factor was also a negative dimension of parenting when the item loadings were considered and it was the opposite of "Warmth" dimension. In order to include a positive dimension was constituted.

2.2.6 Vocabulary

Children's receptive language skills were assessed by using Turkish Expressive and Receptive Language Test [Türkçe İfade Edici ve Alıcı Dil Testi (TIFALDI)] by Berument and Güven (2013). TIFALDI is used to evaluate receptive and expressive vocabulary skills of 2 to 12 year old children. In the present study, only receptive language subtest was used. The internal consistency of the receptive language test for age 5 was reported to be .96. In the receptive subtest, there are four pictures on each page that represent abstract and concrete words, as one of them being the target word. Children are asked to point to the target word out of 4 pictures. The testing procedure begins with 2 trials. The starting point of the test is determined according to the chronological age of the child. The point of successive 8 correct answers is taken as the basal level. If the child answers 8 items incorrectly in successive 10 items, that point is regarded as the ceiling level. Based on the number of correct answers, a standard score is calculated for each child. This standard score was used in the data analysis.

2.2.7 Phonological Awareness

Phonological awareness subtest of Early Literacy Skills Assessment Tool (Karaman & Güngör Aytar, 2013) was used to assess the phonological skills of children.

The phonological awareness subtest consists of 5 factors: Distinguishing the initial sounds of words, combining sounds, deleting the syllables and sounds, initial phoneme matching, and rhyme matching. The internal consistency of the subscale was reported to be .91. In the present study, only initial phoneme matching and rhyme matching factors were used.

Phoneme Matching Task: In this task, children are presented 4 pictures of objects (1 at the top, 3 at the bottom) and asked to name them. Then, they are asked to find the word that begins with the same sound as the word at the top. There are 6 sets of words in this factor (Table 2.5). The internal consistency of the factor was reported to be .62. In order to increase the internal consistency of the factor, four additional sets of words were added (Table 2.5). However, internal consistency in this study was .16. Therefore, this factor was not used in the analyses.

		Peynir	
	Pasta	Geyik	Fırça
		Balık	
	Çorap	Gözlük	Bulut
		Tarak	
Original Itams	Ceket	Tepsi	Perde
Original Items		Kitap	
	Horoz	Bardak	Köprü
		Sepet	
	Yaprak	Maymun	Sinek
		Robot	
	Kalem	Şapka	Resim
		Ağaç	
	Elma	Ayak	Fare
		Çiçek	
Additional Itama	Yatak	Çanta	Tavşan
Additional fields		Makas	
	Balon	Kalem	Mısır
		Yaprak	
	Yılan	Koltuk	Balık

Table 2.5 Original and Additional Item Sets for the Phoneme Matching Task

Rhyme Matching Task: In this task, children are presented 4 pictures of objects; as first one being the target. After naming these pictures, children are asked to find the

word out of 3 options that has a similar rhyme with the target word. In this task, there are 9 sets of words (Table 2.6). The internal consistency of this factor was reported to be .63. Three additional item sets were added to increase internal consistency (Table 2.6). Internal consistency in this study was .59. The scores of children were calculated based on the total correct number of matching.

		Fil				
	Zar	Dil	Göz			
		Taş				
	Kaş	Mum	Zil			
		Kare				
	Çivi	Fare	Toka			
		Kova				
	Tava	Halı	Şişe			
Original Items		Uçak				
	Simit	Kolye	Bıçak			
		Eldiven				
	Merdiven	Örümcek	Uçurtma			
		Şeker				
	Mandal	Kemer	Tabak			
		Mikrofon				
	Şemsiye	Telefon	Karınca			
		Pencere				
	Salıncak	Kelebek	Tencere			
		Bebek				
Additional Itams	Güneş	Etek	Masa			
		Tarak				
	Kulak	Kitap	Gemi			
		Domates				
	Bisiklet	Yumurta	Patates			

 Table 2.6 Original and Additional Item Sets for the Rhyme Matching Task

2.2.8 Mathematics Skills

There were 7 different type of tasks developed for the present study to measure the numeracy and mathematics skills of children (Appendix G). These tasks were developed with the help of standard school readiness tests such as Bracken Basic Concepts Scale (Bracken, 1998) and BriganceK-1 Screen (Brigance; 1987) in addition to educational books for preschool children. There were 5 sets of trials for each task. For each task, sets were beginning with easier ones and becoming more difficult as children proceeded. Target numbers were selected randomly; and the numbers were variant as much as possible. For each correct answer, children got 1 point. Children's scores were calculated as a composite score of 7 tasks. In total, children could get 40 points from this test. The Cronbach alpha value for 40 items was found as .91.

Counting 1: The aim of the task was to assess children's counting skills. In this task, children were presented a number of drawings of animals and objects; and then, they were asked to count the number of drawings. In these sets, the child were asked to count 3, 5, 8, 10, and 14 items, respectively.



"How many cars are there here?"

Counting 2: Children were shown a number of drawings of objects; and they were asked to cross some of the objects according to the reported number by the researcher. Children were asked to cross 2, 5, 7, 11, and 15 objects, respectively.



"Cross two of the rabbits"

Finding the Number: The aim of the task was to measure children's knowledge of numbers. Children were presented three different numbers; and asked to identify one of these numbers. They were asked to identify 5, 1, 3, 4, and 8, respectively.



"Which one is six?"

One-to-One Correspondence: In this task, children were presented a number of drawings of objects. Then, they were asked to draw lines as the same number of drawings into the blank space next to the drawings. They were asked to draw lines corresponding to 3, 4, 5, 7, and 9 objects.



"Draw lines as the same number of the moons."

Addition task: In order to assess children's addition skills; they were presented two sets of drawings. In each set, there were a number of drawings and children's task was to count the total number of objects presented in the two sets. They counted 3, 5, 8, 10 and 12 objects in total, respectively.



"These planes and these planes (by pointing each set), how many planes are there together?"

Quantity Task: The aim of the task was to measure children's knowledge of contrasts in quantity. Children were presented two pictures of the same object differing in quantity; and they were asked to show the one that described the quantity reported. These contrasts included small/big, less/more, narrow/wide, short/tall and light/heavy.



"Which one of these cats is the small one?"

Shapes Task: In this task, children's knowledge of geometrical shapes were evaluated. The shapes were shown to children on a paper, and children were instructed to name these geometrical shapes. The geometrical shapes included triangle, circle, star, rectangle, hearth, ellipse, hexagon, cube, and cylinder.



"What are the names of these shapes?"

2.2.9 Color Task

A color task was developed for the current study to assess children's color knowledge (Appendix H). There were 10 drawings of balls on a paper; each one with a different color. The included colors were red, purple, black, yellow, pink, blue, orange, white, green, and brown. Each ball was pointed and children were asked to name the color of each ball. For each correct answer, children got 1 point. The internal consistency of the test was .86.

2.3 Procedure

Ethical approval was taken from the Human Subjects Ethical Committee at Middle East Technical University (Appendix I). Then, permission of data collection was taken from Mersin Governorship (Appendix J). Children and their mothers were recruited from low-SES regions of Ankara and Mersin. The data were collected either in home settings, certain institutions or preschools. In Ankara, participants were tested either in their homes or in a Public Education Center. In Mersin, some participants were tested through home visits. However, most of the children in Mersin were tested in preschools. For these children, mother forms were sent to mothers through preschool teachers. Mothers and children provided only verbal consent to participate to the study. People from low-SES background were concerned about giving signatures in case that they would be swindled, therefore, participants provided only verbal consent. Mothers completed demographic information form, CCHIP Hunger Index, HEQ, CHAOS and depression subscale of Brief Symptom Inventory. If their literacy skills were not sufficient to complete the scales, tests were completed in an interview format. It lasted approximately 30 minutes. Then, children's school readiness was assessed through color task, mathematics tasks, TIFALDI and phonological awareness tests. Then, in order to assess parenting of mothers, Early Childhood PARQ was administered to children. In total, the tasks for children lasted around 45 minutes. After completing all the tasks, children received stickers or balloons as gifts.

CHAPTER 3

RESULTS

3.1 Overview

Statistical software package of SPSS version 22.0 was employed for the missing data, descriptive statistics and correlations. The hypotheses of the study were tested using Structural Equation Modeling and LISREL 9.2 program was utilized in the model testing (Jöreskog & Sörbom, 2015). Prior to the main analyses, missing data was handled and descriptive statistics and correlations were examined. In this section, firstly, data cleaning, descriptive statistics and correlations will be given. Then, the results of Structural Equation Modeling to test the hypotheses of the study will be reported.

3.2 Data Cleaning

Before the data analyses, missing values were examined. One case was deleted because two scales were missing. Moreover, if more than half of a scale was missing within a case, these cases were not completed for those scales. Seventeen cases were not included in the missing data analyses for HEQ, in addition to seven cases for depression scale of BSI. Multiple imputation was used to account for missing data. The analyses were conducted using SPSS version 20. The variables which had missing values were mothers' income (0.5% missing), fathers' income (10.1% missing), income of people other than mother and father who contribute to the household budget (1% missing), CCHIP Hunger Index (0.7% missing), HEQ (0.8% missing), CHAOS (2.5%), depression subscale of BSI (1.3% missing), and Early Childhood PARQ (0.5% missing). In the imputation process, theoretically related variables were utilized as predictors for missing items and variables. The predictor variables for income variables and CCHIP Hunger Index were demographic variables (education, number of people at home, number of

children, availability of certain devices and opportunities etc.), items of CCHIP Hunger Index, HEQ and CHAOS. Missing items of HEQ and Early Childhood PARQ were imputed by using their own items as predictors. Finally, missing items of CHAOS were imputed by using demographic variables, items of CCHIP Hunger Index and CHAOS. Five imputations were generated for each variable and the average of five imputations was determined as the values for missing variables. Finally, participants with missing scales were excluded from the analyses and the analyses were run on 184 participants.

Prior to main analyses, data were screened for univariate and multivariate outliers, normality, and multicollinearity. In order to detect univariate outliers, all variables were translated into z-scores. One of the cases was detected as extreme outlier in income-to-needs ratio (INR). The case was indicating extreme poverty according to this ratio and it was not excluded from the analyses. The INR of that case was replaced with the next extreme score in that variable as suggested by Tabachnick and Fidell (2013). Multivariate outliers were examined through Mahalanobis distance and no multivariate outliers were detected. Bivariate correlations were checked for multicollinearity and extremely high correlations were not observed.

3.3 Descriptive Statistics

Means, standard deviations, minimum and maximum values for parental education, income-to-needs ratio (INR), Household Income- Expense Questionnaire (HIEQ), CCHIP Hunger Index, CHAOS, maternal depression, Home Environment Questionnaire, parenting dimensions and school readiness outcomes were presented in Table 3.1.

Mean score of color knowledge indicated that almost all children had a knowledge of color in this age group (M = 9.26, SD = 1.75). Therefore, color knowledge was not used in further analyses in the present study.

	Mean	SD	Min	Max
Parental Education	3.76	.83	1	6
Income-to-Needs Ratio	.31	.13	.09	.84
HIEQ	6.43	2.07	1	10
CCHIP Hunger Index	1.6	1.73	0	8
CHAOS	2.49	.67	1.07	4.40
Maternal Depression	.99	.66	0	3.75
Home Environment Questionnaire	29.17	6.55	4.14	46
Maternal Hostility	1.96	.54	1	3.22
Maternal Neglect	1.83	.52	1	3.5
Maternal Warmth	3.25	.49	1.83	4
Color Knowledge	9.26	1.75	1	10
TIFALDI	111.84	13.71	79	138
Mathematics	27.7	7.17	5	40
Phonological Awareness	5.03	2.44	0	12

Table 3.1 Descriptive statistics for poverty variables, home environment variables,

 depression, parenting dimensions and school readiness outcomes

3.4 Correlation analyses

Pearson's bivariate correlation analyses were performed to examine the relationships between poverty variables, home environment characteristics, maternal depression, parenting dimensions and school readiness outcomes. The results of correlation analyses are summarized in Table 3.2.

3.4.1 Correlation of Poverty Variables with Mediator Variables and School Readiness Outcomes

Bivariate correlations indicated that parental education was negatively correlated with household chaos (r = -.21, p < .01) and maternal depression (r = -.16, p < .05) and positively correlated with stimulation at home (r = .33, p < .001), receptive vocabulary (r = .22, p < .01), mathematics (r = .21, p < .01) and phonological awareness (r = .27, p < .001). Household income level was negatively associated with household chaos (r = -.26,

p < .001) and maternal depression (r = -.25, p < .01), whereas it was positively associated with stimulation at home (r = .40, p < .001) and receptive vocabulary (r = .26, p < .001).

Food insecurity of the household was positively related to household chaos (r = .29, p < .001), maternal depression (r = .31, p < .001) and maternal hostility (r = .19, p < .01), whereas it was negatively related to stimulation at home (r = -.38, p < .001), maternal warmth (r = -.16, p < .05), receptive vocabulary (r = -.19, p < .05). In addition, material hardship for availability of materials and opportunities was positively correlated with maternal depression (r = .16, p < .05) but negatively correlated with stimulation at home (r = -.26, p < .001) and receptive vocabulary (r = -.24, p < .01).

3.4.2 Correlation of Chaos with Maternal Depression, Home Stimulation, Parenting Dimensions and School Readiness Outcomes

Bivariate correlations revealed that household chaos was positively associated with maternal depression (r = .36, p < .001) and negatively associated with stimulation at home (r = -.38, p < .001) and mathematics (r = -.20, p < .01). The correlations between household chaos and parenting dimensions were not significant (p > .05).

3.4.3 Correlation of Maternal Depression with Home Stimulation, Parenting Dimensions and School Readiness Outcomes

According to the bivariate correlation results, maternal depression was negatively related to stimulation at home (r = -.34, p < .001), maternal warmth (r = -.15, p < .05), color knowledge (r = -.21, p < .01) and mathematics (r = -.20, p < .01). However, maternal depression was not significantly correlated with maternal hostility (p > .05).

3.4.4 Correlation of Home Stimulation with School Readiness Outcomes

Correlation analyses indicated that home stimulation was positively correlated with receptive vocabulary (r = .35, p < .001), mathematics (r = .26, p < .001) and phonological awareness (r = .16, p < .05).

3.4.5 Correlation of Parenting Dimensions with School Readiness Outcomes

Among the parenting dimensions, maternal hostility was negatively associated with color knowledge (r = -.20, p < .01), receptive vocabulary (r = -.20, p < .01), mathematics (r = -.22, p < .01) and phonological awareness (r = -.18, p < .05). Moreover, maternal neglect was negatively correlated with phonological awareness (r = -.21, p < .01) and maternal warmth was positively correlated with receptive vocabulary (r = .21, p < .01).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Education	1													
2. INR	.29**	1												
3. CCHIP	30**	29**	1											
4. HIEQ	22**	21**	.35**	1										
5. CHAOS	21**	26**	.29**	.08	1									
6. Depression	16*	25**	.31**	.16*	.36**	1								
7. HEQ	.33**	.40**	38**	26**	38**	34**	1							
8. Hostility	.02	13	.19**	.09	.11	.12	08	1						
9. Neglect	.003	07	.07	05	.11	.07	07	.34**	1					
10. Warmth	.07	.08	16*	11	12	15*	.10	44**	59**	1				
11. Color	.01	.00	03	13	05	21**	.11	20**	.004	.10	1			
12. TIFALDI	.22**	.26**	19**	24**	08	09	.35**	20**	09	.21**	.37**	1		
13. Mathematics	.21**	.13	12	14	20**	20**	.26**	22**	04	.03	.50**	.44**	1	
14. Phonological	.27**	.11	14	05	03	10	.16*	18*	21**	.13	.11	.36**	.33**	1

 Table 3.2 Bivariate Correlations between Study Variables

Note. INR = Income-to-needs ratio; CCHIP = Food insecurity; HIEQ = Material hardship for availability of materials and opportunities of the household; HEQ = Stimulation at home

* *p* < .05; ** *p* < .01

3.5 Preliminary Analyses

The model tested whether home environment characteristics including household chaos and home stimulation in addition to the maternal factors including maternal depression, maternal warmth, hostility and neglect would mediate the relationship between poverty variables and children's school readiness outcomes. Poverty variables included parental education, income-to-needs ratio, material hardships including availability of materials and opportunities of the household and food insecurity. Moreover, school readiness outcomes of children consisted of receptive vocabulary, mathematics/ numeracy skills and phonological awareness.

As preliminary analyses, the models depicted in Figure 1 and Figure 2 were tested. Path analysis using structural equation modeling (SEM) was performed through LISREL 9.2 (Jöreskog & Sörbom, 2015). Unexpectedly, in the first model, household chaos did not predict any of the outcome variables. In a study by Martin, Razza, and Brooks-Gunn (2012), high levels of household chaos was found to be associated with low levels of stimulation in the home environment. Considering this study, household chaos was replaced as a predictor of stimulation in the home environment in order to test whether household chaos would predict school readiness outcomes indirectly through stimulation at home. In the second model, parental neglect was not predicted by any of the poverty variables or maternal depression. Therefore, maternal neglect was excluded from the further analyses. In addition, variables included in separate models were reported as being related in the literature. For instance, household chaos was reported as predicting maternal depression (Pike et al., 2006), in addition to parenting (Vernon-Feagans et al., 2012). Moreover, maternal depression was reported to be related to decreases in mother-child interactions that might be stimulating for children (Albright & Tamis-LeMonda, 2002). Therefore, two separate models were combined into one model to see the relations between variables included in different models. Then, additional paths were added from household chaos to maternal depression and parenting dimensions, and from maternal depression to stimulation in the home environment. The modified proposed model is depicted in Figure 3.1.





Prior to the main analysis, two alternative models were tested. In the first model, full mediation was tested. This model included paths depicted in Figure 3. The second model tested partial mediation which included additional paths from poverty variables to all mediators and school readiness variables, paths between mediators, in addition to the paths from all mediators to school readiness outcomes. Due to the non-significant paths, the first model did not work. Therefore, partial mediation model was determined as the final model.

The final modified model included paths from

- poverty variables to household chaos, maternal depression, home stimulation, parenting dimensions and school readiness outcomes
- household chaos to maternal depression, home stimulation, parenting dimensions and school readiness outcomes
- maternal depression to home stimulation, parenting dimensions and school readiness outcomes
- home stimulation to school readiness outcomes
- parenting dimensions to school readiness outcomes.

3.6 The Mediational Model

A path analysis using structural equation modeling (SEM) was performed through LISREL 9.2 (Jöreskog & Sörbom, 2015). The covariance and asymptotic covariance matrices were utilized in the data entry. The maximum likelihood method was used to examine the model fit to the observed variance and covariance matrices. In the evaluation of model fit, a number of criteria were considered. The confidence interval for RMSEA was taken as 0 to .10 and the cut off criteria for CFI, GFI, AGFI and NNFI were determined as .90 for a good model fit (Hu & Bentler, 1999). Moreover, the ratio of degrees of freedom to chi-square was determined around 1/2 or 1/3 to provide acceptable fit (Schermelleh-Engel, Moosbrugger, & Müller, 2003).

The model tested whether household chaos, maternal depression, home stimulation and parenting dimensions would mediate the links between poverty variables and school readiness outcomes. The model did not fit the data well, $\chi^2(8, N = 184) =$

90.93, p < .001, *RMSEA* = .24, 90% CI [.19, .28], *CFI* = .77, *GFI* = .92, *AGFI* = .26. Nonsignificant paths were trimmed from the model. The resulting trimmed model still did not fit the data well, $\chi^2(41, N = 184) = 121.79$, p < .001, *RMSEA* = .11, 90% CI [.08, .13], *CFI* = .76, *GFI* = .91, *AGFI* = .82, *NNFI* = .62.

When modification indices were examined, they offered error covariance between maternal warmth and maternal hostility. Considering that they are both parenting dimensions and highly correlated, an error covariance was added between these two variables. According to the chi-square test, the modification improved the model significantly, $\Delta \chi^2(1, N = 184) = 35.24, p < .01)$. The revised model still did not provide a good fit to the data, $\chi^2(40, N = 184) = 86.55, p < .001, RMSEA = .08, 90\%$ CI [.06, .1], *CFI* = .86, *GFI* = .93, *AGFI* = .86, *NNFI* = .77.

Modification indices suggested addition of error covariance between receptive vocabulary and phonological awareness; between receptive vocabulary and mathematics; in addition to between mathematics and phonological awareness. Conceptually, these three variables were all school readiness outcomes and correlation analyses indicated that they are highly correlated in the present study. In the literature, it is suggested that vocabulary knowledge and mathematics skills (McClelland et al., 2007; Pierce & Fontaine, 2009), vocabulary knowledge and phonological awareness (Metsala, 1999; Torppa et al., 2007), and mathematics and phonological awareness (Wise et al., 2008; Jordan, Wylie, & Mulhern, 2010; Smedt, Taylor, Archibald, & Ansari, 2010) are associated variables. Therefore, error covariances were added between these school readiness variables. When error covariances were added, the path from parental education to mathematics became non-significant, then, it was trimmed from the model. A chisquare difference test showed that adding the error covariances and deleting the nonsignificant path significantly improved the model, $\Delta \chi^2(2, N = 184) = 41.25, p < .01)$. Finally, the fit indices revealed a perfect fit, $\chi^2(38, N = 184) = 45.3, p > .05, RMSEA =$.03, 90% CI [0, .07], CFI = .98, GFI = .96, AGFI = .92, NNFI = .96. Moreover, the ratio of degrees of freedom to chi-square was smaller than the ratio of 1/2, indicating good fit. Figure 3.2 depicts the results of mediation analysis.



Figure 3.2 The standardized parameter estimations of the mediational model

Note: Only significant paths are included in the figure.

Prior to the mediation analyses results, the direct effects of poverty variables on mediators and school readiness variables, in addition to the direct effects of mediators on school readiness variables were examined. Then, indirect effects were tested if the relationships between the variables met the conditions for the mediation analyses. That is, if the "a" (from independent variable to mediator) and "b" (from mediator to dependent variable) paths were significant, the mediation analyses were run for these relationships (Hayes, 2009).

3.6.1 The Direct Effects

3.6.1.1 Predictors of Household Chaos

Among the poverty variables, income-to-needs ratio negatively ($\beta = -.19$, p = .01) and food insecurity positively ($\beta = .24$, p = .01) predicted household chaos; and they explained 12% variance in chaos. Lower levels of income and higher levels of food insecurity were associated with more chaotic households.

3.6.1.2 Predictors of Maternal Depression

The results indicated that household chaos ($\beta = .28$, p < .001) and food insecurity ($\beta = .19$, p = .01) positively, whereas income-to-needs ratio negatively ($\beta = -.12$, p = .04) predicted maternal depression and they explained 19% variance together. High levels of chaos and food insecurity, in addition to low levels of income, were related to more depressive symptoms in mothers.

3.6.1.3 Predictors of Home Stimulation

Path analysis results indicated that income-to-needs ratio positively ($\beta = .25$, p < .001), but food insecurity ($\beta = .21$, p = .01), household chaos ($\beta = .21$, p = .002) and maternal depression ($\beta = .13$, p < .05) negatively predicted home stimulation. They explained 30% variance in home stimulation. The results showed that as the income levels increased, and food insecurity, chaos in the household and depressive symptoms of mothers decreased, houses were more likely to be stimulating for the development of children.
3.6.1.4 Predictors of Parenting Dimensions

Food insecurity of the household negatively predicted maternal warmth ($\beta = -.16$, p = .01) and positively predicted maternal hostility ($\beta = .19$, p = .02). Food insecurity explained 3% variance in maternal warmth and 4% variance in maternal hostility. As the food insecurity in the household increased, mothers were more likely to show hostility toward their children and less likely to show warmth.

3.6.1.5 Predictors of School Readiness Variables

According to the results of the study, home stimulation ($\beta = .28, p < .001$) positively, but material hardship related to materials and opportunities ($\beta = -.14, p = .02$) and maternal hostility ($\beta = -.17, p < .001$) negatively predicted receptive vocabulary of children. These three variables explained 15% variance in receptive vocabulary. Higher levels of stimulation in the home environment and low levels of material hardship and maternal hostility were related to improved receptive vocabulary in children.

Among the school readiness variables, mathematics skills were positively predicted by home stimulation ($\beta = .23$, p = .001) but negatively predicted by maternal hostility ($\beta = -.20$, p = .01). They explained 10% variance in mathematics. If children lived in more stimulating houses and had mothers who showed less hostility toward them, then they had better mathematics skills.

Moreover, parental education positively ($\beta = .22$, p = .003), but maternal hostility negatively ($\beta = .19$, p = .01) predicted phonological awareness of children; explaining 9% variance in phonological awareness. The results indicated that higher levels of parental education and lower levels of maternal hostility were associated with improved phonological awareness of children.

3.6.2 The Indirect Effects

3.6.2.1 The Indirect Effect of Poverty Variables on Maternal Depression through Household Chaos

The mediating effect of household chaos in the relationship between poverty variables including income-to-needs ratio and food insecurity, and maternal depression was examined. The results showed that household chaos mediated the relation between income-to-needs ratio and maternal depression (b = -.29, SE = .14, t = -2.02), in addition to the relation between food insecurity and maternal depression (b = .03, SE = .01, t = 2.32). The direct effect of income-to-needs ratio on maternal depression was significant; therefore, chaos partially mediated this relationship. Higher levels of income was associated with lower levels of household chaos, in turn, lower levels of chaos was associated with fewer depressive symptoms in mothers. Moreover, the direct effect of food insecurity on maternal depression was also significant; therefore, household chaos partially mediated this relation. Higher levels of food insecurity was related to higher levels of chaos, in turn, higher levels of chaos was related to more depressive symptoms in mothers.

3.6.2.2 The Indirect Effects of Poverty Variables on Home Stimulation through Household Chaos and Maternal Depression

Additionally, the mediating roles of household chaos and maternal depression in the relationship between income-to-needs ratio and home stimulation were examined. The results indicated that chaos and depression significantly mediated this relationship (b = 3.4, SE = 1.34, t = 2.54). Sobel test was conducted to see the indirect effects separately via online software (Preacher & Leonardelli, 2003). The results revealed that household chaos significantly mediated this relationship (z = 1.99, p < .05). Considering that the direct path from income-to-needs ratio to home stimulation was significant, chaos partially mediated this relationship. People with higher income levels were less likely to live in chaotic households, and lower chaos in the household was associated with more stimulation in the house. However, the indirect effect of maternal depression was not significant (z = 1.43, p > .05).

Moreover, household chaos and maternal depression significantly mediated the link between food insecurity and home stimulation (b = -.32, SE = .12, t = -2.55). Sobel test results indicated that household chaos significantly mediated the relationship between food insecurity and home stimulation (z = 2.06, p = .04). It was a partial mediation since the direct effect of food insecurity on home stimulation was significant. Results showed that as the food insecurity of the household increased, household chaos also increased and increase in the household chaos was associated with reduced home stimulation. However, the indirect effect of maternal depression was not significant (z = 1.61, p > .05).

3.6.2.3 The Indirect Effect of Household Chaos on Home Stimulation through Maternal Depression

The mediating role of maternal depression in the relationship between household chaos and home stimulation was examined. The results revealed that the indirect effect was not significant (b = -.35, SE = .2, t = -1.73).

3.6.2.4 The Indirect Effects of Poverty Variables on School Readiness Outcomes through Home Stimulation and Parenting Dimensions

The mediating effects of home stimulation and parenting dimensions in the relation between poverty variables and school readiness outcomes were tested. Stimulation in the home environment fully mediated the link between income-to-needs ratio and receptive vocabulary (b = 9.79, SE = 3.09, t = 3.17). Higher income levels were associated with more stimulation in the home environment, in turn, higher levels of stimulation was predictive of better receptive vocabulary of children.

The indirect effect of food insecurity on receptive vocabulary through home stimulation and maternal hostility was examined. Path analysis results revealed that maternal hostility and home stimulation mediated this relationship (b = -.91, SE = .25, t = -3.69). Sobel test results indicated that home stimulation fully mediated this relationship (z = 2.2, p = .03). Lower levels of food insecurity were associated with more stimulation in the home environment, in turn, higher levels of stimulation was predictive of better receptive vocabulary. However, the indirect effect of maternal hostility was marginally significant (z = 1.76, p = .08). In houses with food insecurity, mothers were more likely

to show hostility toward their children and maternal hostility was predictive of poor receptive vocabulary of children.

The indirect effects of poverty variables on mathematics skills of children were examined. The indirect effect of income-to-needs ratio on mathematics through home stimulation was significant (b = 4.11, SE = 1.61, t = 2.55). Higher income was related to more stimulating home environment, in turn, stimulation in the home was related to improved mathematics skills.

Moreover, home stimulation and maternal hostility mediated the link between food insecurity and mathematics (b = -.43, SE = .14, t = -3.11). In order to see their mediation effects separately, Sobel test was conducted. Results showed that home stimulation significantly mediated this relationship (z = 2.0, p < .05). Lower levels of food insecurity was related to more stimulating home environments, in turn, stimulation in the home was related to improved mathematics skills. However, the mediating role of maternal hostility was marginally significant (z = 1.82, p = 07). In households with food insecurity, mothers were more likely to show maternal hostility, in turn, maternal hostility was associated with poor mathematics skills in children.

Finally, the mediating role of maternal hostility in the relation between food insecurity and phonological awareness was examined but maternal hostility did not mediate this relationship (b = -.05, SE = .03, t = -1.74).

3.6.2.5 The Indirect Effects of Maternal Depression and Household Chaos on School Readiness Outcomes through Home Stimulation and Parenting Dimensions

The mediating roles of home stimulation in the relation between household chaos and receptive vocabulary, in addition to the relation between maternal depression and receptive vocabulary were examined. According to the path analysis results, home stimulation fully mediated the relation between household chaos and receptive vocabulary (b = -1.4, SE = .47, t = -3.1). Lower levels of household chaos were related to higher stimulation in the home environment, and higher stimulation was associated with improved receptive vocabulary. However, home stimulation did not mediate the link between maternal depression and receptive vocabulary (b = -.75, SE = .4, t = -1.89). Additionally, the indirect effect of household chaos on mathematics through home stimulation was also significant (b = -.59, SE = .25, t = -2.38). Lower levels of household chaos were related to higher stimulation in the home environment, and higher stimulation was associated with improved mathematics skills. However, home stimulation did not mediate the relation between maternal depression and mathematics skills (b = -.32, SE = .2, t = -1.61).

CHAPTER 4

DISCUSSION

4.1 Overview

The major goal of the current study was to examine the influence of poverty variables such as parental education, family income, material hardships of the household including availability of materials and opportunities and food insecurity, on children's school readiness. In the examination of school readiness, receptive vocabulary, mathematics/ numeracy skills, color knowledge and phonological awareness of children were assessed. Secondly, present study aimed to investigate the mediating roles of home environment characteristics such as household chaos and stimulation at home in addition to the maternal characteristics including maternal depression and parenting quality. The results of the study indicated that poverty was associated with children's school readiness either directly or indirectly.

In this chapter, firstly, the findings of the study will be discussed in the light of the literature. Then, the limitations of the study and contributions to the literature will be explained.

4.2 Discussion of the Excluded Variables

In the assessment of phonological awareness of children, phoneme matching and rhyme matching tasks were included in the study. However, the internal consistency of the phoneme matching task was very low, therefore, it was excluded from the measurement of phonological awareness. During the task, children had difficulty understanding the instructions and completing the task. Considering that all the children were coming from low-SES families living in poverty, their phonological awareness skills may not be sufficient to achieve the task. Moreover, teachers in the preschools informed that teaching phonemes is not included in the current curriculum, so they do not engage children in activities to teach them phonemes. The internal consistency of rhyme matching task was acceptable. As the literature suggests, children firstly have rhyme awareness, then they have awareness of sounds since rhymes are larger units as compared to phonemes and it is easier to gain awareness for larger units (Carroll et al., 2003). Therefore, children in this sample might have developed rhyme awareness but they may not have phoneme awareness yet. Ultimately, only scores of rhyme awareness task were used to measure phonological awareness of children in the analyses.

One of the school readiness outcomes was color knowledge of children. Color knowledge is a variable that is assessed in many standard school readiness tests (Bracken, 1998; Brigance, 1987). Therefore, in the present study, color knowledge was included among the school readiness outcomes. However, descriptive statistics showed that the mean score of color knowledge was very close to the maximum value indicating that almost all of the children had color knowledge. Considering that 85% of the children were attending a preschool education center, it is likely that children have learned colors in these centers. Moreover, sixteenth item of the Home Environment Questionnaire was about teaching colors to children at home. When the frequencies of the answers to this item were examined, 96% of mothers reported that they were teaching colors to their children. Therefore, teaching colors to children before formal schooling is common among families, and children can be expected to have color knowledge in this age period.

4.3 Discussion of the Results of Path Analysis

4.3.1 Findings on the Poverty Variables as Predictors

Among the poverty variables, parental education and material hardships related to the availability of materials and opportunities in the household did not predict mediator variables and school readiness outcomes. In the present study, the education levels were low for both mothers and fathers in general. For instance, almost half of the mothers and fathers had primary school education, therefore, parental education may not have enough variance to make a significant effect on the variables. Additionally, material hardships did not predict any of the mediator variables in addition to school readiness outcomes other than receptive vocabulary. The items of the questionnaire were extracted from the Household Income-Expense Questionnaire and it was not a standard measure. Therefore, the items used in this measure might not be a good estimate for the measurement of poverty, considering the low internal consistency of the measure. In future studies the items of the measure should be extended by including additional items that represent poverty related hardships better, so material hardship may predict mediator variables and school readiness outcomes.

Family income and food insecurity of the household predicted household chaos, maternal depression and home stimulation. Moreover, food insecurity was found as predictor of parenting dimensions. Therefore, family income and food insecurity in the household worked better than parental education and material hardship as poverty variables. The income is commonly used in poverty research but there are not many studies that include food insecurity as a dimension of poverty. Based on the literature, families suffer from food insecurity due to the lack of financial resources (Cook & Frank, 2008). In sum, these two variables are related as dimensions of poverty, so, their predictive roles are similar in the analysis. However, food insecurity predicted more variables as compared to income level. The reason might be related to the idea that food insecurity might be a better indicator of poverty since it shows the severity of poverty. The effects of income and poverty on mediators and outcome variables will be discussed later in the chapter.

4.3.2 Findings on Predicting Household Chaos

The results of the present study showed that family income negatively, food insecurity in the household positively predicted household chaos. These findings are consistent with the findings reported in the literature. For instance, Evans (2004) reported that children of low-income families live in chaotic households without routines and with instability. Families who have low income levels and suffer from food insecurity may not organize the household due to life stresses or lack of resources. As an example, families with low income may live in cheaper and smaller houses, therefore, the house may have insufficient number of rooms or space for each person. Then, families may experience difficulty in organizing the environment and the house becomes noisy and disorderly.

Contrary to expectations, parental education and material hardships did not predict household chaos. However, the literature suggests that education levels of parents are associated with household chaos (Matheny, Wachs, Ludwig, & Phillips, 1995). High parental education was reported to be related to less chaotic home environments. However, in the same study, it was also reported that even if they are related constructs, what is measured by household chaos is independent from parental education and education does not contribute to the predictive power of household chaos. Based on the findings of the present study, it can be inferred that the effect of income level might be stronger than the education level of parents. Even if parents have higher education levels, still they can have low levels of income and suffer from food insecurity. Then, what determines household chaos might be the financial hardships of the family rather than the education level.

4.3.3 Findings on Predicting Maternal Depression

The results indicated that higher levels of family income predicted fewer depressive symptoms in mothers, whereas more food insecurity was related to higher levels of depressive symptoms. These findings are consistent with the literature. The literature suggests that financial hardships are associated with more depressive affect in mothers (Gyamfi, Brooks-Gunn, & Jackson, 2001). Moreover, mothers experiencing food insecurity were reported to be at risk for experiencing major depressive disorder or generalized anxiety disorder (Whitaker, Phillips, & Orzol, 2006). Experiencing food insecurity in the household is a source of stress for the family members, so parents are likely to experience depression or other mental health problems (Ashiabi & O'Neal, 2008).

The mechanism between income and maternal depression, in addition to the relation between food insecurity and maternal depression can be partially explained by the mediating role of household chaos. The results indicated that household chaos partially mediated these relationships. If the households had low income levels and suffer from food insecurity, they were more likely to be chaotic. Chaotic home environment was reported to be a risk factor for the psychological health of mothers (Pike et al., 2006). In a recent study (Hur, Buettner & Jeon, 2015), mothers with depression reported their

houses as being more chaotic, less organized and less predictable as compared to mothers with fewer depressive symptoms. Among the chaos related problems, crowding (too many people in a room) was reported as the main reason of problems in maternal psychological health (Wachs & Corapci, 2003).

Living in a household which suffers from financial difficulties and food insecurity might be stressful for the family members including mothers and it impairs their psychological functioning. In sum, it is possible that experiencing financial hardship and food insecurity in addition to a chaotic home environment are risk factors for maternal depression.

4.3.4 Findings on Predicting Stimulation at Home

High income levels in addition to low food insecurity in the household were found as predictors of high levels of stimulation in the home environment. These findings were in line with the literature. As the literature suggests, the income level of the family is an important factor for a stimulating home environment (Davis-Kean, 2005; Kluczniok et al., 2013). Higher levels of income increase the opportunities for cognitive stimulation for children in the home environment in the preschool period (Votruba-Drzal, 2003). The association between income and home stimulation might be explained by purchasing power. For instance, families with high income levels might have high purchasing power and buy stimulating toys and materials, therefore, they can create a more stimulating home environment. Since the food insecurity shows the severity of the poverty in the household, its relation with home stimulation might be similar to the relation of income. Food insecure houses may not have a purchasing power even to purchase food, and they also do not have opportunities to create a stimulating home environment. In addition to their direct effects, both income and food insecurity indirectly predicted stimulation in the home environment through household chaos. High levels of income and low levels of food insecurity was associated with less chaotic households, in turn, low chaos was associated with more stimulation in the home environment. In a study (Martin, Razza, & Brooks-Gunn, 2012), it was stated that children living in houses without routines had fewer stimulating materials, in addition their mothers might not be well organized to provide developmentally stimulating materials and activities for children.

Unexpectedly, parental education did not predict home stimulation. According to the literature, higher levels of parental education was associated with a more stimulating home environment (Davis-Kean, 2005). Parents with high education make the environment more supportive and engage in stimulating activities that foster children's development. However, present study did not find a significant relation between parental education and stimulation at home. Even if parents have higher education levels, they may not be able to provide stimulating materials to children due to financial restraints. Therefore, they may not give priority to stimulating materials since they need to live on a small amount of money. Alternatively, the reason might be associated with the low education levels of parents in the overall sample, since most of the parents had primary school education.

Maternal depression was found as negatively predicting home stimulation. If mothers were depressed, then the home environment was less likely to be stimulating for children. In the previous studies, maternal depression was reported to be related to decreases in the quality of mother-child interactions (Albright & Tamis-LeMonda, 2002). Even if there is not a problem in the provision of age-appropriate stimulating materials, stimulation can be reduced when the quality of interactions with children suffers. In sum, financial difficulties of the household seems to restrain children to reach stimulating materials in the home environment either directly or indirectly, whereas maternal depression might be a barrier for mothers to engage in stimulating activities that might foster children's development.

4.3.5 Findings on Predicting Parenting Dimensions

One of the parenting dimensions assessed by the Parental Acceptance-Rejection Questionnaire was maternal neglect. However, maternal neglect was not predicted by any of the poverty variables, in addition to household chaos and maternal depression. Similarly, in a study on the influence of poverty on child neglect, it was reported that the income level did not predict neglect and only poverty variable that predicted neglect was material hardship (Slack et al., 2004). However, in the current study, neither material hardships related to the availability of materials and opportunities nor food insecurity predicted parental neglect. In the study by Slack and colleagues (2004), material hardship was measured by items such as difficulty in paying the rent or experiencing utility shutoff which was similar to the measure of material hardship for the availability of materials and opportunities used in the current study. However, material hardship measure did not work well in the current study due to its low internal consistency. Moreover, maternal neglect was not predicted by maternal depression either and this finding will be discussed with other parenting dimensions.

Among the poverty variables, only food insecurity predicted maternal hostility and maternal warmth. Higher levels of food insecurity were associated with more hostile parenting and less warmth in mothers. However, the literature suggests that especially parental education and income levels have an impact on parenting behaviors, for instance, mothers with low education and low income were reported to show less positive parenting behaviors (Fox, Platz, & Bentley, 1995), such as less sensitive parenting (Raviv, Kessenich, & Morrison, 2004). Furthermore, low income was determined as a risk factor for mothers' punitive behaviors especially when mothers did not have social support from other family members or people in the community (Hashima & Amato, 1994). In the present study, most of the mothers were living in rural areas and they were living close to their relatives and they knew the people in the neighborhood. Therefore, it is possible that they were getting social support from other people and their parenting was not affected by low income levels. However, experiencing food insecurity is a more severe form of poverty, therefore, these mothers might show more hostile parenting and less warmth to their children due to the stresses of living conditions.

Unexpectedly, any of the mediator variables including maternal depression and household chaos did not predict parenting dimensions. According to the literature, especially maternal depression is an important predictor of parenting (Burchinal et al., 2006; Kiernan & Mensah, 2009; Newland et al., 2013). For instance, mothers with depression were reported to be less sensitive to their children (Albright & Tamis-LeMonda, 2002). In the present study, the depression levels of mothers were low in the overall sample. In the literature, people living in urban areas were documented to be experiencing mental health problems more frequently compared to people living in rural areas (Paykel et al., 2000). Considering that more than three forth of the mothers were

living in rural areas, they were likely to have very few depressive symptoms. It is possible that they were getting social support from other people in the neighborhood whenever they need, so they may not experience depression. If the social support can be controlled, maternal depression might have an influence on the parenting dimensions. In further studies, social support can be assessed and controlled in order to see the effect of maternal depression on parenting quality.

4.3.6 Findings on Predicting School Readiness Outcomes

In the current study, higher levels of stimulation in the home environment were associated with improved receptive vocabulary and mathematics skills. These results support previous studies in the literature. Stimulating materials and activities in the home environment were reported to be contributing to children's vocabulary (Martin, Razza, & Brooks-Gunn, 2012) and mathematics skills (Sonnenschein & Galindo, 2014). Children can learn new words and acquire numeracy and mathematics skills through the stimulating materials and activities. For instance, parents can read storybooks to children and create an environment that children can be exposed to new words and learn the way that these words are used (Fletcher & Reese, 2005). Through the assistance of their parents, children acquire new words in this process. Similarly, parents can provide children educational toys to improve their mathematics skills or they can teach numeracy skills to children. Therefore, stimulating home environment contributes to children's vocabulary and mathematics skills. However, home stimulation did not predict phonological awareness of children and it was unexpected considering the previous studies. For instance, Aram and colleagues (2013) documented that home literacy environment is related to better phonological awareness skills of children. Participants in the present study were low-SES mothers and their children, therefore, the stimulation provided to children may not be enough to improve the phonological awareness skills of children. Moreover, rather than the overall stimulation, specific materials and activities may be necessary for the development of phonological awareness such as teaching rhymes.

Among the parenting dimensions, maternal hostility predicted all of the school readiness variables. If children perceived their mothers as more hostile, they were likely

to have poor vocabulary, mathematics skills and phonological awareness. These poor outcomes might be associated with neurocognitive problems caused by the experiences of hostility. For instance, exposure to maltreatment was reported to be linked to problems in brain development which affect children's IQ levels and performance in academic tests (Noble, Tottenham, & Casey, 2005). Moreover, maltreated children show low academic engagement that predicts poor academic achievement (Shonk & Cicchetti, 2001). In the light of these possible explanations, the link between maternal hostility and school readiness outcomes needs further research.

Unexpectedly, maternal warmth did not significantly predict any of the school readiness variables. In the literature, mainly maternal warmth was reported as a predictor of child outcomes (Landry et al., 2001; Mistry et al., 2010; Watkins-Lewis & Hamre, 2012). However, these studies assessed maternal warmth through either mother report or observation. In the present study, parenting quality was assessed based on the reports of children and children's perceptions of maternal hostility might be a stronger predictor of children's school readiness outcomes as compared to perceptions of maternal warmth. Moreover, path analysis results showed that the effect of maternal warmth on mathematics and receptive vocabulary was approaching significance before the non-significant paths were trimmed. Considering that sample size of the study was small for such a model with complex relationships, the effect of maternal warmth on school readiness might be significant in a model with a larger sample size.

In the present study, the effects of poverty variables on children's school readiness outcomes were mostly indirect. Only two of the direct effects were significant. Among the poverty variables, parental education significantly predicted children's phonological awareness. Children with parents who have higher education levels had better phonological awareness skills. This finding supports previous studies. In the literature, socioeconomic status has been reported as a predictor of children's phonological awareness (Lundberg, Larsman, & Strid, 2012). Present study indicates that rather than income, especially parental education is prominent for the development of phonological skills in children. Parents with higher education levels can teach children phonemes and provide activities that help them gain awareness of phonemes. Moreover, material hardships of the household negatively predicted receptive vocabulary of children. Some items of the measure might have a role to create a stimulating environment for language development of children. For instance, if the house has a computer, internet connection or plasma television, these materials can provide stimulation for children to learn new words. Then, in households that lack these materials, children might be in a disadvantaged position in their receptive vocabulary development.

4.4 Contributions and Strengths of the Study

There are many studies in the literature that examine the relationship between poverty and school readiness through various mediator variables including parenting and home environment (Marcella, Howes, & Fuligni, 2014; Mistry et al., 2010; Vernon-Feagans et al., 2012). However, in these studies, mainly either income level of the family or education level of parents are included as indicators of poverty or socioeconomic status. The present study included four different indicators of poverty and the effects of these variables were tested separately rather than a composite poverty score to see their unique effects on mediator variables and school readiness outcomes. Furthermore, there is not a comprehensive study examine the role of poverty in children's school readiness outcomes, especially through the examination of home environment characteristics and maternal factors in Turkey. Therefore, the present study will contribute to the poverty research in Turkish literature.

In addition to the contributions to the literature, the present study has some strengths. Firstly, the hypotheses of the study were tested in a single analysis using structural equation modeling. Including all the variables in a comprehensive model enabled to see the pattern of all possible relations. Another strength of the study was that parenting quality of mothers were assessed based on the reports of children. The assessment of parenting through children's reports is new for this age group since children cannot complete scales in this age period. However, relying on children's reports is a better way of the measurement of parenting quality since the reports of mothers, especially in the assessment of parenting quality, may be biased especially at risk conditions.

4.5 Limitations of the Study

There are some limitations of the study that should be taken into consideration while interpreting the results. The first limitation is the design of the study. The study was a cross sectional design and it is not possible to make causal inferences from the results of the study. Second limitation is related to the characteristics of the sample. The data were collected from two different cities in Turkey. It reduces the external validity of the study and the findings of the study cannot be generalized to overall Turkish population. Moreover, even if both cities were metropolitan cities, participants from Mersin were living in more rural areas. Additionally, the sample sizes were not equal for two cities. More than three forth of the participants were from Mersin due to the convenience sampling. However, when two cities were compared using t-test analyses for the basic demographics and variables used in the analyses, they were not significantly different. Still, the findings of the study should be interpreted cautiously in terms of generalizability.

The second limitation of the study is about the data collection process. Some of the data were collected in home visits and others were collected in certain institutions such as Public Education Center or preschools. In home visits, the scales for mothers were completed in an interview format if their literacy skills were insufficient. However, the scales were sent to mothers via teachers in the preschools and it is not known how they completed the scales if their literacy skills were not sufficient to complete them. Moreover, the variables measured by mother reports might be biased due to the social desirability, especially in household chaos and home stimulation. These variables could be assessed through observational methods rather than mother reports.

The third limitation of the study is that almost 85% of the children were attending preschools. It is not possible to differentiate the skills that children learned in their houses or in the preschool center. In this regard, children who were not attending preschool centers were in a disadvantaged position. Attending a preschool center or duration of preschool attendance could be controlled in the analysis. Another limitation of the study is associated with the measurement of mathematics. In order to test the mathematics skills of children, a new measure was developed for the current study considering children's

educational books and standard school readiness tests. Even if it has a very high internal consistency, it is not a standard, validated measure. Therefore, the validation of the measure could be done before the data collection process.

4.6 Implications and Future Suggestions

The Ministry of Education assumes that children start formal schooling with a number of skills such as vocabulary knowledge, numeracy and mathematics skills and phonological awareness. However, children living in poverty conditions do not start school with sufficient skills (Duncan & Magnuson, 2005; High, 2008). The present study shows the mediating mechanisms for the effect of poverty on children's school readiness. This study indicated that especially income level of the family and food insecurity have an influence on children's school readiness through chaos and stimulation in the home environment in addition to maternal hostility. Therefore, families living in poverty conditions can be supported through financial support or food aid programs. In addition, intervention programs can be applied to improve the stimulation in the home environment. For instance, stimulating toys and materials can be given to families that they cannot afford or parents can be trained to engage in stimulating activities. Additionally, intervention programs may aim to improve the parenting quality of mothers. For instance, they can be informed about the negative effects of hostility toward children and they can be trained about how to deal with stressful situations without harming children. Policy makers should create policies that target to improve the living conditions of the households and support mothers, considering that stimulation in the home environment and mothers' hostile parenting have direct effects on children's school readiness.

The present study can be replicated by including more cities that represent Turkish population. In this way, the findings can be generalized and it will be possible to see a bigger picture for the role of poverty on children's school readiness in Turkey. In order to refer to causal relationships, another study with a longitudinal design can be conducted and children can be followed through their school years to clarify the effects of poverty in the long term.

4.7 Conclusion

This study provides an insight on the mediating mechanisms for the effect of poverty on children's school readiness. Especially family income level and food insecurity in the household have an influence on children's school readiness outcomes through chaos and stimulation in the home environment in addition to maternal hostility. The findings of the study are consistent with the literature, suggesting that the influence of poverty on children's school readiness is mediated by the characteristics of the home environment and maternal characteristics such as parenting quality.

In conclusion, the present study shed light on the mediating mechanisms in the relationship between poverty and school readiness. The findings of the study provided implications for social policies and intervention programs.

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APPENDICES

Appendix A: Demografik Bilgi Formu

ANNE için	
Doğum tarihiniz	
Eğitim durumunuz Mesleğiniz	 Okuma-yazma bilmiyor Okuma yazma biliyor İlkokul Ortaokul Lise Üniversite
Şu an için ne iş yapıyorsunuz?	
İşiniz düzenli bir iş mi?	EvetHayır
Ne kadar süredir bu işte çalışıyorsunuz?	
Sigortalı mısınız?	EvetHayır
Aylık kazancınız	Net gelir:
Bugüne kadar en uzun yaşadığınız yer nasıl bir yerdi?	 Büyük şehir merkezi Şehir Kasaba Köy Yurt dışı (yazınız)
Şu an yaşadığınız semt neresidir?	
Medeni haliniz	 Evli ve birlikte yaşıyor Evli ama eşinden ayrı yaşıyor Eşinden ayrılmış Eşini kaybetmiş
Evliyseniz kaç yıldır evlisiniz?	

BABA için	
Doğum tarihi	
Eğitim durumu	 Okuma-yazma bilmiyor Okuma yazma biliyor İlkokul Ortaokul Lise Üniversite
Mesleği	
Şu an için ne iş yapıyor?	
İşi düzenli bir iş mi?	EvetHayır
Ne kadar süredir bu işte çalışıyor?	
Sigortalı mı?	EvetHayır
Aylık kazancı	Net gelir:
Bugüne kadar en uzun yaşadığı yer nasıl bir yerdi?	 Büyük şehir merkezi Şehir Kasaba Köy Yurt dışı (yazınız)
Şu an yaşadığı semt neresidir?	

ÇOCUKLAR için Toplam kaç çocuğunuz var? Lütfen en küçük çoğunuzdan başlayarak soruları yanıtlayın.

	Çocuğun	Doğum	Cinsiyeti	Okula	Kaçıncı	Şu an
	ismi	tarihi Gün/Ay/ Yıl	1= K1z 2 = Erkek	gidiyor mu? 1 = Evet 2 = Hayır	sınıfa devam ediyor?	sizinle mi yaşıyor?
1. Çocuk						
2. Çocuk						
3. Çocuk						
4. Çocuk						
5. Çocuk						

HANE GELİR – GİDER ANKETİ		
Evinizde toplam kaç kişi yaşıyor?		
Evinizde siz, eşiniz ve çocuklarınız dışında aile bireyleri var mı?	 Evet Hayır Evet ise açıklayın	
Siz ve eşiniz dışında evinizde para kazanmak amacıyla çalışan biri var mı?	 Evet Hayır Evet ise: Kim çalışıyor? Ne iş yapıyor? Aylık kazancı nedir? 	

Oturduğunuz ev size mi ait, kiracı mısınız, yoksa lojman mı?		
Eğer kira veriyorsanız aylık ne kadar kira veriyorsunuz?		
Herhangi bir kurum/kuruluş ya da vakıftan herhangi bir para, gıda, kıyafet, yakacak yardımı alıyor musunuz?	 Evet Hayır Evet ise açıklayın: Bu yardım sizin ih tamamını karşılıyo Evet Hayır 	tiyacınızın or mu?
Memleketinizden, akrabalarınızdan ya da komşularınızdan herhangi bir para, gıda, kıyafet, yakacak yardımı alıyor musunuz?	 Evet Hayır Evet ise açıklayın: Bu yardım sizin ih tamamını karşılıyo Evet Hayır 	tiyacınızın or mu?
Sahip olduğunuz ev/arsa/tarla/dükkan gibi herhangi bir gayrimenkulünüz var mı?	 Evet Hayır Evet ise açıklayın: 	
Şimdi size bazı şeyler sayacağım. Bunlara evinizde sahip olup olmadığınızı söylemenizi istiyorum. Her biri için "sahibiz" ya da "sahip değiliz" seçeneklerinden birini söyleyin.		dığınızı seçeneklerinden
	Sahibiz	Sahip değiliz
Televizyon		
Plazma televizyon		
Video/VCD/DVD oynatici		

	Sahibiz	Sahip değiliz
Kredi kartı		
Bilgisayar		
İnternet bağlantısı		
Araba		
Buzdolabı		
Çamaşır makinesi		
Bulaşık makinesi		
Mikro dalga fırın		
Kalorifer		
Akıllı telefon		
Yurt içinde tatil imkanı		
Yurt dışına çıkma imkanı		
Yazlık ev		
Kredi kartı borcunuz var mı?	 Evet Hayır Evet ise düzenli öd musunuz (faizsiz)⁶ 	deyebiliyor ?
	□ Evet □ Hayır	
Evinizde yaşan tüm kişilerin yiyecek-içecek, kira, ısınma, doktor, ilaç gibi pek çok masrafları olabilir. Bunların hepsini toplayacak olursak, evinizde yaşayan kişilerin aylık toplam masrafları ne kadardır?		

Çocuğunuz:	
Daha önceden hiç anaokuluna/kreşe gitti mi?	□ Evet
	□ Hayır
(Evet ise) Ne kadar süre gitti?	
Okulun ismi nedir?	
Şu an gidiyor mu?	□ Evet
	□ Hayır
(Evet ise) Ne zamandır gidiyor?	
Okulun ismi nedir?	

Appendix B: Gıda Güvencesi Endeksi

Aşağıdaki soruları son 1 yılı düşünerek cevaplayın.

1. Yemek yapacak malzeme (mesela sebze, et gibi) almak için hiç	Evet
ailenizin parasının bittiği oldu mu?	🗆 Hayır
2. Yeterli yiyecek alacak paranız olmadığı için, siz ya da evinizdeki bir	Evet
başka yetişkinin, hiç doyacak kadar yemek yiyemediği oldu mu?	🗆 Hayır
3. Yeterli yiyecek alacak paranız olmadığı için, çocuğunuz ya da	□ Evet
çocuklarınızın, hiç doyacak kadar yemek yiyemediği oldu mu?	🗆 Hayır
4. Evde yiyecek bir şey olmadığı için, çocuğunuz ya da çocuklarınız	🗆 Evet
hiç aç olduklarını söyledi mi?	□ Havır
5. Yıyecek alacak yeterli paranız olmadığı için, çocuğunuz ya da	□ Evet
çocuklarınız hiç aç olarak yatağa gitti mi?	□ Hayır
6. Yeterli yiyecek alacak paranız olmadığı için, hiç çocuğunuzun ya da	
çocuklarınızın yemeklerinin boyutunu küçülttünüz mü ya da	□ Evet
çocuklarınız öğün atladı mı?	🗆 Hayır
7. Yeterli yiyecek alacak paranız olmadığı için, siz ya da evinizdeki bir	
başka yetişkin, hiç yemeğinin boyutunu küçülttü mü ya da öğün atladı	L Evet
mı?	🗆 Hayır
8. Yemek yapacak malzeme almak için çok az paranız kaldığından,	
ailenizi doyurmak için, hiç sınırlı sayıda malzemeyi uzun süre	
kullandınız mı (mesela patates, makarna gibi)?	□ Hayır

APPENDIX C: Ev Ortamı Anketi

1. Çocuğunuzun aynı evde yaşadığı kaç tane kardeşi		
(üvey kardeşleri de dahil) var? (Toplam kardeş sayısını		
yazın)	Kardeş sayısı	
2. Siz ya da bir başkası çocuğunuza hikaye okur mu?		□ Yılda birkaç
	□ Evet	kez
	□ Hayır	□ Ayda birkaç
Ne culturla akur?		kez
		Hartada bir
		KeZ □ Uaftada an
		az 3 kez
		☐ Her gün
		□ Günde
		birçok kez
3. Çocuğunuzun kendisine ait çocuk kitabı var mı?	□ Evet	□ 10 ya da
	🗆 Hayır	daha fazla
		\Box 3 – 9 arası
Vaklagik kao tang yar?		□ 1 ya da 2
4. Çocuğunuzun sayıları, renkleri, şekilleri, meslekleri		□ Bir
öğreten oyunları/oyuncakları var mı?	□ Evet	🗆 İki
	□ Hayır	□ Üç
		Dört ya da
		daha fazla
Y aklaşık kaç tane var?		
5. Cocuğunuzun hiç yapbozu var mı?	□ Evet	
	🗆 Hayır	
	-	
6. Çocuğunuzun bloklar, legolar, oyun hamuru gibi	□ Evet	
oyuncakları var mı?	□ Hayır	
7. Courtement of hoose iteriai doctables on complete se		
7. Çocuğunuzun el becerinerini destekleyen öyünlari ve	L Evet	
blobber overseelt bebeže sindirmek jein boneuk, kuçuk	🗆 пауш	
biokiar, öyüncak bebege giyünmek için giysner, vö.)		
8. Çocuğunuzun kullanabileceği boya, tebeşir veya	□ Evet	
kalem gibi malzemeleri var mı?	□ Hayır	
	-	
9. Çocuk dışında aile üyelerinin okuyabileceği	□ Evet	
kitaplarınız var mı?	□ Hayır	
	tane	
	1	

Yaklaşık kaç tane var?	Kitap		
10. Ailenizin düzenli olarak aldığı dergi var mı? Yaklaşık kaç tane var?	 □ Evet □ Hayır □ Dört ya da daha fazla 		
11. Evde çocuğunuzun çocuk şarkıları, hikayeler, masallar dinlemek için kullandığı bir CD çalar, kasetçalar, ses kayıt cihazı, ya da MP3 var mı? (Kardeşleriyle paylaştıkları da dahil)	□ Evet □ Hayır		
12. Çocuğunuzun, çocuk şarkıları çalan, hikayeler, masallar anlatan, kendisine ait CD'si ya da kaseti var mı?Yaklaşık kaç tane var?	\Box Evet \Box 10 ya da \Box Hayırdaha fazla \Box $3 - 9$ arası \Box 1 ya da 2		
13. Çocuğunuz, DVD ya da bilgisayardan çocuklara yönelik çizgi filmler, videolar izler mi?	EvetHayır		
14. Evde, siz ya da bir başkası çocuğunuzun rakamları, sayıları öğrenmesine yardım eder mi?	EvetHayır		
15. Evde, siz ya da bir başkası çocuğunuzun harfleri öğrenmesine yardım eder mi?	EvetHayır		
16. Evde, siz ya da bir başkası çocuğunuzun renkleri öğrenmesine yardım eder mi?	EvetHayır		
17. Evde, siz ya da bir başkası çocuğunuzun şekilleri (kare, üçgen, yuvarlak gibi) ve büyüklükleri (büyük- küçük, az-çok, uzun-kısa gibi) öğrenmesine yardım eder mi?	 Evet Hayır 		
18. Çocuğunuza şarkı, şiir veya tekerleme öğrenmesi için yardımcı olur musunuz?	 Evet, her firsatta Evet, arada sırada Hayır, pek uğraşmıyorum 		
19. Çocuğunuza bir yeri ya da bir şeyi tarif edebilmesi için altında, üstünde, yanında, arkasında, daha büyük, daha küçük gibi terimleri öğretir misiniz?	 Evet, her firsatta Evet, arada sırada Hayır, pek uğraşmıyorum 		
20. Siz ya da başka bir aile üyesi çocuğunuzu dışarıya çıkarma firsatı bulur mu? Örneğin, alış-verişe, parka, pikniğe, araba gezintisine vb.	 Evet Hayır Yılda birkaç kez ya da daha az Ayda yaklaşık bir kez 		

Yaklaşık ne sıklıkla çocuğunuzu dışarıya çıkarırsınız? 21. Çocuğunuz kendi yaşındaki çocuklarla oynayabileceği bir yerlere gider mi? (Çocuk parkına gitmek, sokakta oyun oynamak gibi)	 Evet, sık sık Evet, arada sıra Evet, nadiren 	ada	Ayda yaklaşık iki ya da üç kez Haftada birkaç kez Yaklaşık günde bir kez
 22. Geçtiğimiz yıl içerisinde siz ya da başka bir aile üyesi çocuğunuzu herhangi bir çocuk, bilim, sanat, tarih müzesine ya da başka bir müzeye götürdü mü? Yaklaşık kaç kere götürdü? 	 Hayır Evet Hayır 		Bir ya da iki kez Birkaç kez Yaklaşık ayda bir kez Yaklaşık haftada bir kez ya da daha sık
 23. Geçtiğimiz yıl içersinde siz ya da başka bir aile üyesi, çocuğunuzu festival, sergi, tarihi yerler, panayır, kermes, şenlik gibi kültürel etkinliklere ya da başka herhangi bir kültürel etkinliğe götürdü mü? Yaklaşık kaç kere götürdü? 24. Gectiğimiz yıl içinde çocuğunuzla birlikte, başka bir 	 Evet Hayır Evet birkac ke 		Bir ya da iki kez Birkaç kez Yaklaşık ayda bir kez Yaklaşık haftada bir kez ya da daha sık
 21. Geçtiğimiz yıl içinde çocuğunuz dini aktivitelere 25. Geçtiğimiz yıl içinde, çocuğunuz dini aktivitelere 	 Evet, birkaç kez Evet, bir kez Hayır 		Yaklaşık
(camiye, kiliseye ya da sinagoga gitmek vb.) katıldı mı? Yaklaşık ne sıklıkla katıldı?	EvetHayır		haftada bir kez En az ayda bir kez Yılda bir kaç kez
26. Son bir ay içerisinde, çocuğunuzu sadece onun hoşuna gideceği düşüncesi ile bir yerlere götürdünüz mü?Yaklaşık kaç kere götürdünüz?	□ Evet □ Hayır	. kez	,

27. Sıradan hafta içi bir günde, çocuğunuz, evde ya da evinizin dışında bir yerde (örneğin bakıcısında), ne kadar süre televizyon izler? (saat olarak yazın)	
	saat
Sıradan bir hafta sonunda, çocuğunuz, evde ya da evinizin dışında bir yerde (örneğin bir akrabasında), ne kadar süre televizyon izler? (Cumartesi ve pazarın	
topiamini saat olarak yazin)	saat
28. Kahvaltı ya da öğle yemeğinde çocuğun kendi	□ Evet
isteklerini dile getirmesine izin verir misiniz? (Örneğin,	□ Hayır
kahvaltıda reçel-ekmek yemek istiyorum gibi)	
29. Çocuğunuz günde en az bir öğün yemeği babası, siz	□ Evet
ve varsa kardeşleriyle birlikte yer mi?	□ Hayır
30. Çocuğunuzun yaptığı resim, boyama, yapıştırma ya	□ Evet
da proje gibi faaliyetlerini evinizin bir yerine koyar	□ Hayır
misiniz?	
31. Cocuklar bazen uslu davranırlar, bazen de	□ Evet
davranmazlar. Geçtiğimiz hafta içerisinde, çocuğunuz	□ Hayır
sizi kızdırdığında, ona hiç vurduğunuz oldu mu?	
Eğer olduysa yaklaşık kaç kez oldu?	kez

APPENDIX D: Evim Nasıl?

Sizin gör Doğru Do uygun gö	üş, duygu ve düşüncenize en uygun olan seçeneği "Hiç eğil"den "Çok Doğru"ya giden 1 ile 6 arasındaki rdüğünüz rakamı daire içine alarak belirtiniz.	Hiç Doğru Değil	Doğru Değil	Pek Doğru Değil	Biraz Doğru	Doğru	Çok Doğru
1	Evimizde kargaşa ve dağınıklık çok az olur.	1	2	3	4	5	6
2	Bir şeye ihtiyacımız olduğunda genellikle bulabiliriz.	1	2	3	4	5	6
3	Neredeyse her zaman bir telaş içindeyizdir.	1	2	3	4	5	6
4	Evimizde genellikle her şey yerli yerindedir.	1	2	3	4	5	6
5	Ne kadar uğraşırsak uğraşalım, genellikle hep geç kalırız.	1	2	3	4	5	6
6	Evimizde her zaman her şey altüst olur.	1	2	3	4	5	6
7	Evde birbirimizin sözünü kesmeden konuşabiliriz.	1	2	3	4	5	6
8	Evimizde gürültü patırtı eksik olmaz.	1	2	3	4	5	6
9	Ailecek ne planlarsak planlayalım, genelde gerçekleştiremeyiz.	1	2	3	4	5	6
10	Bizim evde gürültüden kendi sesini bile duyamazsın.	1	2	3	4	5	6
11	Sıklıkla, evde başkalarının yaptığı tartışmalar içine ben de çekilirim.	1	2	3	4	5	6
12	Evimiz kafa dinlemek için iyi bir yerdir.	1	2	3	4	5	6
13	Evimizde telefon konuşması bitmek tükenmek bilmez.	1	2	3	4	5	6
14	Evimizde ortam sakindir.	1	2	3	4	5	6
15	Evimizde düzenli bir rutin vardır. Güne başlarken ne olacağı bellidir.	1	2	3	4	5	6

APPENDIX E: Kısa Semptom Envanteri

Size şimdi insanların bazen yaşadıkları belirtilerin ve yakınmaların bir listesini okuyacağım. Her belirti sizde hiç olmayabilir, biraz olabilir, orta derecede olabilir, epey olabilir veya çok fazla olabilir. Daha sonra o belirtilerin sizde bugün dahil, SON BİR HAFTADIR ne kadar var olduğunu yandaki bölmede uygun olan yere işaretleyin.

	Hiç	Biraz	Orta	Epey	Çok fazla
1. Yaşamınıza son verme düşünceleri					
2. Başka insanlarla beraberken bile yalnızlık hissetmek					
3. Yalnız hissetmek					
4. Hüzünlü, kederli hissetmek					
5. Hiçbir şeye ilgi duymamak					
6. Ağlamaklı hissetmek					
7. Kolayca incinebilme, kırılmak					
8. Uykuya dalmada güçlükler					
9. Karar vermede güçlükler					
10. Gelecekle ilgili umutsuzluk duyguları					
11. Bedenin bazı bölgelerinde zayıflık, güçsüzlük hissi					
12. Ölme ve ölüm üzerine düşünceler					

APPENDIX F: Erken Çocukluk Dönemi EKRÖ: Anne* (Kısa Formu)

Seninle birlikte bir oyun oynayacağız. Annelerin çocuklarına karşı nasıl davrandıklarıyla ilgili bazı cümleler okuyacağım. Senden, her bir cümlenin annenin sana olan davranışlarını ne kadar anlattığını düşünmeni istiyorum. Eğer annenin okuduğum cümledeki gibi davrandığını düşünüyorsan, DOĞRU demelisin. Eğer annenin okuduğum cümledeki gibi davranmadığını düşünüyorsan, o zaman DOĞRU DEĞİL demelisin.

Eğer cevabın **DOĞRU** ise, kendine "Annem **hemen hemen her zaman** mı yoksa **bazen** mi böyle davranıyor" diye sormalısın.

Eğer cevabın **DOĞRU DEĞİL** ise, o zaman kendine "Annen **nadiren (çok az)** böyle davranıyor mu yoksa **hemen hemen hiçbir zaman** böyle davranmıyor mu?' diye sormalısın.

Hadi şimdi bir tane deneyelim.

"Annem iyi davrandığımda bana sarılır ve beni öper." Anneni düşündüğünde buna DOĞRU mu yoksa DOĞRU DEĞİL mi dersin?

(Eğer DOĞRUYSA), annenin hemen hemen her zaman mı yoksa bazen mi böyle davrandığını söylersin?

(Eğer **DOĞRU DEĞİLSE**), annenin nadiren (çok az) böyle davrandığını mı yoksa hemen hemen hiçbir zaman böyle davranmadığını mı söylersin?

	DOĞ	RU	DOĞRU DEĞİL	
ANNEM	Hemen Her Zaman Doğru	Bazen Doğru	Nadiren (Çok Az) Doğru	Hiçbir Zaman Doğru Değil
İyi davrandığımda bana sarılır ve beni öper.	\boxtimes			

(Çocuğun, cevap verme şeklini anladığından emin olun): Başka cümleler ile devam etmeye hazır mısın yoksa biraz daha deneme daha yapmak ister misin?

Tamam, hadi bir tane daha deneyelim.

"Annem onun etrafında olmamdan hoşlanır." Anneni düşündüğünde buna DOĞRU mu yoksa DOĞRU DEĞİL mi dersin?

(Eğer DOĞRUYSA), annenin hemen hemen her zaman mı yoksa bazen mi böyle davrandığını söylersin?

(Eğer **DOĞRU DEĞİLSE**), annenin nadiren (çok az) böyle davrandığını mı yoksa hemen hiçbir zaman böyle davranmadığını söylersin?

DOĞRU DEĞİL DOĞRU Nadiren Hiçbir ANNEM Hemen Her Bazen Zaman Zaman (Çok Az) Doğru Doğru Doğru Değil Doğru Benim hakkımda güzel şeyler söyler. 1. 2. Benimle hiç ilgilenmez. Benim için önemli olan şeyleri ona 3. anlatabilmemi kolaylaştırır. Hak etmediğim zaman bile bana vurur. 4. 5. Beni büyük bir başbelası olarak görür. Kızdığı zaman beni çok kötü cezalandırır. 6. Sorularımı cevaplayamayacak kadar 7. П meşguldür. Benden hoşlanmıyor gibi. 8. \square 9. Yaptığım şeylerle gerçekten ilgilenir. 10. Bana bir sürü kırıcı şey söyler. Ondan yardım istediğimde benimle 11. ilgilenmez. Bana istenilen ve ihtiyaç duyulan biri 12. olduğumu hissettirir. 13. Bana çok ilgi gösterir. 14. Beni kırmak için elinden geleni yapar. 15. Hatırlaması gerekir diye düşündüğüm önemli şeyleri unutur.

*Eğer annesi değilse, çocuğa bakım veren kadın düşünülerek doldurulmalıdır.

		DOĞRU		DOĞRU DEĞİL		
ANN	IEM	Hemen Her Zaman Doğru	Bazen Doğru	Nadiren (Çok Az) Doğru	Hiçbir Zaman Doğru Değil	
16.	Eğer kötü davranırsam, beni artık sevmediğini hissettirir.					
17.	Bana yaptığım şeylerin önemli olduğunu hissettirir.					
18.	Yanlış bir şey yaptığımda beni korkutur veya tehdit eder.					
19.	Benim ne düşündüğüme önem verir ve düşündüklerim hakkında konuşmamdan hoşlanır.					
20.	Ne yaparsam yapayım, diğer çocukların benden daha iyi olduğunu düşünür.					
21.	Bana istenmediğimi belli eder.					
22.	Beni sevdiğini belli eder.					
23.	Onu rahatsız etmediğim sürece benimle ilgilenmez.					
24.	Bana karşı yumuşak ve iyi kalplidir.					



Counting Task 1









Counting Task 2





Finding the Number

2	9	6

8	1	4

3	7	5

4	9	1

2	8	5

One-to-One Correspondence











Addition task









Quantity Task











APPENDIX H: Color Task



APPENDIX I: Human Participants Ethic Committee Permission

ORTA DOĞU TEKNİK ÜNİVERSİTESİ MIDDLE EAST TECHNICAL UNIVERSITY UYGULAMALI ETİK ARAŞTIRMA MERKEZİ APPLIED ETHICS RESEARCH CENTER DUMLUPINAR BULVARI 06800 CANKAYA ANKARA/TURKEY T: 490 312 210 22 91 Fi 490 312 210 29 95 Fi 490 312 210 79 95 Ei 490 312 210 79 95 ueam®metu edu it www.ueam.metu.edu.tr 24.07.2014 Gönderilen : Prof.Dr. Sibel Kazak Berument Psikoloji Gönderen : Prof. Dr. Canan Özgen Lananbygen IAK Başkanı İlgi : Etik Onayı Danışmanlığını yapmış olduğunuz Psikoloji Bölümü öğrencisi Şükran Okur'un "The Influence of Poverty on School Readiness of 5-Year-Old Children: Mediating Roles of Maternal Factors and Home Environment" isimli araştırması "İnsan Araştırmaları Komitesi" tarafından uygun görülerek gerekli onay verilmiştir. Bilgilerinize saygılarımla sunarım. Etik Komite Onayı Uygundur 24/07/2014 nant Prof.Dr. Canan Özgen Uygulamalı Etik Araştırma Merkezi (UEAM) Başkanı ODTÜ 06531 ANKARA 3 1.07.2014 0.8

APPENDIX J: Permission for Data Collection from Mersin Governorship

T.C. ÖĞRENCİ İŞLERİ MERSIN VALILIĞİ DADEN SET MINI Aile ve Sosyal Politikalar İl Müdürlüğü Ev. Ar., Md. Saat: Say1: 14072497-503 10469 Konu: Şükran OKUR Araştırma İzin Talebi 2 6 Kasm 2014 ORTA DOĞU ÜNİVERSİTESİ REKTÖRLÜĞÜNE (Öğrenci İşleri Daire Başkanlığı) İlgi :01.10.2014 tarih ve 4844 sayılı yazınız. İlgi yazınız doğrultusunda Gelişim Psikolojisi Ana Bilim Dalı Yüksek Lisans öğrencisi Şükran OKUR'un araştırma izin talebiyle ilgili, araştırma çalışmaları için; kurumumuzdan Sosyal Ekonomik Destek Hizmeti sunulan ve katılımcı olarak değerlendirilebilecek olan kişilerin adres ve kimlik numaralarının yer aldığı liste yazımız ekinde sunulmuştur. Gereğini bilgilerinize arz ederim Şahin MERCAN Vali a. İl Müdürü Ek: -Liste (79 Sayfa) 08-12-2014-18386 Adres:Çankaya Mah.4716 Sok.No:16 33070 Akdeniz -Mersin Telefon:0(324) 237 6107-08 Faks:0(324) 2311255 K-O Telefon:0(324) 237 6107-08 TSE-ISO-EN e-posta:mersin@aile.gov.tr 9000

APPENDIX K: Consent Form

Gönüllü Katılım Formu

Bu çalışma Orta Doğu Teknik Üniversitesi Psikoloji bölümü yüksek lisans öğrencisi Şükran Okur tarafından, Prof. Dr. Sibel Kazak Berument danışmanlığında, çocukların okul olgunluğu üzerine yapılan bir çalışmadır. Çalışmanın amacı, çocukların okul olgunluğuna etkisi olan faktörlerin belirlenmesidir. Çalışmaya katılım tamamen gönüllülük esasına dayanmaktadır. Çalışmaya katılmayı kabul ettiğiniz takdirde size ve çocuğunuza bazı testler uygulanacaktır. Çalışma ev ortamında ya da şu an devam ettiğiniz kurumda yapılacaktır. Sizden kimlik bilgilerinize dair hiçbir bilgi istenmemektedir. Cevaplarınız tamamen gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir; elde edilecek bilgiler bilimsel yayımlarda kullanılacaktır.

Çalışma, genel olarak kişisel rahatsızlık verecek soruları içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü siz ya da çocuğunuz çalışmayı yarım bırakabilirsiniz. Bu çalışmaya katılımınız, çocukların okul olgunluğu üzerinde etkili olan faktörlerin belirlenmesinde faydalı olacaktır. Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz.

Çalışma hakkında daha fazla bilgi almak için,

Şükran Okur (e-posta: <u>sukran.okur@gmail.com</u>)

Sibel Kazak Berument (e-posta: sibel@metu.edu.tr)

Anne Adı-Soyadı : İmza

APPENDIX L: Extended Turkish Summary

TÜRKÇE ÖZET

GİRİŞ

Yoksulluk birçok ülke için önemli bir problemdir ve çocukların gelişimini olumsuz yönde etkilemektedir. Yoksulluk içinde yaşayan çocuklar davranış gelişimi, bilişsel ve sosyal gelişim gibi çeşitli gelişim alanlarında olumsuz yönde etkilenmektedir (Bradley ve Corwyn, 2002; Ayoub ve ark., 2009). Ekonomik problemler nedeniyle, bu çocuklar birçok risk faktörüyle baş etmek zorunda kalmaktadır (Evans ve Kim, 2013). Bu faktörler karmaşık ve az uyarıcı ev ortamı, annelerin psikolojik sağlığı ve ebeveynlik kalitesi gibi faktörlerdir. Bu çalışmada, yoksulluğun çocukların okul üzerindeki etkisinde ev ortamının özellikleri ile annenin psikolojik sağlığı ve ebeveynlik kalitesinin aracı rolü araştırılmıştır.

Yoksulluğun Tanımı

Yoksulluk, farklı yaklaşımlar tarafından farkı şekillerde tanımlanmaktadır çünkü her bir yaklaşım yoksulluğun farklı bir yönüne odaklanır. Örneğin, ekonomik refah, imkanların kısıtlılığı ya da sosyal dışlanma bunların örnekleridir (Wagle, 2002). Literatürde genellikle eğitim düzeyi ve gelir yoksulluğun göstergeleri olarak çalışılmaktadır. Bunların yanı sıra, materyal kısıtlılığı da yoksulluğun önemli göstergelerinden biridir çünkü ailenin tüketim gücünü ve yaşam standardını gösterir (Beverly, 2001). Yoksulluk çok yönlü bir yapıya sahiptir ve yoksulluk çalışmalarında, yoksulluğun farklı yönlerini değerlendiren değişkenlerin kullanılması önemlidir (Akindola, 2009). Bu çalışmada, eğitim düzeyi, ailenin geliri ve materyal kısıtlılığı, yoksulluğun göstergeleri olarak kullanılacaktır.

Ev Ortamı

Ev ortamında, çocukların uyarıcı kitaplar, oyuncaklar gibi çeşitli materyallere sahip olması, çocukların gelişimi için önemlidir (Iltus, 2007). Ekonomik problemleri olan ailelerin çocuklarının bu tür materyallere erişimi daha kısıtlıdır (Malhi, Sidhu, ve Bharti, 2014). Örneğin, çocukların gelişimini destekleyecek kitaplar ve oyuncaklar bu evlerde mevcut değildir. Ayrıca, annelerin çocuklarıyla konuşma, kitap okuma ya da hikayeler anlatma sıklığı da sosyo-ekonomik durumu iyi olan ailelere göre daha azdır. Bu nedenlerle, ev ortamı çocukların gelişimi için yeterince uyarıcı değildir. Daha az uyarıcı evlerde yaşayan çocuklar, küçük yaşlardan itibaren, bilişsel gelişimlerinde gerileme göstermektedir (Ayoub ve ark., 2009). Bunun yanı sıra, ekonomik problemleri olan ailelerin evlerinde sıklıkla bir kaos ortamı olduğu belirtilmektedir (Evans ve ark., 2005). Bu tür evler, kalabalık, rutinleri ve belirli bir düzeni olmayan evlerdir. Bu tür evler, çocuklar için fazla uyaran içermesi ve çocukları bir düzensizliğe maruz bırakması nedeniyle çocukların gelişimini olumsuz olarak etkilemektedir. Ayrıca, karmaşık ev ortamı, sadece çocuklar için değil, bütün aile bireyleri için de stres faktörüdür.

Annelerin Psikolojik Sağlığı ve Ebeveynlik

Ev ortamının uyarıcılığının yanı sıra, çocukların anne ile iletişimleri de çocukların gelişimi için önemlidir. Anneleriyle olan iletişimleri sonucu, çocuklar yeni şeyler öğrenir ve gelişimleri olumlu yönde etkilenir (Ayoub ve ark., 2009). Örneğin, anneleriyle iletişimi daha iyi olan çocukların, iletişim becerilerinde ve alıcı dil gelişimlerinde daha iyi oldukları bulunmuştur (Connell ve Prinz, 2002). Yoksulluk, ev ortamının yanı sıra, annelerin psikolojik sağlığını da olumsuz etkilemektedir. Literatürde yoksulluk içinde yaşayan annelerin sıklıkla depresyon yaşadıkları ve depresyonun da annelerin ebeveynlik kalitesini düşürdüğü rapor edilmektedir (Kiernan ve Mensah, 2009; Newland ve ark., 2013). Annelerin çocuklarına sıcaklık göstermesi çocukların gelişimini olumlu yönde etkilerken, annelerin reddedici ebeveynlik davranışları ise, çocukların gelişimini olumsuz yönde etkilemektedir. Dolayısıyla, annelerin ebeveynlik türünün çocukların gelişimi

Okul Olgunluğu

Yoksulluğun çocuklar üzerinde etkili olduğu önemli alanlardan biri okul olgunluğudur. Okul olgunluğu, çocukların okula başladıklarında belirli birtakım becerilere sahip olmasıdır (Snow, 2006). Bu beceriler arasında, matematik ve sayı becerileri, kelime bilgisi, sesbilgisel farkındalık gibi beceriler yer almaktadır. Ekonomik olarak dezavantajlı ailelerde yaşayan çocukların, okula hazır olarak başlamadıkları literatürde desteklenmektedir (High, 2008). Ayrıca, daha sonraki okul hayatlarında, bu tür ailelerden gelen çocukların özellikle okuma ve matematik becerilerinde düşük notlar aldıkları belirtilmektedir (Duncan ve Magnuson, 2005). Bu çocukların okula hazır olarak başlayamamaları, ev ortamının yeterince uyarıcı olamaması, evde bir düzensizliğin hakim olması, ve annelerin psikolojik sağlığıyla bağlantılı olarak ebeveynlik kalitesinin düşmesi gibi faktörlerle ilişkilidir (Barbarin ve ark., 2006).

Milli Eğitim Bakanlığı'nın anaokulları için hazırladığı müfredata göre (Okul Öncesi Eğitim Programı, 2014), çocuklar anaokulu döneminde renk ve şekil bilgisine sahip olmalı, basit toplama ve çıkarma işlemleri yapabilmeli, kelime bilgilerinde artış göstermeli ve sesbilgisel farkındalığa sahip olmalıdır. Ancak, yoksulluk Türkiye'de de var olan bir durumdur ve çocuklar gelişimsel olarak en fazla risk altında olan gruptur (Aran vd., 2010).

Şu ana kadar Türkiye'de yoksulluk ile ilgili çoğunlukla ekonomi (Sengul ve Tuncer, 2005, Gurses, 2009) ve sosyoloji (Buğra ve Keyder, 2005; Adaman ve Keyder, 2006; Dansuk, Özmen, ve Erdoğan, 2007; Bayram ve ark., 2012) alanında yapılmış çalışmalar bulunmaktadır. Okul olgunluğu ise daha çok eğitim alanında çalışılmıştır (Bekman, 2004; Unutkan, 2006; Wise, 2007; Yüksel, Kadıköy, ve Ünsal, 2013). Bunların yanı sıra, dezavantajlı ailelerin çocuklarının gelecekteki akademik başarılarını iyileştirmek için okul öncesi dönemde uygulanmış müdahale programları bulunmaktadır (Kagitcibasi ve ark., 2009; Bekman, Aksu-Koç, ve Erguvanlı-Taylan, 2011). Ancak, yoksulluk ve okul olgunluğu konularını birlikte çalışmış, kapsamlı bir çalışma bulunmamaktadır. Bu çalışmada, yoksulluğun 5 yaş çocuklarının okul olgunluğu üzerine etkisi araştırılmıştır. Okul olgunluğu kapsamında çocukların kelime bilgisi, dilbilgisel farkındalığı, renk bilgisi ve matematik becerileri değerlendirilmiştir. Yoksulluğun göstergeleri olarak ailenin geliri, anne-babanın eğitim düzeyi, materyal kısıtlılığı ve ailenin gıda güvencesizliği gibi değişkenler alınmıştır. Ev ortamının karmaşıklığı ve uyarıcılığı, annelerin psikolojik sağlığı ve ebeveynlik kalitesi gibi faktörlerin bu ilişkiye aracılık etmesi beklenmiştir.

Hipotezler

1. a) Yoksulluk değişkenlerinin ev ortamı değişkenleriyle ilişkili olması, ev ortamı değişkenlerinin de çocukların okul olgunluğu ile ilişkili olması beklenmektedir.

b) Ev ortamı değişkenlerinin, yoksulluk değişkenleri ile okul olgunluğu değişkenleri arasındaki ilişkiye aracılık etmesi beklenmektedir.

2. a) Yoksulluk değişkenlerinin annelerin depresyonu ile ilişkili olması, annelerin depresyonunun ebeveynlik kalitesi ile ilişkili olması ve ebeveynlik kalitesinin de çocukların okul olgunluğu ile ilişkili olması beklenmektedir.

b) Annelerin depresyonunun, yoksulluk değişkenleri ile ebeveynlik kalitesi arasındaki ilişkiye aracılık etmesi beklenmektedir.

c) Ebeveynlik kalitesinin, annelerin depresyonu ve okul olgunluğu değişkenleri arasındaki ilişkiye aracılık etmesi beklenmektedir.

YÖNTEM

Örneklem

Mersin ve Ankara'nın düşük sosyo-ekonomik bölgelerinde yaşayan 5 yaşındaki çocuklar ve anneleri katılmıştır. Katılımcılardan ikisi ölçeklerin eksik dolmuş olması ve dikkat problemi nedeniyle çalışmadan çıkarılmıştır. Çocukların yaşları 59 ve 73 ay aralığındaydı (O = 65.77, SS = 3.54). Çocuklardan 109'u kız, 98'i erkektir. Annelerin

yaşları 22 ve 49 arasında değişmektedir (O = 33.19, SS = 5.27). Annelerin %89'u ev hanımıdır.

Ölçekler

Demografik Bilgi Formu: Bu çalışmada kullanılmak üzere detaylı bir demografik bilgi formu hazırlanmıştır. Bu formun geliştirilmesinde Türkiye'de Erken Çocukluk Gelişim Ekolojileri (TEÇGE; Baydar ve ark., 2008) kullanılan Hane Gelir-Gider Anketi'nden faydalanılmıştır. Demografik bilgi formu, ebeveynlerin eğitim düzeyi, mesleği, geliri, evde yaşayan çocuk sayısı, akraba ya da çeşitli kurumlardan alınan yardım gibi detaylı bilgileri içermektedir.

Yoksulluk Göstergeleri

Eğitim: Anne-babaların eğitim seviyeleri, demografik bilgi formundan alınmıştır. Mezun olunan okul durumuna göre ebeveynlerin eğitim durumu puanlanmıştır (1- okuma-yazma bilmiyor, 2-eğitimi yok ama okuma-yazma biliyor, 3- ilkokul, 4- ortaokul, 5- lise, 6- üniversite). Anne babanın eğitim durumuna göre puanları toplanıp ikiye bölünmüştür.

Gelir-ihtiyaç oranı: Ailenin aylık geliri, ülkenin yoksulluk sınırı olarak belirlenen miktara bölünmüştür. Düşük puanlar, yoksulluğun daha fazla olduğunu göstermektedir. Puanı 1 ve daha düşük olan aileler çalışmaya dahil edilmiştir.

Gıda Güvencesizliği: Ailelerin gıda güvencesizliği Community Childhood Hunger Identification Project (CCHIP) Hunger Index (Food Research and Action Center, 1995) ile değerlendirilmiştir. Ölçek 8 maddeden oluşmakta ve cevaplar "evet/hayır" formatındadır. "Evet" olan her cevap 1, "hayır" olan her cevap 0 olarak puanlanmaktadır. Daha sonra bu puanlar toplanarak her bir ailenin gıda güvencesizliği puanı hesaplanmaktadır.

Materyal Kısıtlılığı: Evde bulunan materyaller ve olanakların ölçülebilmesi için Hane Gelir-Gider Anketi (Baydar ve ark., 2008)'nden alınan 10 maddeden oluşan bir ölçüm aracı oluşturulmuştur. Bu ölçüm aracında, plazma televizyon, bilgisayar, internet

bağlantısı, araba, bulaşık makinesi, akıllı telefon, yazlık ev, kredi kartı borcu, yurt içi tatil imkanı ve evin kira olup olmadığı sorulmuştur. Olmayan her şey için 1 puan verilmiştir (kredi kartı borcu ve evin kira olup olmaması ters kodlanmıştır). Daha sonra bu puanlar toplanmıştır.

Ev Ortamı

Ev Ortamı Anketi: Ev ortamının uyarıcılığını değerlendirmek için Ev Ortamı Anketi (Miser & Hupp, 2012) kullanılmıştır. Ölçek maddeleri Türkçe 'ye çevrilmiştir. Ölçek 17 maddeden oluşmaktadır. Daha sonra EGÖ-TR (Baydar ve Bekar, 2007)'den 14 ek madde eklenmiştir. Ölçek maddeleri, kitap, eğitici oyuncaklar gibi materyaller ile çocuğa kitap okumak, renkleri, sayıları öğretmek gibi aktivitelerin sıklığını ölçmektedir.

Aile Çevresi Kaos Ölçeği: Matheny, Wachs, Ludwig, ve Philips (1995) tarafından geliştirilen ölçek, Sümer, Harma, ve Solak (2013) tarafından Türkçe 'ye çevrilmiştir. Ölçeğin amacı, ev ortamındaki kaosu değerlendirmektir. Ölçek 15 maddeden oluşmaktadır ve her madde 1-6 arasında puanlanmaktadır. Yüksek puanlar, yüksek düzeydeki kaosu göstermektedir.

Annenin Depresyon Belirtileri: Annelerin depresyon düzeylerinin ölçülmesinde Derogatis (1992) tarafından geliştirilen, Şahin ve Durak (1994) tarafından Türkçe adaptasyonu yapılan Kısa Semptom Envanteri'nin depresyon alt ölçeği kullanılmıştır. Bu alt ölçek, 12 maddeden oluşmakta ve her bir madde 1-5 arasında puanlanmaktadır. Yüksek puanlar, yüksek düzeydeki depresyonu göstermektedir.

Ebeveynlik: Rohner (2012) tarafından geliştirilen Erken Çocukluk Ebeveyn Kabul-Red Ölçeği kullanılmıştır. Ölçek, 24 maddeden oluşmakta ve çocukların raporlarına dayanmaktadır. Ölçek oyun formatında uygulanmaktadır. Ölçek, ebeveynliğin 4 farklı boyutunu değerlendirmektedir: sıcaklık-şefkat, ihmalkarlık-ilgisizlik, saldırganlık düşmanlık ve ayrışmamış reddetme. Bu çalışma kapsamında toplanan veri üzerinde yapılan Faktör Analizi bulgularında ölçek 3 faktöre ayrışmıştır: sıcaklık-şefkat, ihmalkarlık-ilgisizlik ve saldırganlık düşmanlık. *Kelime Bilgisi*: Çocukların alıcı kelime bilgileri Türkçe İfade Edici ve Alıcı Dil Testi (TIFALDI; Berument ve Güven, 2013) kullanılarak değerlendirilmiştir. Testin sadece alıcı dil becerilerini değerlendiren versiyonu kullanılmıştır. Çocukların testteki doğru cevaplarına ve yaşlarına göre, standart bir puan hesaplanmaktadır.

Sesbilgisel Farkındalık: Erken Okuryazarlık Becerilerini Değerlendirme Aracı (Karaman ve Güngör Aytar, 2013)'nın uyaklı sözcükleri eşleştirme ve aynı sesle başlayan sözcükleri eşleştirme boyutları kullanılmıştır. Fakat, aynı sesle başlayan sözcükleri eşleştirmenin iç tutarlığı çok düşük olduğundan kullanılmamıştır.

Matematik Becerileri: Çocukların matematik becerilerini değerlendirmek için, çeşitli okul olgunluğu testlerinden ve okul öncesi eğitim kitaplarından faydalanılarak 7 farklı test hazırlanmıştır. Testlerin amacı çocukların sayı sayma, basit toplama yapabilme, geometrik şekilleri ve miktar olarak zıtlıkları bilme gibi becerilerini ölçmektir. Her bir test 5 setten oluşmakta ve kolaydan zora doğru gitmektedir. Çocukların her doğru cevapları için 1 puan verilmiş ve bu puanlar toplanmıştır.

Renk Testi: Çocukların renk bilgilerini değerlendirmek için bir kağıt üzerinde 10 tane top bulunan ve her bir topun farklı bir renkle boyandığı bir test oluşturulmuştur. Doğru her cevap için 1 puan verilmiş ve bu puanlar toplanmıştır.

BULGULAR

Eksik verilerin doldurulmasında, betimleyici istatistiklerin ve korelasyonların analizinde SPSS 22, hipotezlerin test edilmesinde ise LISREL 9.2 (Jöreskog ve Sörbom, 2015) kullanılmıştır. Betimleyici istatistikleri incelendiğinde, neredeyse bütün çocukların renkleri bildiği görülmüştür (O = 9.26, SS = 1.75). Bu nedenle renk bilgisi daha sonraki analizlere dahil edilmemiştir.

Ön Analizler

Başlangıçta, hipotezlerin iki farklı modelde test edilmesi planlanmıştı. Bu şekilde yapılan analizlerde, 1. modelde, ev ortamındaki kaos, hiçbir okul olgunluğu değişkeni ile ilişkili
bulunmadı. Literatürdeki başka bir çalışmadan yola çıkarak (Martin, Razza, ve Brooks-Gunn, 2012) ev ortamındaki kaosun, ev ortamının uyarcılığının yordayıcısı olarak alınmasına karar verildi. İkinci modelde ise, yoksulluk değişkenlerinden hiçbiri ve depresyon annenin ihmalkar ebeveynliğini yordamadı. Bu nedenle, annenin ihmalkar ebeveynliği daha sonraki analizlerden çıkarıldı. Ayrıca, iki farklı modelde yer verilen değişkenlerin literatürde birbiriyle ilişkili olarak rapor edilmesi nedeniyle, iki model birleştirilerek değişkenler tek bir modelde toplandı.

Çalışmanın hipotezleri path analizi yöntemiyle yapısal eşitlik modeli kullanılarak test edilmiştir. Anlamlı olmayan bağlantılar modelden çıkarılmış ve ebeveynlik değişkenleri arasına ve okul olgunluğu değişkenleri arasına hata kovaryansları eklenmiştir. Model, veri ile oldukça iyi bir uyum göstermiştir, $\chi^2(38, N = 184) = 45.3, p > .05, RMSEA = .03, 90\%$ CI [0, .07], *CFI* = .98, *GFI* = .96, *AGFI* = .92, *NNFI* = .96 (Figure 3.2).

Ev Ortamındaki Kaosu Yordayan Değişkenler

Yoksulluk değişkenlerinden ailenin geliri negatif ($\beta = -.19$, p = .01), gıda güvencesizliği pozitif ($\beta = .24$, p = .01) yönde ilişkili bulunmuştur. Değişkenler birlikte %12 varyans açıklamıştır.

Annenin Depresyonunu Yordayan Değişkenler

Ev ortamındaki kaos ($\beta = .28, p < .001$) ve gıda güvencesizliği ($\beta = .19, p = .01$) pozitif, ailenin geliri ($\beta = .12, p = .04$) ise negatif yönde annenin depresyonunu yordamıştır. Değişkenler birlikte %19 varyans açıklamıştır.

Ev Ortamının Uyarıcılığını Yordayan Değişkenler

Ailenin geliri ($\beta = .25, p < .001$) pozitif yönde, gıda güvencesizliği ($\beta = -.21, p = .01$), ev ortamındaki kaos ($\beta = -.21, p = .002$) ve annenin depresyonu ($\beta = -.13, p < .05$) negatif yönde ev ortamının uyarıcılığını yordamıştır. Değişkenler birlikte %30 varyans açıklamıştır.

Ebeveynlik Boyutlarını Yordayan Değişkenler

Gıda güvencesizliği, annenin sıcaklığını ($\beta = -.16$, p = .01) negatif yönde, annenin saldırgan ebeveynliğini ($\beta = .19$, p = .02) pozitif yönde yordamıştır. Gıda güvencesizliği, annenin sıcaklığında %3, saldırgan ebeveynliğinde ise %4 varyans açıklamıştır.

Okul Olgunluğu Sonuçlarını Yordayan Değişkenler

Ev ortamının uyarıcılığı ($\beta = .28, p < .001$) pozitif, materyal kısıtlılığı ($\beta = -.14, p = .02$) ve annelerin saldırgan ebeveynliği ($\beta = -.17, p < .001$) ise negatif yönde çocukların alıcı kelime bilgilerini yordamıştır. Değişkenleri birlikte %15 varyans açıklamıştır.

Çocukların matematik becerileri, ev ortamının uyarıcılığı ($\beta = .23$, p = .001) ile pozitif yönde, annelerin saldırgan ebeveynliği ($\beta = -.20$, p = .01) ile ise negatif yönde ilişkili bulunmuştur. Değişkenler matematik becerilerinde %10 varyans açıklamıştır.

Ebeveynlerin eğitim düzeyleri ($\beta = .22$, p = .003) pozitif yönde, annelerin saldırgan ebeveynliği ($\beta = .19$, p = .01) ise negatif yönde çocukların sesbilgisel farkındalığını yordamıştır. Değişkenler birlikte %9 varyans açıklamıştır.

Yoksulluk Değişkenlerinin Ev Ortamındaki Kaos Aracılığı ile Annelerin Depresyonu Üzerindeki Dolaylı Etkisi

Ev Ortamındaki kaos, ailenin geliri ve depresyon arasındaki ilişki (b = -.29, SE = .14, t = -2.02) ile gıda güvencesizliği ve depresyon (b = .03, SE = .01, t = 2.32) arasındaki ilişkiye anlamlı bir şekilde aracılık etmiştir.

Yoksulluk Değişkenlerinin Ev Ortamındaki Kaos ve Depresyon Aracılığı ile Ev Ortamının Uyarıcılığı Üzerine Dolaylı Etkisi

Ev ortamındaki kaos ve depresyon birlikte, ailenin geliri ve ev ortamının uyarcılığı arasındaki ilişkiye anlamlı bir şekilde aracılık etmiştir (b = 3.4, SE = 1.34, t = 2.54). Aracı değişkenlerin bu ilişkideki rollerini tek tek görmek için Sobel test ile analiz yapılmıştır. Sonuçlara göre, ev ortamındaki kaos, bu ilişkiye anlamlı bir şekilde aracılık etmiştir (z = 1.99, p < .05). Fakat annenin depresyonunun bu ilişkideki aracı rolü istatistiksel olarak anlamlı bulunmamıştır (z = 1.43, p > .05).

Ayrıca, ev ortamındaki kaos ve depresyon birlikte, gıda güvencesizliği ve ev ortamının uyarcılığı arasındaki ilişkiye anlamlı bir şekilde aracılık etmiştir (b = -.32, SE = .12, t = -2.55). Sobel test sonuçlarına göre, ev ortamındaki kaosun bu ilişkideki aracı rolü istatistiksel olarak anlamlı iken (z = 2.06, p = .04), depresyonun bu ilişkideki aracı rolü anlamlı değildir (z = 1.61, p > .05).

Ev Ortamındaki Kaosun Annenin Depresyonu Aracılığı ile Ev Ortamının Uyarcılığı Üzerindeki Dolaylı Etkisi

Annenin depresyonunun, kaos ve ev ortamının uyarıcılığı arasındaki ilişkideki aracı rolü istatistiksel olarak anlamlı bulunmamıştır (b = -.35, SE = .2, t = -1.73).

Yoksulluk Değişkenlerinin Ev Ortamının Uyarıcılığı ve Ebeveynlik Değişkenleri Aracılığı ile Çocukların Okul Olgunluğu Üzerindeki Dolaylı Etkisi

Ev ortamının uyarıcılığı, ailenin gelir düzeyi ve çocukların alıcı kelime bilgileri arasındaki ilişkiye anlamlı bir şekilde aracılık etmiştir (b = 9.79, SE = 3.09, t = 3.17). Ayrıca, ev ortamının uyarıcılığı ve annenin saldırgan ebeveynliği birlikte, gıda güvencesizliği ve alıcı kelime bilgileri arasındaki ilişkiye de aracılık etmiştir (b = -.91, SE = .25, t = -3.69). Sobel test sonuçlarına göre, ev ortamının uyarcılığının bu ilişkideki aracı rolü anlamlı iken (z = 2.2, p = .03), annenlerin saldırgan ebeveynliğinin bu ilişkideki aracı rolü sınırda olarak anlamlı bulunmuştur (z = 1.76, p = .08).

Ailenin gelirinin, ev ortamının uyarıcılığı aracılığı ile matematik becerileri üzerindeki dolaylı etkisi anlamlı bulunmuştur (b = 4.11, SE = 1.61, t = 2.55). Ayrıca, Ev ortamının uyarcılığı ve annelerin saldırgan ebeveynliği birlikte, gıda güvencesizliği ve matematik becerileri arasındaki ilişkiye anlamlı bir şekilde aracılık etmiştir (b = -.43, SE= .14, t = -3.11). Sobel test sonuçlarına göre, ev ortamının uyarıcılığı bu ilişkiye anlamlı bir şekilde aracılık ederken (z = 2.0, p < .05), annelerin saldırgan ebeveynliğinin aracı etkisi sınırda olarak anlamlı bulunmuştur (z = 1.82, p = 07). Annelerin saldırgan ebeveynliğinin, gıda güvencesizliği ve çocukların sesbilgisel farkındalığı arasındaki ilişkideki aracı rolü incelenmiş fakat istatistiksel olarak anlamlı bulunmamıştır (b = -.05, SE = .03, t = -1.74).

Annelerin Depresyonu ve Ev Ortamındaki Kaosun, Ev Ortamının Uyarıcılığı ve Ebeveynlik Boyutları Aracılığı ile Çocukların Okul Olgunluğu Üzerine Dolaylı Etkisi

Ev ortamının uyarıcılığı, ev ortamındaki kaos ve alıcı kelime bilgileri arasındaki ilişkiye anlamlı bir şekilde aracılık etmiştir (b = -1.4, SE = .47, t = -3.1). Ancak, ev ortamının uyarcılığının, depresyon ve kelime bilgisi arasındaki ilişkideki aracı rolü anlamlı bulunmamıştır (b = -.75, SE = .4, t = -1.89).

Ev ortamındaki kaosun, ev ortamının uyarıcılığı aracılığı ile çocukların matematik becerileri üzerindeki dolaylı etkisi anlamlıdır (b = -.59, SE = .25, t = -2.38). Ancak, ev ortamının uyarıcılığı, depresyon ve matematik becerileri arasındaki ilişkiye aracılık etmemiştir (b = -.32, SE = .2, t = -1.61).

TARTIŞMA

Çalışmanın bulguları incelendiğinde, bulguların çoğunluğu literatürdeki diğer çalışmalarla uyum içerisindedir. Yoksulluk değişkenlerinden, ailenin geliri ve gıda güvencesizliğinin diğer değişkenlerle daha ilişkili olduğu görülmüştür. Özellikle ev ortamındaki kaos ve ev ortamındaki uyaranlar aracılığı ile çocukların kelime bilgileri ve matematik becerilerini yordamışlardır. Bunun yanı sıra, annelerin saldırganca ebeveynliği, çocukların okul olgunluğu sonuçlarının tamamı üzerinde negatif yönde etkili bulunmuştur.

Çalışma değişkenlerinden bazıları arasında ilişki beklenmesine rağmen, ilişki bulunamamıştır. Örneğin, depresyonun annelerin ebeveynlik boyutları ile ilişkili çıkması beklenmiştir. Literatürde, annenin depresyonunun ebeveynlik kalitesini etkilediği ve annelerin çocuklarına olan duyarlılığını azalttığını gösteren çalışmalar vardır (Albright ve Tamis-LeMonda, 2002; Burchinal ve ark., 2006; Kiernan ve Mensah, 2009; Newland ve ark, 2013). Bu çalışmanın örneklemine genel olarak bakıldığında, annelerin depresyon

seviyelerinin oldukça düşük olduğu görülmektedir. Bu çalışma kapsamında değerlendirmeyen bir değişken olan sosyal destek, annelerin düşük depresyon seviyelerinin bir nedeni olabilir. Çalışmaya katılan anneler, stresli koşullarda yaşıyor olmalarına rağmen, çevrelerindeki kişilerden aldıkları sosyal destek sayesinde depresyon yaşamıyor olabilirler ve bu durum onların ebeveynliğini olumsuz yönde etkilemeyebilir.

Çalışmanın beklenmeyen bir başka sonucu ise, annelerin sıcaklığının, çocukların okul olgunluğu sonuçlarından hiç biri ile ilişkili bulunmamasıdır. Literatürde, ebeveynlik boyutlarından özellikle annelerin sıcaklığı, çocukların sonuçlarının yordayıcısı olarak rapor edilmektedir (Landry ve ark., 2001; Mistry ve ark., 2010; Watkins-Lewis ve Hamre, 2012). Ancak, literatürdeki bu çalışmalarda, annelerin ebeveynlik kalitesi, annelerin raporlarına ya da gözleme dayanarak ölçülmektedir. Ancak, bu çalışmada, ebeveynlik çocukların raporları üzerinden değerlendirilmiştir. Dolayısıyla, çocukların rapor ettiği annelerin saldırgan ebeveynliği, annelerin sıcaklığına kıyasla, çocukların gelişimsel sonuçları üzerinde daha etkili olabilir.

Çalışmanın Kısıtlılıkları

Öncelikle, çalışmanın boylamsal bir dizaynı olmaması nedeniyle, bu çalışmanın bulgularında yola çıkarak neden-sonuç ilişkisine yönelik çıkarımlar yapmak mümkün değildir. Çalışmanın ikinci kısıtlılığı, çalışmanın örneklemi ile ilgilidir. Çalışmanın verileri Türkiye'nin iki farklı şehrinden toplanmış olduğu için, çalışma bulgularının bütün Türkiye'ye genellenmesi yanlıştır. Ayrıca, her iki şehirden toplanan veri miktarı eşit değildir. Çalışma verisinin çoğunluğu Mersin'den toplanmış ve bu durumun çalışma sonuçlarını etkileyebileceği düşünülmektedir. Çalışmanın bir başka kısıtlılığı, veri toplama yönteminin çeşitliliğidir. Verinin bir kısmı ev ziyaretleri şeklinde toplanmış ve okuma-yazma becerisi yeterli olmayan annelere yardım edilmiştir. Okul öncesi okullardan toplanan verilerde is anketler evlere gönderilmiş ve okuma-yazması yeterli olmayan annelerin formları nasıl doldurduğuna dair bir bilgi yoktur. Son olarak, çocukların %85'i herhangi bir okul öncesi okula devam etmekteydi. Bu nedenle,

çocukların ev ortamında öğrendiği bilgileri, okulda öğrendiklerinden ayırmak mümkün değildir.

Çıkarımlar ve Gelecek Çalışmalar için Öneriler

Bu çalışmanın sonuçlarından yola çıkarak, sosyal politikalar geliştirilebilir. Örneğin, özellikle ailenin gelir düzeyinin ve gıda güvencesizliğinin olumsuz sonuçlarla ilişkili olduğu görülmüştür. Bu nedenle, maddi sıkıntı çeken ya da gıda güvencesizliği yaşayan ailelere maddi destek sağlanabilir. Bunun yanı sıra, müdahale programları ile çocukların gelişimleri desteklenebilir. Örneğin, çalışma sonuçlarına göre, ev ortamındaki uyaran azlığı ve annelerin saldırgan ebeveynlikleri, çocukların gelişimi için risk faktörleri olarak bulunmuştur. Yapılacak müdahale programları ile ev ortamının uyarıcılığı arttırılabilir ve annelere ebeveynlik üzerine eğitim verilebilir. Ayrıca, bu çalışma, daha fazla şehirden veri toplanarak tekrarlanabilir ve sonuçlar Türkiye'ye genelleyerek Türkiye'de yoksulluğun çocukların gelişimi üzerindeki etkisi hakkında daha iyi bilgiye sahip olunabilir. Ayrıca, çocukların gelişimleri okul öncesi dönemden başlayarak takip edilebilir ve okul yılları boyunca da izlenerek, yoksulluğun çocukların gelişimi üzerindeki uzun vadeli etkilerine ışık tutulabilir.

Sonuç

Bu çalışma, yoksulluğun çocukların okul olgunluğuna etkisindeki aracı faktörlerin belirlenmesine katkı sağlamıştır. Özellikle ailenin gelir düzeyi ve gıda güvencesizliği, ev ortamındaki kaos, ev ortamının uyarıcılığı ve annelerin saldırganca ebeveynliği aracılığı ile çocukların okul olgunluğu sonuçlarını yordamıştır. Çalışmanın sonuçlar, literatürdeki diğer çalışmaları destekler nitelikte olup, yoksulluğun çocukların okul olgunluğu üzerindeki etkilerinin ev ortamının özellikleri ve anne ile ilgili faktörler aracılığı ile olduğunu bir kez daha vurgulamıştır. Çalışmanın sonuçlarını, sosyal politikaların geliştirilmesine ve müdahale programlarının uygulanmasına ışık tutması beklenmektedir.

APPENDIX M

TEZ FOTOKOPİSİ İZİN FORMU

<u>ENSTİTÜ</u>

Fen Bilimleri Enstitüsü	
Sosyal Bilimler Enstitüsü	X
Uygulamalı Matematik Enstitüsü	
Enformatik Enstitüsü	
Deniz Bilimleri Enstitüsü	

YAZARIN

Soyadı : Okur Adı : Şükran Bölümü : Psikoloji

TEZİN ADI (İngilizce) : The Influence of Poverty on School Readiness of 5-Year-Old Children: Mediating Roles of Home Environment and Parenting

<u>TF</u>	Z İN TÜRÜ : Yüksek Lisans	X	Doktora	
1.	Tezimin tamamından kaynak gösterilm	ıek şartıyla	a fotokopi alınabilir.	
2.	 Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir. 			
3.	Tezimden bir (1) yıl süreyle fotokopi a	alınamaz.		X

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: