

# Investigation of Perceived Child Vulnerability Levels of Mothers with 4-5 Year-old Children and Factors Affecting their Perceptions

## 4-5 Yaş Çocuğa Sahip Annelerin Kırılğanlık Algı Düzeyleri Ve Kırılğanlık Algı Düzeylerini Etkileyen Faktörlerin Belirlenmesi\*

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### Abstract

This descriptive study was conducted to determine perceived child vulnerability levels of Mothers with 4-5 Year-old Children and Factors Affecting their Perceptions It was conducted in the preschools of Turkish Ministry of Education located in different areas with varying socio-economic conditions in Aydın in the 2014-2015 academic years. 263 children in these preschools (26,2% in 4 years, 73,8% in 5 years, 48,7% female, 51,3% male) and 320 mothers were chosen randomly as participants. A demographic questionnaire was used to collect data about demographic features of children and their mothers. Child Vulnerability Scale was also used to collect data about mothers' perceived child vulnerability. To analyze the data, mean standard deviation with Kolmogrov-Smirnov test and Variance Analysis were used. the mothers' perceived child vulnerability was found to be high (6.9±4.8), the ones with one child, premature, undergone a disease before and birth weight under the weight of 2500 gram (p>0, 05).

**Key Words:** Child vulnerability syndrome, perceived parental vulnerability, child vulnerable scale, preschool period

### Öz

Bu çalışma, 4-5 yaş çocuğa sahip annelerin kırılğanlık algı düzeyleri ve kırılğanlık algı düzeylerini etkileyen faktörlerin incelenmesi amacıyla yapılan tanımlayıcı bir çalışmadır. Çalışma Aydın il merkezinde Milli Eğitim Bakanlığı'na bağlı, farklı sosyo ekonomik koşullara sahip bölgelerde bulunan anaokulları arasında gerçekleştirilmiştir. Bu anaokullarında bulunan çocuklar arasından basit tesadüfi olarak belirlenen 263 çocuk (%26,2'si 4 yaş, %73,8'i 5 yaş, %48,7'si kız, %51,3'ü erkek) ve 320 anne araştırmanın çalışma grubunu oluşturmuştur. Veriler çocuk ve annelerin demografik özelliklerine yönelik "Genel Bilgi Formu" ve annelerin kırılğanlık algısı için "Çocuk Kırılğanlık Ölçeği" kullanılarak toplanmıştır. Verilerin analizinde ortalama ve standart sapma değerleri ile Kolmogrov-Smirnov testi, Student-t Testi ve Varyans Analizi kullanılmıştır. Yapılan analizler sonucunda annelerin kırılğanlık algı düzeylerinin yüksek olduğu (6.9±4.8), tek çocuğa sahip olan, çocuğu erken doğan, daha önce bir hastalık geçiren ve doğum kilosu 2500 gramın altında olan annelerin çocuklarını daha kırılğan olarak algılandıkları saptanmıştır (p>0,05).

**Anahtar sözcükler:** Kırılğan çocuk sendromu, ebeveyn kırılğanlık algısı, çocuk kırılğanlık ölçeği, okul öncesi dönem.

### Introduction

Child vulnerability syndrome was first defined by Green and Solnit (1964), and then the concept was gained a new dimension as perceived child vulnerability in parents by Thomasgard and his colleagues (1955). Perceived child vulnerability in parents is defined as constant anxiety about children even after a disease in spite of complete recovery (Allen et al., 2004; Bendell et al., 1994; Doğan, Ertem, Karaaslan and Forsyth, 2009; Green and Solnit, 1964; De Ocampo, Macias, Saylor and Katikaneni, 2003). Some parents believe that their children are sensitive to developmental or health problems (Perrin, 1989), and vulnerable or prone to illnesses for some reasons although there is no objective evidence (Forsyth, Horwitz, Leventhal, Burger, 1996). Regarding their false beliefs and perceptions, those parents view

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their children as vulnerable, so they perform protective and anxious behaviors (Thomasgard and Metz, 1996).

Thomasgard (1998, s 224) describes the factors affecting perceived child vulnerability in parents as: 1) parents' difficulties in separation-individualization, 2) parents' increased worries about health status of their children, 3) anxiety or fear about separation or experiencing a real condition (infertility and loss of a child in the first pregnancy), 4) diseases considered as life-threatening by parents (like croup and pregnancy related complications threatening maternal health) and 5) health conditions in early years of childhood having low risk. In literature, the conditions such as premature neonatal jaundice (nutrition problems, pregnancy and complications and crying in newborn child and staying in hospital, parental anxiety, postpartum depression, lack of social support were shown as risk factors causing parents perceiving their children as vulnerable (Allen et al., 2004; Doğan et al., 2009; Leslie ve Boyce, 1996). De Ocampo et al., 2003). Parents' perceiving their children as vulnerable might cause negative behavioral changes both in parents and children (De Ocampo, 2003; Estroff, 1994; Forsty, 1996; Thomasgard, 1998). This perception of parents may cause them to show an excessive protective attitude towards their children and such a relationship may affect negatively the children's psychological development (Forsyth et al., 1996). Researches highlighted the importance of the concept of vulnerability in healthy childhood during early childhood, school age and puberty and found out that children, perceived as vulnerable by their mothers because they were born premature, performed aggressive behaviors towards their friends, and showed some somatic symptoms like fatigue, stomachache and headache (Allen et al. 2004; Culley, Perrin and Chaberski, 1989). It is assumed that mothers' vulnerability perception includes difficulty in separation from the child, behaving the child like a baby, excessive tolerance, psychosomatic disorders in children and low school achievement (Green and Solnit, 1964; Thomasgard and Metz, 1997). On the other hand, the children perceived as vulnerable show their reactions to their parents in the form of excessive worry of separation, sleep disorders, discipline problems, failure in school and perceiving themselves as unhealthy (Leslie and Boyce, 1996). It is observed that there is an increase in their behaviors of going to hospital, family child interaction and problem. It is claimed that the children with learning problems and severe behavioral problems have a serious disease that threatens their lives during their early years (Allen et al., 2004; De Ocampo et al., 2003). It is assumed that parents' chronic worries and fears about vulnerability of their children cause them to display risky or dangerous behavior. This further increases parents' chronic anxiety about their children's sensitivity to disease. As a result, they suffer from a vicious circle (Culley et al., 1989; De Ocampo et al., 2003; Thomasgard et al., 1996).

Mothers considering their children as vulnerable affect not only their own life but also their children. These mothers more frequently have depression, anxiety, pessimism and inability to have pleasure in life (Allen, 2004; Forsyth, 1996). Perceived child vulnerability may result from an experience of a real loss or only fears. It does not only appear in parents with children being ill before, but also in parents with healthy children. There has been little research about why some parents perceive their children as being ill (Doğan et al., 2009). It has been reported that mothers' age, education and mental health problems may cause them to suffer from child vulnerability (Bendell et al., 1994; Field et al. 1996, Forsyth and Canny, 1991). As it is claimed in the researches, the concept of vulnerability has an important effect on the children's health, development and behaviors. Therefore, it is necessary to take the attitudes of parents of children who experienced a health problem or not into account in terms health and education of children in the future. For this reason, this study was directed towards

determining perceived child vulnerability levels and affecting factors in mothers with healthy children aged 4-5 years.

## **Method**

The study was designed as a descriptive study to identify the factors affecting vulnerability level and perception of the mothers with children at kinder garden.

### ***Working Group of the Study***

The study was conducted with the children with normal development between 4-5 years old in the preschools of Turkish Ministry of Education in Aydın, in the 2014-2015 academic years. 8 preschools with different socio-economic environment and 320 out of 910 mothers of the children in these preschools were chosen randomly as participants. However, 263 of them returned and the result of the study was based on their data.

### ***Data Collection***

A general characteristics form was used to collect data about demographic features of children and their mothers. Child Vulnerability Scale was used to collect data about mothers' perceived child vulnerability.

General characteristics form includes nine questions about the children's age, gender, whether they experienced a threatening disease, chronic disease, premature birth, birth weight, time, mother's marital status, age, education level, working status, whether she experienced a serious disease, her income rate, number of the children she has.

Child Vulnerability Scale was developed by Forsyth (1987) to measure the parents' vulnerability perception and their general worries about the children's health (Forsyth, 1987; Forsyth et al., 1996). The original scale including 12 item with 4 Likert type was administered to 320 mothers with children in 3-4 ages and confirmed its reliability. Then, Forsyth and his colleagues (1996) revised the original scale in the study conducted with 1095 mothers of the children in 4-8 ages and 8 items was chosen as reliable. The scale with 8 items for parents are rated between 0 (absolutely false) and 3 (absolutely correct). It can be scored between 0-24 from the scale and if the score is found to be high (10 and above), it shows that mothers perceive their children as vulnerable.

Items in the scale include ones such as "generally my child looks like healthier than the other children" and "I'm worried about the circles under my child's eyes" (Hullmann et al., 2010). Internal reliability of the original scale was found as .73 and total correlation of test-retest was .84 (Allen et al., 2004; Doğan vd., 2009; Forsyth, 1987; Kerruish, Settle, Campbell-Stokes, Taylor, 2005; Thomsgard, 1998). The reliability coefficient of the scale adapted to Turkish by Doğan and colleagues for the mothers with 1-30 months healthy children was found as .71, item-total correlation as .30 and above and in this sample study, Cronbach's alpha coefficient was found .80, item-total correlation was found between .42 and .63.

### ***Data Analysis***

SPSS 17.0 statistics program was used to analyze the data of the study. Descriptive statistics was shown with the mean and standard deviation values. For the statistical significance, the condition requiring p value less than 0.05 was provided (Büyüköztürk, 2013). Kolmogorov-Smirnov test was employed to detect the compliance of continuous variables into normal distribution, and Student-t Test and Variant Analysis were used to compare the continuous variables with parametric quality in independent groups. In order to find out the reliability of

Child Vulnerable Scale, the total correlation and Cronbach's alpha coefficient was calculated.

## **Findings**

**Table-1** Distribution of participant mothers' and children's socio-demographic characteristics with the characteristics of the child's birth

		<b>n</b>	<b>%</b>
Mother's age	25 years and under	10	3,8
	26 – 30 years	67	25,5
	31 – 35 years	104	39,5
	36 – 40 years	61	23,2
	41 years and more	21	8,0
Mother's education level	primary school graduate	35	13,3
	secondary school graduate	24	9,1
	High school graduates	111	42,2
	University graduate	93	35,4
Mother's work status	No	133	50,6
	Yes	130	49,4
Mother's physical or mental state of a disease from which she suffered before.	No	220	83,7
	Yes	43	16,3
The number of children the mother has	Only child	89	33,8
	Two children	131	49,8
	Three and more children	43	16,4
Child's age	4 years	69	26,2
	5 years	194	73,8
Child's gender	Female	128	48,7
	Male	135	51,3
Child's birth weight	2500 gr and under	31	11,8
	2600-3500 gr	154	58,6
	3600-4000 gr	62	23,5
	4100 gr and above	16	6,1
Child's birth time	Premature birth	40	15,2
	Born on time	197	74,9
	Post-mature birth	26	9,9
Any important diseases the child has had	No	227	86,3
	Yes	36	13,7

According to Table 1, 39,5% of 263 participant mothers are younger than 25 years old, 25,5% of them are between 31-35 and 23,2% of them are between 36-40; it was also shown that 42,2% is high school graduate and 35,4% is university graduate. 49,4% of the mothers has a job, but 50,6% does not have a job; 33,8% of them has only child and 49,8% has two children. 48,7% of the children involved in the study is female, 51,3% of them is male. According to birth weight results, 11,8% is 2500 grams and under, 58,6% is between 2600 and 3500 grams. 15,2% of the children was premature born, 74,9% was born on time and 9,9% of them was post-matured born. The data gathered from the mothers showed that while 86,3% of the children have not experienced any important diseases, 13,7% of them has had. It was also found that bronchitis (46%), pneumonia (28,5%), asthma bronchitis (17,1%) and gastroenteritis, vesicoureteral reflux (2,8%) type 1 diabetes mellitus (2,8%) and surgery were among the important diseases the children have suffered.

**Table 2** Comparison of socio demographic characteristics of participant mothers and children and the scores of Child Vulnerable Scale

<b>How old are you?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>F</b>	<b>p</b>	<b>Tukey</b>
25 years and under	10	8,5	4,6			
26 – 30 years	67	7,4	4,5			
31 – 35 years	104	6,8	5,1	1,284	0,277	-
36 – 40 years	61	6,0	4,4			
41 years and above	21	8,0	5,3			
<b>What is your educational status?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>F</b>	<b>p</b>	<b>Tukey</b>
Primary school graduate	35	8,6	4,7			
Secondary school graduate	24	7,3	5,7	2,149	0,094	-
High school graduate	111	6,9	4,9			
University graduate	93	6,2	4,3			
<b>Do you have a wage-earning job?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>t</b>	<b>p</b>	
No	130	6,3	4,4			
Yes	133	7,5	5,1	-1,950	0,052	
<b>Do you have a physical or mental illness you have had?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>t</b>	<b>p</b>	
No	220	6,9	4,9			
Yes	43	7,0	4,2	-0,151	0,880	
<b>How many children do you have?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>F</b>	<b>p</b>	<b>Tukey</b>
One child	89	8,3	5,3			
Two children	131	6,1	4,3	6,114	0,003	1-2
Three or more children	43	6,3	4,5			
<b>How old is your child going to kindergarten?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>t</b>	<b>p</b>	
60 months (5 years) under	69	6,8	4,6			
60 months and above	194	6,9	4,9	-0,232	0,817	
<b>What is the gender of your child going to kindergarten?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>t</b>	<b>p</b>	
Female	128	7,0	4,9			
Male	135	6,8	4,7	0,377	0,706	
<b>How many grams was your child going to kindergarten when born?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>F</b>	<b>p</b>	<b>Tukey</b>
2500 gr and under	31	11,1	4,0			
2600-3500 gr	154	6,6	4,8	10,419	<0,001	1-2 1-3
3600-4000 gr	62	6,1	4,2			1-4
4100 gr and above	16	4,9	4,8			
<b>What is time of birth of your child going to kindergarten?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>F</b>	<b>p</b>	<b>Tukey</b>
Premature	40	9,7	4,7			
On time	197	6,4	4,6	8,088	<0,001	1-2 1-3
Post mature	26	6,8	4,8			
<b>Is there an important disease you child has suffered from?</b>	<b>n</b>	<b>Mean</b>	<b>SS</b>	<b>t</b>	<b>p</b>	
No	227	6,2	4,6			
Yes	36	11,4	3,8	-7,276	<0,001	

The mean score of Child Vulnerable Scale the mothers participates was found  $6.9 \pm 4.8$  (min: 0, max: 21). 35, 4% of the participant mothers were determined as vulnerable (10 points and more) according to Child Vulnerable Scale. No statistically significant differences were identified between Child Vulnerable Scale and mothers' age, education level, work status, whether they have experienced any physical or mental disease, child's age and gender. It was found that the number of the children the mother has had an effect on mothers' perceiving their children as vulnerable ( $F=6,114$ ;  $p=0,003$ ). Post-hoc analysis (Tukey test) showed that the difference was derived from the difference between the ones with one child and with two children.

The birth weights of the children and the scores of the Child Vulnerable Scale were compared and it was found that the vulnerability level of the mothers with the child having 2500 grams and under birth weight was significantly higher than the other three groups ( $F=10,419$ ;  $p<0,001$ ). Post hoc analysis also indicated that the difference was between the group of 2500 grams and under and the other three groups. When the birth time of the children and the scores of the Child Vulnerable Scale were compared, a statistically significant difference was discovered ( $F=8,088$ ;  $p<0,001$ ). The vulnerability level of the mothers with premature child was found significantly high. It was seen that the vulnerability of the mothers with a child having suffered from an important disease was statistically significant rather than the others ( $t=-7,276$ ;  $p<0,001$ ).

## **Discussion and Conclusion**

In the study, it was aimed to identify the level of vulnerability of the mothers with the children at 4-5 years old, going to kindergarten and the factors affecting their vulnerability perception. While 35, 4% of the participant mothers were vulnerable according to Child Vulnerable Scale (10 points and above), 64,6% of them were found normal. Thomasgard (1998; s. 228) claims 10 points and above scored in Child Vulnerable Scale show the vulnerability perception is high. Forsyth and colleagues, in their study conducted with the mothers having 4-8 years old children, found that 10, 1% of the mothers described their children as vulnerable (Forsyth et.al., 1996). However, in another study aimed to investigate the perception of the children at the age of 4-7 years about their parents' excessive protection and vulnerability, the mothers' vulnerability level was found 31% (Thomasgard and Metz, 1996). When results of this study were compared to the studies conducted with the similar age groups, the mothers' vulnerability level was found high. It is believed that this difference is because of the differences in culture and education. The results indicated that the genders of the children do not affect the level of the mothers' vulnerability perception level. It is claimed that the tendency of granting privilege to the males in Middle East and Asian culture might be an effective factor on vulnerability perception (Abeykoon, 1995). The studies done in Turkey and west population (Perrin et al., 1989; Allen et al., 2004; Doğan et al., 2009), prove that gender does not have any effects on vulnerability perception. It is thought that since the study was conducted in a city in Aegean territory that is relatively close to the west culture, it could affect the results of the study.

It was detected that the mothers having premature children were more vulnerable than the others having children born on time and post-mature. This result support the literature findings that claim premature birth is a risk factor for the mothers' vulnerability level (Forsyth, 1987; Thomasgard, 1998; Allen et. al., 2004). In addition, the vulnerability level of the mothers having children born 2500 grams and under were statistically significant and higher than the other three groups ( $p<0,001$ ). It is believed that the children with low birth

weight have more risks of developing a disease and mothers are scared of losing their children; so these are the two main reasons affecting vulnerability perception of the mothers.

The vulnerability perception of the mothers having a child who has suffered from an important disease is higher than the others and this difference was found statistically significant ( $p<0,001$ ). While Sigal, Chagoya, Villeneuve, and Mayerovitch, (1973) believe that croup and Sigal and Gagnon, (1975) believe that acute diarrhea increases the parents' vulnerability perception, Bergman (1967) states that the mothers having children with heart murmur define their children as if they have important hearth condition or death risk. In their study, Thomasgard and Metz (1997) revealed that vulnerability perception level of the parents having children suffered from a disease before were significantly higher.

It was found that the number of the children had an effect on the mothers' perception of their children as vulnerable ( $F=6,114$ ;  $p=0,003$ ) and with the post-hoc analysis (Tukey test), it was revealed that the difference is based on the difference between the mothers with only child and the others with two or more children. The mothers with only child perceived their child more vulnerable. Although some studies done presented that the number of the children had no effect on mothers' vulnerability (Allen et al. 2004, De Ocampo et al., 2003; and Doğan et al., 2009), the findings of this study showed that it does. It is assumed that being more experienced of the mothers with two children has an effect on this situation as well.

In literature, there are different findings about the effect of mothers' age on their vulnerability perception. While the study of Forsyth and Canny (1991) asserts that younger mothers have much more vulnerable, other studies reveals that the age of the mothers do not affect the vulnerability level (Allen et al. 2004, Burger et al. 1993, De Ocampo et al., 2003; and Doğan et al., 2009). The findings of this study support the studies that claim the age of the mothers does not have any effects on vulnerability level ( $p<0,277$ ).

Some studies in the literature shows that the mothers with high education level are more vulnerable (Culley et al. 1989; Perrin et al. 1989; De Ocampo 2003). Since having higher level of education causes being more aware of risks, it claimed that it might increase the vulnerability perception. However, in this study and other similar studies (Burger et al., 1993; Forsyth et al., 1996; Doğan et al., 2009), a significant relationship between mother's education level and their vulnerability perception was not found.

Although there are a lot of studies on the negative effects of mothers' vulnerability perception on child's health and development (Allen et al., 2004; Culley et al., 1989; De Ocampo, 2003; Estroff, 1994; Forsyth, 1996; Forsyth et al., 1996; Green and Solnit, 1964; Leslie and Boyce, 1996; Thomasgard, 1998; Thomasgard and Metz, 1997), there are a few studies done in Turkey. Therefore, more information about child vulnerability perception and related factors is needed. In this study, vulnerability perception of the mothers having children in preschool period and the factors affecting it were investigated. For future studies, it is suggested to be investigated that vulnerability perception level of the mothers having children at different age groups, related factors and the effects of vulnerability perception on child's health and development.

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