

Temperament Characteristics of Preschoolers and Maternal Acceptance and Rejection Statuses of Their Mothers*

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Abstract

The study was conducted to examine the relationship between maternal acceptance-rejection and children's temperament characteristics and whether children's temperament characteristics predicted maternal acceptance-rejection. The data of the study, which employed a predictive correlational design, were obtained from 349 children in the 4-6 age group attending preschool education and their mothers. The data were collected using the Parental Acceptance-Rejection Questionnaire and the Child Behavior Checklist and analyzed using Pearson's Correlation Analysis and Multiple Linear Regression Analysis. As a result of the study, a significant relationship was found between maternal acceptance-rejection and all temperament traits except discomfort, fear, shyness, impulsivity, and approach/positive participation. It was also found that maternal coldness and lack of affection were predicted by perceptual sensitivity, low-intensity pleasure, and smiling and laughter, maternal hostility and aggression were predicted by falling reactivity and soothability, maternal indifference and neglect were predicted by sadness, and maternal undifferentiated rejection was predicted by the temperament characteristics of attentional focusing and anger/frustration.

Keywords: Maternal acceptance and rejection, child temperament characteristics, preschool period

* The study is produced from the master thesis of the first author conducted under the supervision of the second author.

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Okul Öncesi Çocukların Mizaç Özellikleri ve Annelerinin Kabul Red Durumları *

Makale Türü	Başvuru Tarihi	Kabul Tarihi
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Öz

Bu araştırma, anne kabul reddi ile çocuk mizaçı ilişkisini ve çocuk mizaç özelliklerinin anne kabul reddini yordayıp yormadığını incelemek amacıyla yürütülmüştür. Yordayıcı korelasyonel araştırma yönteminde desenlenmiş olan araştırmanın verileri okul öncesi eğitime devam eden 4-6 yaş grubu 349 çocuk ve annelerinden elde edilmiştir. Veriler, Ebeveyn Kabul Red/Kontrol Ölçeği Anne Baba Formu ve Çocuk Davranış Listesi Ölçeği ile toplanmış ve Pearson Korelasyon Analizi ve Çoklu Doğrusal Regresyon Analizi ile analiz edilmiştir. Araştırma sonucunda, rahatsızlık, korku, utangaçlık, dürtüsellik ve yaklaşım/olumlu katılım dışındaki tüm mizaç özellikleri ile anne kabul reddi arasında anlamlı bir ilişki bulunmuştur. Ayrıca anne soğukluk ve sevgisizlik puanını algısal hassasiyet, düşük yoğunluklu uyaranla memnuniyet, gülümseme ve kahkaha; anne düşmanlık/agresyon puanını azalan tepki/sakinleşme; anne ilgisizlik/ihmal puanını üzüntü; ve annenin ayrıştırılmamış reddetme puanını dikkati odaklama ve kızgınlık/düş kırıklığı mizaç özelliklerinin yordadığı görülmüştür.

Anahtar Sözcükler: Anne kabul reddi, çocuk mizaç özellikleri, okul öncesi dönem

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Introduction

Temperament is an important part of personality development and is of inherited origin. The first definition of temperament is known to date back to the Sumerians (Kılıçlar, Şahin, Sarıkaya, & Bozkurt, 2017; Taymur & Türkçapar, 2012), but the first definition of temperament as a composition of specific individual behavioral characteristics was made by Thomas and Chess in their longitudinal study of babies. They defined nine temperament characteristics and presented a triple temperament classification consisting of combinations of different temperament characteristics as easy, difficult, and slow-to-warm-up temperament (Chess and Thomas, 1996). Since then, several other scholars have provided various temperament definitions and classifications (Carminar, 1991; Goldsmith et al., 1987; Rothbart, Ahadi, Hershey, & Fisher, 2001). Rothbart defined 15 temperament characteristics (attentional focusing, inhibitory control, perceptual sensitivity, low-intensity pleasure, discomfort, falling reactivity and soothability, fear, sadness, anger/frustration, activity level, shyness, high-intensity pleasure, smiling and laughter, impulsivity, and approach) classified under the temperament factors of effortful control, negative affectivity, and extraversion (Rothbart, Ahadi, Hershey & Fisher, 2001).

Distinct temperament characteristics may become dominant and affect different areas of a child's development such as motor skills (Akin Sari, 2018), linguistic skills (Dixon & Smith, 2000), cognitive skills, and social skills (Akin Sari, 2018). Though it is an innate quality, temperament is also shaped by life experiences and becomes somewhat stable in time (Rothbart, Ahadi & Evans, 2000; Rothbart & Derryberry, 1981). Parent-child relationships are one of environmental factors that influence children's temperament (Hinde, Easton, Meller & Tamplin, 1982). Research indicated that while democratic fathers' children were more soothable, overprotective fathers' children were more fearful, authoritarian fathers' children displayed more discomfort, and permissive fathers' children had more impulsivity (Babadağı, 2015). Similarly, children's activeness and perseverance were positively related with and predicted mothers' democratic attitudes while reactivity predicted their authoritarian attitudes (Işıkoğlu Erdoğan, Yoleri & Tetik, 2017). Slagt, Dubas, Deković, and Van Aken (2016) found a relationship between unfavorable parental attitudes and children's challenging temperaments. In short, information in the literature has indicated that children's temperament and parental approaches to children affect each other reciprocally. One dimension of parental approach to children is the parental acceptance and rejection of children (Rohner, 1994).

From the perspective of the Parental Acceptance and Rejection Theory, developed by Rohner (Khaleque & Rohner, 2002), everyone receives a certain amount of warmth and affection from their primary caregivers in their childhood. The concept of warmth is related to the verbal-behavioral expressions of parents and the quality of ties established with their children. Warmth reflects a double-ended construct with acceptance on one side and rejection on the other side. Parental rejection consists of four basic terms and the combination of these: coldness and lack of affection (opposite of warmth and affection), hostility and aggression, indifference and neglect, and undifferentiated rejection. Parental warmth and affection are displayed by kisses, hugs, and pleasant words said to children. Parental aggression can be displayed by hostile and aggressive behaviors such as beating or bad words said to them. Indifferent parents may neglect or be inaccessible to their children. Undifferentiated rejection indicates that parents implicitly reject their children even if they do not display any behavior indicating rejection overtly (Rohner, Khaleque & Cournoyer, 2003).

The rejection-based behaviors of parents may result in many adverse impacts on children. Children who perceive parental rejection may have psychological adaptation problems and disorders, use addictive substances, suffer from disturbances in academic and cognitive aspects, and experience problems in their marriages (Rohner, 1994). Furthermore, it was found in a previous study that as maternal rejection increased, the levels of psychoticism and neuroticism also increased, while the level of extraversion decreased (Shahid et al., 2009). Children exposed to parental rejection are more inclined to display negative characteristics such as hostility, passive aggression or anger management issues, dependence or defensive independence, distorted self-esteem, emotional unresponsiveness, neuroticism, and a negative world view compared to accepted children (Rohner & Britner, 2002). In short, parental acceptance and rejection have serious impacts on children's development, personality, and mental health (Rohner, Khaleque & Cournoyer, 2005). Despite the reciprocal relationships between child temperament characteristics and parental approaches toward children as mentioned above, few

studies in Turkey have examined children's temperament characteristics in combination with maternal acceptance-rejection (Kaytez & Durualp, 2016). This study aimed to examine the relationship between maternal acceptance-rejection and children's temperament characteristics. Unlike previous studies which covered only a few temperament characteristics (Öztemür, 2018; Sönmez, 2019), this study covers all 15 temperament characteristics mentioned above. The research questions to be answered were:

- 1) Is there a relationship between children's temperament characteristics and maternal acceptance-rejection?
- 2) Do children's temperament characteristics predict maternal acceptance-rejection?

Method

Research Design

The study was designed with a predictive correlational research model. Correlational studies examine the relationships between two or more factors. Predictive correlational studies assess the relationships between factors and aim to predict one factor through another (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz & Demirel, 2010). This model was used to determine whether there was a relationship between children's temperament characteristics and maternal acceptance-rejection.

Sample

The population of the study consisted of 4-6-year-old children who were attending kindergartens in the central locations of Malatya and their mothers. Using the simple random sampling method, from a list of all 34 independent kindergartens within two central districts of Malatya, ten schools were randomly selected. A total of 349 children ($f = 183$, $m = 166$) from these schools and their mothers constituted the sample. Table 1 displays the demographic information of the mothers and children who participated in the study.

Table 1

Demographic Information of the Mothers

	Categories	<i>f</i>	%
Monthly household income	4000 or lower	154	44.3
	4001-7999	125	35.9
	8000 or higher	70	19.8
Number of people living in the household	3	51	14.6
	4	188	53.9
	5	79	22.6
	6 or more	31	8.9
Mother's age	35 or younger	172	49.3
	35 or older	177	50.7
Mother's Level of Education	Elementary school	38	10.9
	Secondary school	30	8.6
	High school	96	27.5
	Higher education	185	53.0
Mother's Working Status	Homemaker	207	59.3
	Working	142	40.7
Child's age	4	51	14.6
	5	200	57.3
	6	98	28.1
Child's Gender	Female	183	52.4
	Male	166	47.6
Child's Birth Order	First born child	189	54.2
	Middle child	38	10.8
	Last born child	122	35.00
Number of children in the family	1	59	16.9
	2	214	61.3
	3 or more	76	21.8

Data Collection Instruments and Procedures

Parental Acceptance-Rejection Questionnaire (PARQ)

The scale was developed by Rohner, Saavedro, and Granum (1978) and adapted to Turkish by Polat and Sunar (1988). The internal consistency coefficient of the scale was found to be $\alpha=.90$ in a validity and reliability study later performed by Anjel (1993). The original scale consisted of 60 items and four subscales (Rohner & Ali, 2016). Later, 13 items were added under the control subscale which measures the levels of control and correction parents employ over their children. As the parental control subscale measures a concept not covered by the objective of this study, it was not included. Some items of the scale are inversely scored. The minimum and maximum total acceptance and rejection scores that can be obtained from the scale, excluding the control subscale, are 60 and 240. A higher score indicates higher rejection, while a lower score indicates higher acceptance (Rohner & Khaleque, 2005). The Cronbach's alpha coefficients of the subscales of PARQ, excluding the control dimension, recalculated by Erkman and Varan (2004) are as follows: warmth and affection $\alpha=.79$, hostility and aggression $\alpha=.83$, indifference and neglect $\alpha=.68$, and undifferentiated rejection $\alpha=.59$. The Cronbach's alpha coefficient for the overall PARQ was reported as $\alpha=.74$ (Erkman and Varan, 2004 as cited in Öztürk Can and Aksel, 2017).

Child Behavior Checklist (Short Form)

The scale was developed by Rothbart et al. (1994) to measure the temperament characteristics of children aged 3-7 years. The original form had 195 items (Putnam and Rothbart, 2006). This 7-point Likert-type scale was shortened to 94 items. The scale measures 15 temperament characteristics under three categories, namely effortful control, negative affectivity, and extraversion. Effortful control reflects attentional focusing, inhibitory control, perceptual sensitivity, and low-intensity pleasure, while negative affectivity indicates discomfort, falling reactivity and soothability, fear, sadness, and anger/frustration. Additionally, extraversion refers to activity level, shyness, high-intensity pleasure, smiling and laughter, impulsivity, and approach. Some items of the scale are inversely scored. The Turkish translation, validity, and reliability study of the short form was performed by Akın Sarı, İşeri, Yalçın, Akın Aslan, and Şener (2012). The reliability coefficient of the scale was reported as $\alpha=.78$, and all Turkish temperament subscales were found to be reliable. The reliability coefficients of the 15 subscales varied between $\alpha=.47$ (impulsivity) and $\alpha=.87$ (shyness). For the validity of the scale, the compatibility of the items with the subscales was checked. It was determined that the items in all subscales were compatible with the subscales to a statistically significant extent.

The data were collected in the spring semester of the academic year of 2018-2019. After permission for data collection was received from the Provincial Directorate of National Education in Malatya, the impact size was measured, and the size of data needed to achieve reliable results was calculated. Accordingly, ten kindergartens were selected from among 34 independent kindergartens within two central districts of Malatya. The selected schools were visited, and meetings were held with the teachers who were informed that the scales should be filled out by mothers according to the objectives of the study. Notes about the objectives of the study, how the scales were to be filled out, and the voluntary basis of participation in the study were added to the data collection forms. The schools were visited again one week after the administration of the scales, and the forms were collected from the teachers. The number of data collection forms that were filled out with no missing data was 349.

Data Analysis

The Cronbach's alpha coefficient was considered for the reliability analysis. The coefficient was found as $\alpha=.78$ for PARQ and $\alpha=.80$ for the Child Behavior Checklist (Short Form). As a Cronbach's alpha value of $\alpha=.70$ is regarded as the minimum value to consider a study as reliable, it is safe to state that this study had reliable results (Gürbüz & Şahin, 2018). The correlation between the scales was examined using Pearson's correlation analysis. The prediction of the subscales of the Child Behavior Checklist (Short Form) by the subscales of PARQ was examined by multiple linear regression analysis. In the regression analysis, whether the variables had a multivariate normal distribution was determined by examining the Mahalanobis Distance values (Büyüköztürk, 2020). The variance inflation factor (VIF) and tolerance values were examined to determine whether there was a multicollinearity problem

between the predictor variables. The Durbin-Watson test was conducted to determine error independence (autocorrelation) (Seçer, 2015). The VIF and tolerance values indicated no multicollinearity, and the Durbin-Watson test results indicated no autocorrelation in the data.

Results

This section presents results regarding the relationship between children's temperament characteristics and maternal acceptance-rejection.

Table 2

Results of the Pearson's Correlation Analysis

			Coldness/ Lack of Affection	Hostility/ Aggression	Indifference/ Neglect	Undifferentiated Rejection
Effortful Control	Attentional	r	-.25*	-.19**	-.20**	-.21**
	Focusing	p	.00	.00	.00	.00
	Inhibitory Control	r	-.27**	-.27**	-.23**	-.14**
		p	.00	.00	.00	.01
	Perceptual	r	-.24**	-.03	-.06	.05
	Sensitivity	p	.00	.57	.27	.38
	Low-Intensity	r	-.27**	-.10	-.16**	-.05
	p	.00	.06	.00	.36	
Negative Affectivity	Discomfort	r	-.01	.05	.03	.06
		p	.88	.38	.60	.29
	Falling Reactivity and Soothability	r	-.08	-.25**	-.16**	-.17**
		p	.12	.00	.00	.00
	Fear	r	-.03	.04	.03	.05
		p	.55	.47	.55	.37
	Sadness	r	-.15**	-.01	-.13*	-.00
	p	.00	.87	.02	.97	
	r	.08	.25**	.15**	.30**	
	p	.15	.00	.00	.00	
Extraversion	Activity Level	r	.07	.10	.07	.06
		p	.17	.08	.19	.24
	Shyness	r	.04	.04	.08	.01
		p	.42	.49	.12	.87
	High-Intensity	r	.03	.13*	.10	.10
	Pleasure	p	.62	.01	.07	.06
	Smiling and	r	-.20**	-.08	-.14*	-.05
	Laughter	p	.00	.16	.01	.37
	Impulsivity	r	-.01	.08	.02	.09
	p	.91	.12	.69	.08	
	r	-.08	-.02	-.07	.01	
	p	.12	.79	.21	.91	

* $p < .05$, ** $p < .01$

Table 2 displays results of the Pearson's correlation analysis. Negative, weak and significant relationships were found between the *coldness and lack of affection* subscale of PARQ and the temperament characteristics of attentional focusing ($r = -.25$, $p < .05$), inhibitory control ($r = -.27$, $p < .01$), perceptual sensitivity ($r = -.24$, $p < .01$), low-intensity pleasure ($r = -.27$, $p < .01$), sadness ($r = -.15$, $p < .01$), and smiling and laughter ($r = -.20$, $p < .01$). While negative, weak and significant relationships were observed between the *hostility and aggression* subscale of PARQ and attentional focusing ($r = -.19$, $p < .01$), inhibitory control ($r = -.27$, $p < .01$), and falling reactivity and soothability ($r = -.25$, $p < .01$), positive, weak and significant relationships were found between the hostility and aggression subscale and anger/frustration ($r = .25$, $p < .01$) and between high-intensity pleasure and aggression ($r = .13$, $p < .05$). Negative, weak and significant relationships were found between the *indifference and neglect* subscale

of PARQ and attentional focusing ($r=-.20, p<.01$), inhibitory control ($r=-.23, p<.01$), low-intensity pleasure ($r=-.16, p<.01$), falling reactivity and soothability ($r=-.16, p<.01$), and smiling and laughter ($r=-.14, p<.05$), and a positive, weak and significant relationship was observed between the indifference and neglect subscale and anger/frustration ($r=.15, p<.01$). While negative, weak and significant relationships were present between the *undifferentiated rejection* subscale of PARQ and attentional focusing ($r=-.21, p<.01$), inhibitory control ($r=-.14, p<.01$), and falling reactivity and soothability ($r=-.17, p<.01$), a positive, weak and significant relationship was observed between the undifferentiated rejection subscale and anger/frustration ($r=.30, p<.01$). Finally, no significant relationships were found between the subscales of PARQ and the temperament characteristics of discomfort, fear, shyness, impulsivity, or approach.

Table 3

Results of Multiple Linear Regression Analysis for Maternal Coldness and Lack of Affection

Predictor Variables		B	Standard Error	β	t	p
		40.639	3.034		13.396	.000
Effortful Control	Attentional Focusing	-.05	.03	-.10	-1.60	.11
	Inhibitory Control	-.08	.05	-.11	-1.55	.12
	Perceptual Sensitivity	-.13	.06	-.12	-2.23	.03*
	Low-Intensity Pleasure	-.09	.04	-.14	-2.34	.02*
Negative Affectivity	Discomfort	-.01	.03	-.01	-.21	.83
	Falling Reactivity and Soothability	.00	.03	.00	.06	.96
	Fear	-.01	.02	-.02	-.35	.73
	Sadness	-.06	.04	-.09	-1.63	.10
	Anger/Frustration	.02	.03	.04	.64	.52
Extraversion	Activity Level	.00	.03	.01	.09	.93
	Shyness	.02	.03	.04	.58	.56
	High-Intensity Pleasure	.02	.03	.04	.56	.58
	Smiling and Laughter	-.07	.04	-.12	-1.97	.05*
	Impulsivity	-.01	.04	-.02	-.25	.80
	Approach	.03	.05	.03	.50	.61

R=.40, R²=.16
F=4.30, p=.000

Dependent factor: Coldness and Lack of Attention

Table 2 displays the results of the multiple regression analysis for the *coldness and lack of affection* subscale of PARQ and temperament characteristics. According to the results, the model was significant as a whole ($R=.40, R^2=.16, F_{(15-333)}=4.30, p<.01$). Temperament characteristics explained 16% of the total variance in coldness and lack of affection. While low-intensity pleasure ($\beta=-.14, p<.05$), perceptual sensitivity ($\beta=-.12, p<.05$), and smiling and laughter ($\beta=-.12, p<.05$) predicted maternal coldness and lack of affection, other temperament characteristics did not contribute to the regression model ($p>.05$).

Table 4

Results of Multiple Linear Regression Analysis for Maternal Hostility and Aggression

Predictor Variables		B	Standard Error	β	T	p
		26.374	3.678		7.171	.000
Effortful Control	Attentional Focusing	-.02	.04	-.03	-.45	.66
	Inhibitory Control	-.11	.06	-.14	-1.86	.06
	Perceptual Sensitivity	.03	.07	.03	.46	.64
	Low-Intensity Pleasure	-.04	.04	-.05	-.85	.40

Negative Affectivity	Discomfort	-.00	.03	-.01	-.12	.91
	Falling Reactivity and Soothability	-.09	.04	-.14	-2.32	.02*
	Fear	.01	.03	.02	.41	.68
	Sadness	-.04	.04	-.05	-.83	.40
	Anger/Frustration	.07	.04	.12	1.91	.06
Extraversion	Activity Level	-.04	.04	-.08	-1.11	.27
	Shyness	.01	.03	.03	.46	.64
	High-Intensity Pleasure	.05	.04	.08	1.19	.23
	Smiling and Laughter	-.05	.04	-.06	-1.03	.30
	Impulsivity	.07	.05	.10	1.46	.14
	Approach	.00	.06	.00	.02	.99

R=.36, R²=.13

F=3.32, p=.000

Dependent Factor: Hostility/Aggression

Table 3 displays the results of the multiple regression analysis for the *hostility and aggression* subscale of PARQ and temperament characteristics. According to the results, the model was significant as a whole ($R=.36$, $R^2=.13$, $F_{(15-333)}=3.32$, $p<.01$). Temperament characteristics explained 13% of the total variance in hostility and aggression. While falling reactivity and soothability ($\beta=-.14$, $p<.05$) predicted maternal hostility and aggression, other temperament characteristics did not contribute to the regression model ($p>.05$).

Table 5

Results of Multiple Linear Regression Analysis for Maternal Indifference and Neglect

Predictor Variables		B	Standard Error	β	T	p
		24.955	2.731		9.139	.000
Effortful Control	Attentional Focusing	-.03	.03	-.07	-1.09	.28
	Inhibitory Control	-.06	.04	-.10	-1.29	.20
	Perceptual Sensitivity	.03	.05	.03	.60	.55
	Low-Intensity Pleasure	-.05	.03	-.09	-1.53	.13
Negative Affectivity	Discomfort	.01	.03	.02	.34	.73
	Falling Reactivity and Soothability	-.04	.03	-.08	-1.26	.21
	Fear	.02	.02	.05	.81	.42
	Sadness	-.09	.03	-.16	-2.66	.01*
	Anger/Frustration	.03	.03	.06	.89	.37
Extraversion	Activity Level	-.02	.03	-.05	-.70	.48
	Shyness	.03	.02	.09	1.45	.15
	High-Intensity Pleasure	.05	.03	.11	1.74	.08
	Smiling and Laughter	-.04	.03	-.08	-1.26	.21
	Impulsivity	.02	.04	.05	.72	.48
	Approach	-.01	.05	-.02	-.25	.80

R=.35, R²=.12

F=3.01, p=.000

Dependent Factor: Indifference/Neglect

Table 4 displays the results of the multiple regression analysis for the *indifference and neglect* subscale of PARQ and temperament characteristics. According to the results, the model was significant as a whole ($R=.35$, $R^2=.12$, $F_{(15-333)}=3.01$, $p<.01$). Temperament characteristics explained 11% of the total variance in indifference and neglect. While sadness ($\beta=-.16$, $p\le.01$) predicted maternal indifference and neglect, other temperament characteristics did not contribute to the regression model ($p>.05$).

Table 6*Results of Multiple Linear Regression Analysis for Maternal Undifferentiated Rejection*

Predictor Variables		B	Standard Error	β	t	p
		12.222	2.046		5.973	.000
Effortful Control	Attentional Focusing	-.05	.02	-.14	-2.25	.02*
	Inhibitory Control	.03	.03	.06	.84	.40
	Perceptual Sensitivity	.05	.04	.07	1.27	.21
	Low-Intensity Pleasure	-.02	.02	-.05	-.88	.38
Negative Affectivity	Discomfort	-.01	.02	-.02	-.28	.78
	Falling Reactivity and Soothability	-.03	.02	-.09	-1.41	.16
	Fear	.00	.02	.02	.33	.74
	Sadness	-.03	.03	-.06	-1.05	.29
	Anger/Frustration	.09	.02	.26	4.03	.00*
Extraversion	Activity Level	-.02	.02	-.07	-1.05	.29
	Shyness	-.00	.02	-.01	-.19	.85
	High-Intensity Pleasure	.01	.02	.02	.36	.72
	Smiling and Laughter	-.02	.02	-.05	-.76	.45
	Impulsivity	.04	.03	.10	1.44	.15
	Approach	-.01	.03	-.01	-.18	.86
R=.36, R ² =.13						
F=3.34, p=.000						
Dependent Factor: Undifferentiated Rejection						

Table 5 displays the results of the multiple regression analysis for the *undifferentiated rejection* subscale of PARQ and temperament characteristics. According to the results, the model was significant as a whole ($R=.36$, $R^2=.13$, $F_{(15-333)}=3,34$, $p<.01$). Temperament characteristics explained 13% of the total variance in undifferentiated rejection. While anger/frustration ($\beta=.26$, $p<.01$) and attentional focusing ($\beta=-.14$, $p<.05$) predicted maternal undifferentiated rejection, other temperament characteristics did not contribute to the regression model ($p>.05$).

Discussion, Conclusion and Recommendations

The results of this study indicated negative significant relationships between the *coldness and lack of affection* subscale of PARQ and the temperament characteristics of attentional focusing, inhibitory control, perceptual sensitivity, low-intensity pleasure, sadness, and smiling and laughter. Additionally, maternal coldness and lack of affection was found to be predicted by perceptual sensitivity, low-intensity pleasure, and smiling and laughter. In other words, the children whose mothers had high levels of coldness and lack of affection were more likely to have less attentional focusing, inhibitory control, perceptual sensitivity, low-intensity pleasure, sadness, and smiling and laughter temperament characteristics. This finding supported previous studies in the relevant literature. Lengua and Kovacs (2005) found that children's temperament characteristics predicted parental acceptance. Gölcük and Kazak Berument (2019) reported that the mother's negative parenting significantly predicted the child's responsiveness and perceptual sensitivity temperament traits. Senehi and Brophy-Herb (2020) stated that a negative maternal approach towards children has a destructive effect on the intrinsic emotion-regulation behaviors of children. Additionally, Silinskas et al. (2019) revealed that high maternal warmth and low maternal stress together reduced the internalization and externalization problems of adolescents. As the first attachment figure, a mother who is cold and low in affection may negatively affect the psychological adjustment of a child (Ali, Khatun, Khaleque, & Rohner, 2018; Khaleque, 2015) which may then lead to a decrease in the child's attentional-focusing time, perceptual development, level of self-control against negative situations, and level of positive affect. Yavuz, Selçuk, Çorapçı, and Aksan (2017) reported that low maternal warmth had a significant effect on the internalization problems experienced by the child in regulating negative reactions. The child's level of self-control may decrease as a reaction to the mother's coldness. Furthermore, a child who lacks maternal warmth may start to overcome the unhappiness caused by emotional pain and disappointment

by getting used to the treatment they receive. The child's ability to cope with the mother's coldness and lack of affection may result in the reduced happiness of the child (Rohner & Khaleque, 2002).

Negative significant relationships were observed between the *hostility and aggression* subscale of PARQ and the temperament characteristics of attentional focusing, inhibitory control, and falling reactivity and soothability, whereas there were positive significant relationships of hostility and aggression with anger/frustration and high intensity pleasure. Additionally, maternal hostility and aggression were found to be predicted by falling reactivity and soothability temperament characteristics. In other words, the children whose mothers had high levels of hostility and aggression were more likely to have less attentional focusing, inhibitory control, and falling reactivity and soothability and more anger/frustration and high intensity pleasure temperament characteristics. Children who get angry quickly and have low levels of soothability when they get angry are considered to be difficult children, whereas those who can be soothed easily and can adapt quickly to new situations are described as easy children (Oliver, 2002). While parents of difficult children define parenting as a difficult process, parents of easy children define the task as easy (Trawick Swith, 2013). This may explain why the soothability levels of the children who were included in this study predicted the hostility and aggression levels of their mothers. These findings were also in line with the relevant literature. Denham (1989) found that as the mother's anger increased, the child's feelings of happiness decreased and sadness and fear increased, and as the mother's anger increased, so did the child's anger. Similarly, Lam, Chung, and Li (2018) stated that as maternal hostility increased, so did inhibition and cognitive flexibility problems in the executive functions of children. Sarıtaş, Grusec, and Gençöz (2013) reported that maternal hostility played a mediating role on the emotional regulation of adolescents.

The results of this study also indicated significant relationships between the *indifference and neglect* subscale of PARQ and the temperament characteristics of attentional focusing, inhibitory control, low-intensity pleasure, falling reactivity and soothability, and smiling and laughter, as well as a positive significant relationship between indifference and neglect and anger/frustration. Additionally, maternal indifference and neglect were found to be predicted by the temperament characteristic of sadness. In other words, the children whose mothers had high levels of indifference and neglect were more likely to have less attentional focusing, inhibitory control, low intensity pleasure, falling reactivity and soothability, and smiling and laughter and more anger/frustration. Similar to the findings of this study, in a meta-analysis, it was found that as parental indifference and neglect levels increased, the incidence of negative personality traits such as the child's hostility and aggression, dependence, negative self-esteem, negative self-efficacy, emotional instability, negative worldview, and emotional unresponsiveness also increased (Khaleque, 2015). Negative behaviors such as aggression may also develop, especially in a child who is neglected socially and emotionally (Özyürek, 2015).

Negative significant relationships were observed between the *undifferentiated rejection* subscale of PARQ and the temperament characteristics of attentional focusing, inhibitory control, and falling reactivity and soothability, while there was a positive significant relationship between undifferentiated rejection and anger/frustration. Additionally, maternal undifferentiated rejection was found to be predicted by attentional focusing and anger/frustration. In other words, the children whose mothers had high levels of undifferentiated rejection were more likely to have less attentional focusing, inhibitory control, and falling reactivity and soothability and more anger/frustration. Similarly, Ali, Khatun, Khaleque, and Rohner (2018) showed that the undifferentiated rejection behaviors of parents towards children and the general psychological maladjustment of children and adults were positively related. Karadeniz and Öngider (2012) also found that children who perceived rejection from their parents exhibited more incompatible psychological characteristics, had negative self-perceptions, and possessed a complex mood quality.

The results of this study indicated significant relationships between the PARQ subscales and all examined temperament characteristics but discomfort, fear, shyness, impulsivity, and approach. This was an important finding because the presence of children's temperament traits that predict rejection poses a risk in terms of their exposure to maternal rejection and negative parenting behaviors (Aytemiz, 2010; Işıkoğlu Erdoğan, Yoleri, & Tetik, 2017; Micalizzi, Wang, and Saudino, 2017). To prevent this situation, family education programs can be organized to support parents in recognizing the

temperament characteristics of their children and displaying parenting attitudes and behaviors appropriate for these characteristics.

The sample of this study was limited to children in the 4-6 age group attending preschool and their mothers. In future studies, by including children in the 0-3 age group and their parents in the sample, the relationship between child temperament characteristics and parental acceptance-rejection can be examined more comprehensively to reflect different stages of development.

In the study, our focus was solely on mothers. In future studies, other significant adults in children's lives such as fathers and teachers may be included in the sample and examined comparatively.

The findings of this study are also limited to the data obtained from the responses of the mothers to the data collection tools. For future research, the inclusion of qualitative data can be recommended to examine the dynamics of mother-child relationships in regard to maternal acceptance-rejection and child temperament.

Finally, this study was cross-sectional. Future research may be designed longitudinally to examine the course of the relationship between child temperament characteristics and parental acceptance-rejection at different developmental stages of the child's life.

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