CHILDREN'S EMOTIONAL STATES DURING COVID-19 OUTBREAK: CONTRIBUTIONS OF PARENTING STRESS AND CHILD TEMPERAMENT

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To my mother, who is the strongest person I know

ABSTRACT

Children's emotional regulation and dysregulation emerge through the interaction between the child's individual (temperament) and the environmental (e.g., parenting stress) characteristics. The aim of the current study was to investigate the contributions of child temperament and parenting stress to children's emotional states during the COVID-19 outbreak. This study also examined the moderating role of parenting stress on the association between child temperament and children's emotional states. Participants were mothers of 219 (110 girls) Turkish preschool children whose ages ranged from 36 months to 76 months (M = 56.95 months, SD = 11.736 months). Mothers reported on children's emotional states (emotion regulation, emotion dysregulation, child aggression, and child anxiety), child temperament (persistence and reactivity), and parenting stress. Bivariate correlations and hierarchical regression models were run to test the hypotheses. Results indicated that persistence was negatively associated with emotion dysregulation and child aggression, whereas reactivity was negatively associated with emotion regulation and positively associated with emotion dysregulation, aggression, and anxiety. Besides, parenting stress was negatively associated with emotion regulation and positively associated with emotion dysregulation, aggression, and anxiety. Results from the hierarchical regression analyses revealed that parenting stress moderated the association between persistence, and emotion regulation, and child aggression. Simple slopes analyses showed that combinations of high persistence and low parenting stress increased emotion regulation, while combinations of low persistence and high parenting stress increased child aggression. The findings underline the significance of both child temperament and

parenting stress for children's emotional states. In the light of previous studies, findings were discussed in the current study, considering limitations, future directions, and implications.

Keywords: Temperament, Parenting Stress, Emotion Regulation, Emotion Dysregulation, COVID-19

ÖZET

Çocukların duygu düzenleme ve düzensizlikleri çevre (ebeveynlik stresi) ve çocuğun bireysel karakteri (mizaç) arasındaki etkileşimle ortaya çıkar. Bu çalışmanın amacı, çocuğun mizacı ve ebeveynlik stresinin, COVID-19 karantina döneminde çocukların duygu durumlarına katkılarını incelemektir. Bu çalışma aynı zamanda ebeveynlik stresinin çocuğun mizacı ile çocukların duygu durumları arasındaki ilişki üzerindeki ılımlı rollerini incelemiştir. Katılımcılar 36 ay ve 76 ay arasında 219 (110 kız) Türk okulöncesi dönemdeki çocuğun anneleridir (ortalama yaş: 56.95 ay, SS: 11.736 ay). Ebeveynler, çocukların duygu durumları (duygu düzenleme, duygu düzensizliği, kızgınlık, anksiyete), çocuğun mizacı (sebatkarlık ve tepkisellik) ve ebeveynlik stresi hakkında rapor verdiler. İki değişkenli korelasyonlar ve hiyerarşik regresyon modelleri, hipotezi test etmek için çalıştırılmıştır. Sonuçlar, sebatkarlığı duygu düzensizliği ve kızgınlıkla negatif ilişkili gösterirken, tepkiselliği duygu düzenleme ile negatif, duygu düzensizliği, kızgınlık ve anksiyete ile pozitif ilişkili olarak göstermiştir. Ayrıca, ebeveynlik stresi duygu düzenleme ile negatif, duygu düzensizliği, kızgınlık ve anksiyete ile pozitif ilişkili bulunmuştur. Hiyerarşik regresyon analizi sonuçları ebeveynlik stresinin sebatkarlık ve, duygu düzenleme ve kızgınlık arasındaki ilişkiyi denetlediğini göstermiştir. Basit eğim analizleri, yüksek düzeyde sebatkarlık ve düşük düzeyde ebeveynlik stresi kombinasyonlarının çocukların duygu düzenlemesine katkı sağladığını gösterirken düşük düzeyde sebatkarlık ve yüksek düzeyde ebeveynlik stresi kombinasyonlarının çocukların kızgınlıklarını arttırdığını göstermiştir. Bulgular hem ebeveynlik stresinin hem de çocuğun mizacının çocukların duygu durumları açısından

öneminin altını çizmektedir. Sınırlılıklar ve olası uygulamalar dikkate alınarak, önceki çalışmalar ışığında, sonuçlar tartışılmıştır.

Anahtar Kelimeler: Mizaç, Ebeveynlik Stresi, Duygu Düzenleme, Duygu Düzensizliği, COVID-19

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CHAPTER 1

INTRODUCTION

The COVID-19 outbreak has negatively influenced everyone's life. One of the main groups who have been substantially influenced by the outbreak is parents with young children, as the process has increased the burden and responsibility on them. Starting from the early phases of the outbreak in Turkey, schools were closed, and face-to-face education was replaced with distance education from home. Changing nature of restrictions set out regarding the pandemic has forced children and parents to stay home together and limit social interactions with relatives and peers outside the home. Parents, specifically, have become the primary supporting agent for children's development during the pandemic. Beyond any doubt, this new "normal" has negatively affected parents' psychological health, which may have affected their children's psychological health, including emotional states (Spinelli et al., 2020). In this context, parents' capacity to manage their parenting role may be diminished, which can increase their parenting stress levels (Russel et al., 2020). With the crucial role of parents in the development of emotion regulation in children (Kopp, 1982), stress experienced related to parenting role during COVID-19 may, in turn, impact children's emotional states. Further, adverse consequences of parenting stress on children would differ depending on the temperamental characteristics of them. From this point of view, the current study aims to examine the effects of children's temperament and parenting stress on children's emotional state with the particular interest of examining moderating effects of parenting stress between children's temperament and their emotional states.

1.1 Defining Emotional States in Children

Children experience and express different emotional states in different contexts (Fields et al., 2017). These emotional states could include both negative and positive components. Positive aspects of emotional states refer to the regulatory component of emotional processes that involves identifying, assessing, and modulating the transition, intensity, duration of positive and negative emotional responses in terms of achieving one's goal is defined as emotion regulation (Thompson, 1994). It is the ability to adjust an individual's own emotional expressions in a manner that is contextually appropriate (Cole et al., 1994). On the other hand, negative aspects refer to the dysregulatory component of emotions. Emotion dysregulation has been described as intense, contextually inappropriate, inflexible emotional reactions to negative and positive emotions, which consists of mood swings, inability to adjust the intensity of emotions, and dysregulation of anger (lability) (Batum & Yagmurlu, 2007; Orta et al., 2013; Shields & Cicchetti, 1997). Individuals with emotion dysregulation have insufficient control over their emotional experiences and behavioral expressions in accord with contextual demands (Thompson, 2011). In addition, dysregulation of emotions develops into externalizing behaviors (e.g., aggression, defiance) and internalizing behaviors (e.g., anxiety, fear, social withdrawal) which are related to difficulties in modulating emotions (Eisenberg et al., 2001). Previous findings from the studies demonstrate the link between dysfunction of emotions and both externalizing and internalizing behaviors (Calkins, 1994; Eisenberg et al., 2001). For example, Batum and Yagmurlu (2007) found that children with high emotion regulation capabilities show diminished externalizing behaviors. Bradley (2000) suggested that children who have emotion dysregulation are

likely to express their emotions physically and show aggressive behaviors. Also, internalizing behaviors are associated with poor awareness of emotions which is related to emotion dysregulation (Zeman et al., 2002).

Emotion regulation becomes more complex and significant during early childhood due to children's developed cognitive and language abilities (Denham et al., 2003). Correspondingly, children's emotional understanding, ability to control their emotions, and adequate coping capacities are enhanced during the preschool period (Cole, 1994; Denham, 1998; McCoy & Masters, 1985). Besides, since children's social relationships become more advanced as they get older, they learn efficient resources for regulating their emotions (Calkins, 1994). The ability to regulate emotions includes processes of managing own negative emotions and controlling one's responses toward others' negative emotions that are critical for social functioning (Eisenberg & Fabes, 1992). Consideringly, children who are good at regulating emotions are more likely to demonstrate greater popularity among peers (Fabes & Eisenberg, 1999), better social and emotional competence (Denham et al., 2003), empathy (Eisenberg et al., 1998; Shields & Cicchetti, 1997), and, prosocial and adjustment abilities (Eisenberg et al., 2002). The capacity to regulate emotions also has been linked to the academic success of children since it includes the attentional process (Graziano et al., 2007; Trencosta & Izard, 2007). On the contrary, emotion dysregulation is related to difficulties in academic performance and poor peer relationships (Cohen & Mendez, 2009; Graziano et al., 2007; Raver, 2004). Orta et al. (2013) indicated that emotion dysregulation is a predictor of lower social competence, while the ability to regulate emotions was linked with developed social competence in Turkish preschoolers.

Regulation or dysregulation of children's emotions develops by interactions that occur between children and their environment (Bronfenbrenner, 1979). Family context, especially parents, is the main driver of the children's proximal environment. Further, it is clear that parents significantly impact their children's development of emotion regulation and dysregulation by their parental practices and behaviors (Kopp, 1982; Morris et al., 2007; Thompson, 1994). One of the main characteristics of parenting is their stress emerged through parenting, which has an influence on emotional states of children (McKenry & Price, 2005). Moreover, the COVID-19 has affected parents' psychological well-being by increasing the risk of experiencing parenting stress (Brooks et al., 2020; Wung et al., 2020). As a result, parents may have become inadequate to manage their parenting role, which could increase the adverse consequences of the COVID-19 pandemic on children (Morelli et al., 2020), considering high-stressed parents may not be fully involved in their children's emotional well-being (Spinelli et al., 2020; Xie et al., 2020). These findings highlighted parenting stress as an important environmental factor that may contribute to the emotional states of children during the COVID-19 outbreak. Moreover, the COVID-19 pandemic may have different impacts on children due to their individual characteristics, such as temperament. For example, children with reactive temperament may poorly have affected by the stressful environment as they would struggle to process input from the environment (Rothbart, 2011). On the other hand, children with regulatory temperament could be resistant against the negative consequences of COVID-19 lockdown, and they may be less affected by the pandemic process. Accordingly, these differences in individual temperamental dispositions have an impact on children's emotional states (Blair et al., 2004; Denham, 1998). For instance, children with higher reactive temperament are more

likely to respond intensely and experience problems in emotion regulation development (Yagmurlu & Altan, 2010). On the other hand, children with regulatory temperament are better at controlling their emotions (Yagmurlu & Sanson, 2009). Consequently, the development of emotional states of children is related to children's own temperamental characteristics as well as parenting in the context. Therefore, the purpose of the current study is to investigate how temperament and parenting stress contribute to children's emotional states.

1.2 Theoretical Background

Temperamental characteristics of children impact their developmental outcomes, including emotional states. However, the expression of temperament is not independent from its environment (Thomas & Chess, 1977). Parents are the central figures of children's immediate environment (Bronfenbrenner, 1979); hence, the relationship between children's temperament and emotional states varies depending on the parents' behaviors. Thomas and Chess (1977) posit the Goodness-of-Fit Model in order to explain how a child's temperament would interact with the environment to contribute to child outcomes. Goodness-of-fit occurs when the expectations, properties, and demands of the environment are coherent with the temperament, abilities, and motivations of the child (Chess & Thomas, 1991). Consideringly, if the temperamental characteristics of the child are welcomed by parents, the child will be able to manage the demands of that context, and there will be a "good fit" between the child's temperament and environment. For instance, a high sensitive parent may easily recognize the child's individual needs and capacities, thus managing to react adequately, resulting in a good fit. Comprehensively, in a situation where the child experiences distress, if his/her

parents come up with an approach that meets the child's temperament, the child can appropriately respond to the demands of the environment and demonstrate positive outcomes (Chess & Thomas, 1991). This coherency between environment and child may contribute to positive outcomes like emotion regulation.

On the contrary, if the parents fail to adapt to the child's temperament, the child will not be able to respond or will be ill-responding to the demands in the environment, and "poor fit" will occur (Rothbart, 2011). For example, a less sensitive parent may not be able to notice the child's struggles and make an appropriate judgment, leading to a poor fit. Therefore, the child's dissonance between the environment and the individual may result in negative outcomes such as emotion dysregulation.

Parents are responsible for creating an adequate context for their children's individual characteristics to facilitate their developmental outcomes by effective parenting behaviors (Paterson & Sanson, 1999). Parenting stress emerges within the parenting context, and it is linked with adverse parenting, in turn, associates with emotion dysregulation in children (Guajardo et al., 2009). However, since the developmental outcomes of children vary according to the fit between parenting and temperament, children with specific temperamental characteristics will be more susceptible to parenting stress so that they will demonstrate emotion dysregulation or regulation (Belsky, 2005). For example, a child with a fearful temperament, which is a component of reactivity, may be more sensitive to an environmental stressor (e.g., parenting stress) that they would have difficulties in emotion regulation (Blair, 2002). Overall, children with high reactive temperament and low regulation could benefit from the parenting where they experience less parenting stress and display higher levels of

emotion regulation and lower levels of emotion dysregulation (Belsky et al., 1998; van den Boom, 1994).

CHAPTER 2

LITERATURE REVIEW

2.1 Predictors of Children's Emotional States

In the following sections, predictors of children's emotional states were mentioned; individual factors (temperament) and environmental factors (parenting stress).

2.1.1 Temperament and Children's Emotional States

Temperament has been defined as individual differences in regulation and reactivity, which are biologically based and influenced by maturation and social environment (Rothbart, 2011; Shiner et al., 2012). Though temperament is relatively stable, its expression can be altered by the child's social environment and experiences (Rothbart & Derryberry, 1981).

Children's temperament could be categorized as regulatory and reactive components (Rothbart, 2011). Consistent with studies of Thomas and Chess (1977), Prior et al. (2000) defines reactive aspect of temperament as the high intensity of the child's reactions to new experiences and the lack of capability to adjust to those situations by showing high irritability and negative affect. For instance, a child who is high in reactivity responds to frustrating stimuli stronger compared to a lesser reactive counterpart. Besides, the regulatory dimension of temperament refers to the effortful control of attention and emotions, which modulate reactivity (Rothbart & Derryberry, 1981). In the same line, Prior et al. (2000) defines persistence component of temperament as the capacity to sustain and control attention on a certain task regardless

of distractions. As it is stated, both of these temperamental conceptualizations include the same regulatory components, such as attentional focusing and inhibitory control.

Reactivity dimension of temperament has been found to be a predictor of emotion dysregulation in children (Rubin et al., 1995), which is related to both externalizing and internalizing behaviors (Sanson et al., 2004). Children who respond with distress to situations may become overly distracted to promote internal efforts for regulating their emotions (Fox & Calkins, 1993), and they may engage in more nonconstructive coping strategies (Eisenberg et al., 1993). For example, Denham (1998) indicated that preschoolers who demonstrated higher negative emotionality (e.g., anger, irritability, and sadness) showed lower levels of empathy which is a component of emotion regulation, and found an association between negative affect and emotion dysregulation in preschoolers. Besides, a longitudinal study showed that four-month-old infants who were high in reactivity demonstrated fear when they were four-years-old (Kagan et al., 1999). Overall, as children with reactive temperaments have difficulty in processing environmental stimuli due to negative affect and fearful nature, they could display challenges in emotion regulation.

In contrast to reactive temperament, persistence aspect includes control of attention, behavior, and emotion which can support the emotion regulation processes (Denham, 1998; Eisenberg et al., 1995). Children with higher effortful control, which is a component of regulatory temperament, use more effective attentional coping strategies that enable children to divert their attention from unpleasant stimuli. (Yagmurlu & Sanson, 2009; Rueda et al., 2014). As children are able to manage their attentional mechanisms, they become more competent in regulating their emotional arousals

(Eisenberg et al., 2014). For example, Johnson et al. (1991) highlighted the association between attentional focusing as part of regulatory temperament and negative emotions by conducting a study with four-month-olds. They found that infants who were able to shift their attention were less prone to distress in novel situations. In addition, several studies indicated that preschoolers who use attentional strategies such as shifting and focusing are better at regulating emotions (Crockenberg et al., 2008; Peterson & Sanson, 1999). In parallel, higher effortful control was found as a predictor of reduced emotion dysregulation (Orta et al., 2013). Overall, children with low persistence are likely to have difficulties in emotion regulation since they may have problems with attentional resources to regulate their negative emotions such as aggression and anxiety. Nonetheless, high persistence act as a protective aspect against dysregulation of emotions (Morris et al., 2002), as children who are able to utilize persistence are likely to have higher social abilities and lower behavior problems (Valiente et al., 2003).

Even though regulation in temperament and emotions could appear overlapping, it should be noted they have some overlapping aspects and yet are distinct entities of an individual for the following reasons. This distinction should be made in consideration of temperament as a predictor of regulating emotions. The process of regulating emotions is related to modulating internal emotional and physiological states through activating or inhibiting (Eisenberg et al., 2014). On the contrary, the regulatory component of temperament consists of attentional focus and inhibitory control reflecting cognitive aspects of regulation which helps to suppress the primary response and maintain appropriate response (Posner & Rothbart, 2000), and it is related to behavioral regulation of emotions (Eisenberg et al., 2000). Accordingly, temperamental and

emotional regulation are distinct yet similar processes. To illustrate, temperamental regulation can be used as a strategy for regulating emotions by avoiding distressing stimuli that impact the way of experiencing emotions (Eisenberg et al., 2000). Furthermore, the attentional control aspect of temperamental regulation is especially examined relevant to emotion regulation. From this point of view, emotion regulation and temperamental regulation are not equivalent concepts. For example, Orta et al. (2013) argued that effortful control as regulatory temperament was not a predictor of emotion regulation in Turkish children, suggesting that effortful control is not fully overlapping with emotion regulation; it could rather be considered as an antecedent for the emotion regulation. Temperamental regulation also includes behavioral regulation processes independent from the emotion itself, such as planning, decision making, and problem solving (Eisenberg et al., 2014; Rothbart, 2011). Relatedly, measurement of temperamental regulation in the current study also taps onto behavioral aspects of the regulation rather than emotional aspects per se (e.g., “My child stays with an activity for a long time”, Prior et al. 2000). Overall, temperamental regulation could be considered as manifest for promoting emotion regulation (Calkins, 2004; Jaffe et al., 2010).

2.1.2 Parenting Stress and Children’s Emotional States

The COVID-19 pandemic has generated a substantial change in the living conditions of families, which may have created more challenges for parents than usual (Wu & Xu, 2020). With the public health efforts, schools and child-care related services were closed and led children to stay at home with their caregivers. Consideringly, some parents faced challenges in both caring for and educating their children while working from home (Wu & Xu, 2020). Furthermore, parents' individual and environmental,

social support resources have lacked due to social distancing and negative changes in economic situations during the COVID-19 pandemic have caused families to encounter more financial strain (Wu & Xu, 2020). In addition, with its uncertain nature COVID-19 pandemic has decreased the emotional and financial resources of parents while increasing parental demands. Resulting from this discrepancy and ambiguity, the psychological health of parents undesirably has impacted and has had a significant influence on parenting stress (Chung et al., 2020; Brooks et al.; 2020; Lazarus & Folkman, 1984). Several studies showed that social support, hassling housework, and financial difficulties are linked with parenting stress (Conger et al., 1984; Crnic et al., 1983; Jackson & Choi, 2018; Östberg & Hagekull, 2000).

Parenting stress could be seen as psychological stress related to the parenting role demands and responsibilities (Deater-Deckard, 1998). Abidin (1995) stated three main factors as significant determinants for parenting stress which include characteristics of both the child and the parent, and daily life stress. In the same line, Belsky (1984) indicated that the importance of parent's psychological and environmental resources for support and, child's characteristics on parenting stress. Even though challenges of caregiving practices and child-rearing difficulties are common and unavoidable stressors of parenting, the cumulative influences of these parenting demands can be a major concern for efficient functioning between parent and child due to the COVID-19 pandemic (Crnic & Greenberg, 1990; Peterson & Hawley, 1998).

Children develop their emotion regulation through supports of the parents (Kopp, 1982; Morris et al., 2007). Parent's parenting behaviors, may be especially critical for

children's regulation of emotions during COVID-19 outbreak since parents become the only figure around children who can support them (Wang et al., 2020). However, a recent study stated that parents' stress levels have been increased with COVID-19 lockdown. Research suggested that parents with elevated stress levels are more prone to demonstrate disruptive parenting practices (Abidin, 1992; Belsky, 1984; Neece et al., 2012), such as harshness, induced level of supportiveness, sensitivity, and parental warmth (Anthony et al., 2005; Yavuz et al., 2016). Furthermore, they also have a lack of closeness and positive interactions with their child (Crnic et al., 2005; Deater-Deckard, 1998). Therefore, parenting stress is associated with poor parenting, by which children develop dysregulation in their emotions (Crnic & Greenberg, 1987; Morris et al., 2007; Spinelli et al., 2020). For example, Shaffer et al. (2011) found that parenting stress predicted emotion regulation and dysregulation of children through parent's unsupportive responses. In general, parents who are highly stressed may ill to identify their children's distress. For instance, a recent study stated that parental stress is related to induced involvement with their children and negatively associated with children's emotion regulation abilities during pandemic (Spinelli et al., 2020). These results highlighted the clear association between malfunctioning parenting practices due to elevated stress and problems in the regulation of emotions in children (Baker et al., 2003; Chazan-Cohen et al., 2009; Crnic et al., 2005).

Owing to the fact that parents who experience extreme stress demonstrate less emotional awareness and attention to the needs of the child (Spinelli et al., 2013), as a consequence, the child may display emotion dysregulation. In summary, parenting stress

is a contributor to children's emotion regulation and dysregulation (Crnic & Greenberg, 1990).

2.2 Moderating Role of Parenting Stress between Children's Temperament and Emotional States

Goodness-of-fit theory suggests that developmental outcomes of the child are dependent on the fit between the environment and the child's individual characteristics (Thomas & Chess, 1977). Parallel to this theory, temperamental characteristics of children have been linked with their emotional states; however, the relationship between temperament and emotional states may vary depending on the environment (parenting stress). When the parents' behaviors are congruent with the temperament of the child, good-fit occurs and promotes emotion regulation. On the other hand, poor-fit between parents' behaviors and children's temperament may contribute to problems in emotion regulation (Paterson & Sanson, 1999). Therefore, the interaction between a child's temperament and parental practices is essential to understand the impact of temperament on developmental outcomes (Paterson & Sanson, 1999).

Parents are the main agent in the proximal context of children to form whether an adequate or inadequate environment according to their children's temperamental characteristics (Bronfenbrenner, 1979; Thomas & Chess, 1977). Research demonstrated that, positive parenting practices such as supportiveness and warmth are linked to children's improved emotion regulation abilities (Denham et al., 1997), whereas parenting that consists of negative practices, including parenting stress, are linked to emotion dysregulation in children (Fabes et al., 2001; Morris et al., 2007). Previous findings argued that parenting stress impairs parents' positive parenting practices

(Anthony et al., 2005; Spinelli et al., 2013), which may lower the chance of forming a suitable environment according to their child's temperament. In other words, parenting stress undermines the positive support that children could receive from their parents and impacts children's emotional states. However, children's reactions to parenting stress vary depending on their temperamental characteristics, and in turn, temperament and parenting stress collaboratively affect children's emotional outcomes (Thomas & Chess, 1977). Hence, parenting stress may especially have detrimental effects for some children with certain temperaments such as high reactivity and low regulation since these children may not have sufficient coping mechanisms to manage the stressful context in their daily lives (Eisenberg et al., 1993). As an example, a study showed that highly reactive children showed adverse outcomes as a response to increased parenting stress following the parental divorce, whereas highly regulated children did not (Hetherington, 1989). Moreover, in a study with a Turkish sample, shy children (reactivity component) with less responsive mothers exhibited more emotion dysregulation in comparison to their shy peers with highly responsive mothers (Yagmurlu & Sanson, 2009).

Furthermore, Lengua et al. (2008) argued that children's temperamental regulation predicts emotion dysregulation when exposed to adverse environmental factors such as parenting stress. Consistent with this finding, Morris et al. (2002) found that, among children with lower levels of persistence, harsh parenting behavior predicted emotion dysregulation. On the other hand, children who are higher in persistence are better at regulating emotions and controlling their behaviors when exposed to negative situations (Morris et al., 2007). Relatedly, a study showed that highly persistent children demonstrated decreased externalizing behaviors when they experienced poor parenting.

Also, when they were exposed to positive parenting, persistence was not correlated with behavior problems (Rubin et al., 2003). From this perspective, temperamental regulation may enable children to adjust easier to the demands of parents and find coping mechanisms under stressful contexts (Prior et al., 2000). Overall, parenting stress may increase the likelihood that children's certain temperaments (high reactivity and low regulatory) will lead to emotion dysregulation by decreasing positive parenting (Prior et al., 2000).

As seen above, some children are more vulnerable to parenting stress in the family context due to their temperamental characteristics. Besides, discordance between parenting and child temperament poses a risk for children developing emotion dysregulation. Parents' stress levels may be especially increased due to the COVID-19 pandemic, which may impair parenting behaviors and can affect children's emotional states. For example, parents reported more conflicts with their children during the second week of the COVID-19 outbreak compared to the time before the pandemic (Brooks et al., 2020). Chung et al. (2020) found that increased parenting stress is associated with aggravated impacts of COVID-19 and adverse parenting practices. Therefore, with heightened parenting stress levels, parents have stated enhanced emotional and behavioral difficulties in their children during the pandemic (Spinelli et al., 2020). Also, parallel to the COVID-19 pandemic, during H1N1 influenza, parenting stress was found to be linked to children's emotion dysregulation (Sprang & Silman, 2013). Moreover, qualitative research with Turkish parents indicated that parents reported increased stress during the pandemic and higher externalizing behaviors in their children (Başaran & Aksoy, 2020).

Overall, both parents and children have been negatively affected from the COVID-19 outbreak; however, this negative effect might be altered by the synergy between temperament and parenting stress. For instance, if a child with high reactivity experiences elevated levels of parenting stress, s/he may display difficulties in emotional regulation. Persistent children may not be affected as much from the parenting stress so that they could display "normal" levels of emotion regulation.

2.3 The Current Study

2.3.1 The Significance of the Study

The COVID-19 outbreak is a major stressor that has placed a burden on the well-being of both parents and children (Brown et al., 2020; Chung et al., 2020). Preliminary studies generally focused on the impacts of parenting stress during the COVID-19 pandemic on children's emotion regulation (Morelli et al., 2020; Spinelli et al., 2020) and child maltreatment (Brown et al., 2020; Wu & Xu, 2020). However, these studies left the effects of individual factors such as temperament unexplored. The consequences of environmental factors are dependent on the individual characteristics of children. Accordingly, this study will address this gap in the literature by examining the contributions of both parenting stress and children's temperamental dispositions on children's emotional states. In addition, this gap will be examined with Turkish parents and children, which has been substantially understudied in international literature.

We know that the child temperament interacts with parenting context in the development of their social outcomes (Bates et al., 2012; Belsky et al., 1998; Paterson & Sanson, 1999). We aimed to extend previous understanding of temperament by parenting interaction by examining the interplay between child temperament and

parenting stress during the COVID-19 pandemic. By doing so, we are sure that the findings will shed a light on our understandings of how parenting stress may serve a moderating role for children's temperament in their emotional functioning, which could be reflecting the COVID-19 pandemic.

In addition, previous research investigated emotional and behavioral aspects of emotional states separately (Başaran & Aksoy, 2020; Kao et al., 2020; Spinelli et al., 2020). However, both emotional (emotion regulation, emotion dysregulation) and behavioral (child aggression, child anxiety) components of children's emotional states (Garstein et al., 2012; Nigg, 2017) could emerge in the context of the COVID-19 outbreak. Consequently, we aimed to consider several components of emotional states of children in the current study.

2.3.2 The Purpose of the Study

The aim of the present study was to explore the contributions of child temperament (persistence and reactive) and parenting stress to preschool children's emotional states (emotion regulation, emotion dysregulation, child aggression, child anxiety). In addition, we studied the moderating role of parenting stress on the associations between temperament (persistence and reactive) and children's emotional states (emotion regulation, emotion dysregulation, child aggression, child anxiety).

2.3.3 Research Questions of the Study

Considering the purpose of the current study, we addressed the following research questions and corresponding hypotheses.

RQ1: Do children's temperament associate with their emotional states?

H1a: Persistence would positively associate with children's positive emotional states (emotion regulation) and negatively associate with negative emotional states (emotion dysregulation, child aggression, child anxiety).

H1b: Reactivity would negatively associate with children's positive emotional states (emotion regulation) and positively associate with negative emotional states (emotion dysregulation, child aggression, child anxiety).

RQ2: Do parenting stress associate with the children's emotional states?

H2a: Parenting stress would negatively associate with children's positive emotional states (emotion regulation)

H2b: Parenting stress would positively associate with children's negative emotional states (emotion dysregulation, child aggression, child anxiety).

RQ3: Do parenting stress moderate the associations between children's temperament and their emotional states?

H3a: Parenting stress would negatively moderate the associations between children's temperament (reactivity and persistence) and, their positive and negative emotional states. Such that, when children with higher reactivity or low levels of persistence experience higher parenting stress would display lower levels of emotion regulation and higher levels of negative emotional states (emotion dysregulation, child aggression, child anxiety).

H3b: In the context of parenting stress, children with higher levels of persistence would not be strongly affected in prediction of their emotional states (emotion regulation, emotion dysregulation, child aggression and anxiety).

CHAPTER 3

METHOD

3.1 Participants

We recruited 296 parents from different cities of Turkey for the current study. After data screening, fathers (n = 15) and mothers with children from younger than 36-month-old (n = 13) and older than 76-month-old (n = 41) and outliers (n = 7) were excluded from the study. The reason we excluded mothers of younger than 36-month-old and older than 76-month-old was that the measures we used was not validated for these age groups. Following this screening procedure, further analyses were conducted with mothers of 219 (110 girls) Turkish preschool children whose ages ranged from 36 months to 76 months (M = 56.95 months, SD = 11.736 months). At the time of data collection, 44.7% of mothers stated as employed, while 55.3% stated as unemployed. Besides, 89.5% of fathers reported as employed, while 10.5% reported as unemployed at the time of data collection. For their education levels, 1.4% of mothers reported they graduated primary school, 1.8% of mothers completed secondary school, 11.9% of mothers completed high school, 63.0% of mothers graduated from college, 16.4% mothers completed postgraduate, and 5.5% of mothers completed doctorate. Similar to mothers, 2.3% of fathers completed primary school, 4.6% of fathers completed secondary school, 15.5% of fathers completed high school, 59.8% of fathers graduated from college, 12.3% of fathers completed postgraduate and 5.5% of fathers finished doctorate degree. A majority (98.6%) of parents were married while a minority (1.4%) of parents were divorced. For their income levels, minority of parents (1.8%) stated 1000TL and lower while 2.7% parents reporting a monthly family income of between

1000TL-2000TL, 4.6% 21 reporting between 2001TL-3000TL, 10.5% reporting 3001TL-4000TL, 11.0% reporting 4001TL 5000TL, and 69.4% reporting as 5000TL and higher income. A majority (93.2%) of parents reported as living in urban while only 6.8% reported as living in rural. The demographic information can be found in Table 1. By averaging standardized family income and education levels (z-transformations), the composite socioeconomic status variable was created.

Table 1

Participants' Demographic Information

	n (%)	M	SD	Range
Child Sex	219			
Boys	109 (49.8)			
Girls	110 (50.2)			
Age (Months)	219	56.95	11.736	36-76
Mothers' Occupation Status	219			
Employed	98 (44.7)			
Unemployed	121 (55.3)			
Fathers' Occupation Status	219			
Employed	196 (89.5)			
Unemployed	23 (10.5)			
Mothers' Education Status	219			
Primary School	3 (1.4)			
Secondary School	4 (1.8)			
High School	26 (11.9)			
University	138 (63.0)			
Postgraduate	36 (16.4)			
Doctorate	12 (5.5)			
Fathers' Education Status	219			
Primary School	5 (2.3)			
Secondary School	10 (4.6)			
High School	34 (15.5)			
University	131 (59.8)			
Postgraduate	27 (12.3)			
Doctorate	12 (5.5)			

Marital Status	219
Married	216 (98.6)
Divorced	3 (1.4)
Family Income	219
1000TL and low	4 (1.8)
1000-2000TL	6 (2.7)
2001-3000TL	10 (4.6)
3001-4000TL	23 (10.5)
4001-5000TL	24 (11.0)
5000TL and high	152 (69.4)
Location	219
Urban	204 (93.2)
Rural	15 (6.8)

M = Mean, SD = Standard Deviation, Child's Sex (Girls= 1, Boys= 0).

3.2 Measures

3.2.1 Children's Emotional States

We used two measures to assess positive aspect (emotion regulation) and negative aspects of emotional states (emotional dysregulation, child aggression, child anxiety) of children.

Emotion Regulation & Dysregulation

Parent-report of the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997) was used to evaluate emotion regulation of children. The ERC is 24-item scale that was adapted to Turkish adaptation by Yagmurlu & Batum (2007). It has two subscales: Lability/Negativity (16 items), Emotion regulation (8 items). Each subscale is rated on a 4-point Likert-type scale (1 = Never, 2 = Sometimes, 3 = Often, 4 = Almost Always). Emotion Regulation subscale consists items assessing child's empathy, appropriate emotional reactions, self-awareness of emotions, and adaptive regulation such as *"Responds positively to neutral or friendly overtures by adults"* and *"Is a cheerful child"*. Higher scores show higher levels of emotion regulation.

The Lability/Negativity subscale includes items to evaluate reactivity, anger, emotion dysregulation, inflexibility such as *"Is easily frustrated"* and *"Responds angrily to limit-setting by adults".* We considered this subscale as emotional dysregulation for the current study. Higher scores show higher levels of emotional dysregulation. In the original study, internal consistency (Cronbach's alpha) was .83 for the Emotion Regulation and .96 for the Lability/Negativity (Shields and Cicchetti, 1997). In the present study, internal consistency (Cronbach's alpha) for emotion regulation was .62 and for Lability/Negativity (emotional dysregulation) was .81. Although the internal

consistency was low for the emotion regulation, this value was consistent with previous studies (α= .55 in Seçer, 2017 and α= .59/.66 in Blandon et al., 2008).

Child Aggression and Child Anxiety

We used the Anger-Aggression and Anxiety-Withdrawal subscales of the Social Competence and Behavior Evaluation Scale-30 (SCBE; LaFreniere & Dumas, 1996). The SCBE is a screening instrument to describe behavioral and emotional problems and assess social competence and positive social adaptation of 3-6-year-old children. Corapçı and colleagues (2010) adapted the SCBE-10 to Turkish. The SCBE includes 30 items with three subscales: anxiety-withdrawal (10 items), anger-aggression (10 items), and social competence (10 items). Each subscale is measured on a 6-point Likert-type scale (1 = Never, 2 or 3 = Sometimes, 4 or 5 = Often, 6 = Always). For the purpose of this study, we used the Anger-Aggression and Anxiety-Withdrawal and subscales. Anxiety-Withdrawal measures children's anxious, depressive emotional states and internalizing problems such as shyness (e.g., *"Sad, unhappy, or depressed"*). Anger-Aggression measures externalizing behaviors such as disobedience to adults and inappropriate peer relations (e.g., *"Irritable, get mad easily"*). Higher scores show higher levels of that behavior. The SCBE-30 have been used by both parents (Kotler & McMahon, 2002) and teachers (LaFreniere & Dumas, 1996). Considering that we used the parent-report of the SCBE subscales for the first time, we tested the structure of the measure via confirmatory factor analyses. The model fit the data well, $\chi^2(168) = 609.630$, $p < .05$, Comparative Fit Index (CFI) = 0.94 (CFI > .90), Standardized Root Mean Square Residual (SRMR) = .08 (SRMR < .08), Root Mean Square Error of Approximation (RMSEA) = .09 (90% C.I. [0.089, 0.105] (RMSEA < .10); Browne &

Cudeck, 1992; MacCallum et al., 1996). In the Turkish sample, SCBE-30 is high in reliability with a Cronbach alpha of .84 for Anxiety-Withdrawal and .87 for Anger-Aggression (Çorapçı et al., 2010). In the present study, internal consistency for Anxiety-Withdrawal was .81 and for Anger-Aggression was .86.

3.2.2 Temperament

We used the parent-report of the Short Temperament Scale for Children (STSC; Prior et al., 1989) to assess children's temperament**.** Turkish adaptation of STSC made by Yagmurlu & Sanson (2009). In the current study, we used the two subscales: Persistence (7 items) and Reactivity (9 items). Parents reported on a 6-point Likert-type scale (1 = Almost Never to 6 = Almost Always). The Persistence subscale consists of items to measure the tendency of a child to pursue attention on a task such as "*My child is unwilling to leave a game or activity that he/she has not completed"*. The Reactivity subscale consists of items to measure the intensity of a child's reactions to situations such as *"If my child resists some activity such as having hair brushed, she/he will continue to resist it for months*". Higher scores show higher levels of target construct. In the validation study, internal consistency was .76 for Persistence and .77 for Reactivity subscale (Yagmurlu & Sanson (2009). In the present study, internal consistency for Persistence was .81 and for Reactivity was .74.

3.2.3 Parenting Stress

We used the Parenting Stress Scale (PSS; Aydoğan & Özbay (2017) in order to assess the parenting stress of mothers. The PSS comprised of 18 items which assesses psychological stress to the demands of parenting role (e.g., *"I regret to be a parent"* or

"My child has behavioral problems"). Mothers rated on a five-point Likert-type scale (0 = Definitely does not apply to 4 = Definitely applies). Higher scores in the scale shows higher parenting stress. Internal consistency was α = .88 in the current study, aligning with the original study (α=.96) of Aydoğan and Özbay (2017).

3.3 Data Collection Procedures

Prior to study, ethics approvals were received from Ethics Committee of Özyeğin University and Turkish Ministry of Health. Data were collected by using Qualtrics (Qualtrics, Provo, UT) which is an internet platform for online data collection. Online survey was used due to the COVID-19 lockdown conditions. Snowball sampling was used to distribute survey to participants. Parents who have children with developmental delays (e.g. Autism Spectrum Disorder) were not participated for the purpose of the present study.

At the beginning of the study, parents were given an online consent form that consisted information about their voluntary participation in the study and right to withdraw. The purpose, duration, and the procedures of the research also mentioned in the form prior to the study. Once the parents gave their consent to participate, they received questionnaires, which were "Parenting Stress Scale", "The Short Temperament Scale for Children", "Emotion Regulation Checklist" and "Social Competence and Behavior Evaluation Scale".

Data Analytical Approach

In the following part, we used the SPSS 25 Package Program (IBM Corp. Released 2017) for conducting preliminary analyses.

3.4 Data Screening

Collected data were transformed to SPSS 25 Package Program (IBM Corp. Released 2017). Before conducting main analyses, missing values, normality and outliers were screened. For the missing value analysis, we found no missing data in the study. Following, we identified univariate and multivariate outliers. For univariate outliers we calculated z-Scores of variables by using the criteria of 3.29 ($p < .001$, two-tailed) (Tabachnick & Fidell, 2006). We found six univariate outliers and deleted from the dataset, leaving 220 cases. Then we detected multivariate outliers using Mahalanobis Distance with $p < .001$ (Tabachnick & Fidell, 2006). There was one multivariate outlier which were in above the χ^2 value of 24.321, representing number of variable in the model (Tabachnick & Fidell, 2006) and it was deleted from the dataset for the further analyses that consequently remained 219 participants.

Next, we tested skewness and kurtosis in order to assess the normality assumption. Criterion of skewness and kurtosis of ±2 was used (George & Mallery, 2019). All of the variables were in acceptable range for normality so that we did not employ any transformation. See Table 2 for descriptive statistics for demographic and study variables.

Lastly, we checked tolerance and Variance Inflation Factor (VIF) values to understand the multicollinearity of the focal variables. The results indicated that VIF ranged from 1.018 to 1.194 and tolerance values ranged from .838 to .982. Tolerance value above .10 and VIF value under 10 showing there was no multicollinearity among predictor variables (Pallant, 2016).

Table 2

Descriptive Statistics for Demographic and Study Variables (N = 219)

	Min-Max	M	SD	Skewness	Kurtosis	Cronbach's α
Emotional States						
Emotion Regulation	2.00-4.00	3.232	.368	-.364	-.019	.62
Emotion Dysregulation	1.13-3.13	1.907	.409	.616	.231	.81
Child Aggression	1.00-4.50	2.308	.750	.717	.023	.86
Child Anxiety	1.00-3.90	1.805	.580	.932	.647	.81
Temperament						
Persistence	1.00-5.57	3.731	.900	-.199	-.133	.81
Reactivity	1.11-4.78	2.827	.780	.341	-.403	.74
Parenting Stress	1.00-2.56	1.379	.350	1.327	1.330	.88

Min = Minimum, Max = Maximum, M = Mean, SD = Standard Deviation.

CHAPTER 4

RESULTS

4.1 Preliminary Analyses

We used independent sample t-test to investigate child sex differences. The results indicated that there was no significant difference between boys and girls on their emotion regulation (t (217) = -.477, p = .634), emotion dysregulation (t (205.069) = -1.505, p = .133), child aggression (t (217) = -1.199, p = .232), child anxiety (t (217) = .150, p = .881), persistence (t (217) = .662, p = .509), reactivity (t (203.562) = -791, p = .430), and parenting stress, (t (217) = .966, p = .335).

We applied further stages for hypotheses testing. First, we examined bivariate associations to address Hypotheses from 1A to 2B. Following that, we used the Hierarchical Regression analyses to test Hypotheses from 3A to 3B.

4.2 Bivariate Associations among Study Variables

We conducted bivariate correlations to investigate the associations between emotional states (emotion regulation, emotion dysregulation, child aggression, child anxiety) and temperament (persistence, reactivity), parenting stress and demographics (i.e., age and SES) (See Table 3). Results demonstrated that persistence was not significantly associated with emotion regulation (r (219) = .110, p = .104) and child anxiety (r (219) = .010, p = .882). Additionally, persistence significantly and negatively correlated with emotion dysregulation (r (219) = -.258, p = .000) and child aggression (r (219) = -.199, p = .003). Hypothesis 1A (Persistence would positively associate with children's positive emotional states (emotion regulation) and negatively associate with

negative emotional states (emotion dysregulation, child aggression, child anxiety)) was partially supported.

Reactivity was significantly and negatively associated with emotion regulation (r (219) = -.204, p = .002) and significantly and positively associated with emotion dysregulation (r (219) = .606, p = .000), child aggression (r (219) = .660, p = .000) and child anxiety (r (219) = .296, p = .000). Hypothesis 1B (Reactivity would negatively associate with children's positive emotional states (emotion regulation) and positively associate with negative emotional states (emotion dysregulation, child aggression, child anxiety)) was supported.

The association between parenting stress and emotional states including emotion regulation and emotion dysregulation were tested. Results showed a significant and negative correlation between parenting stress and emotion regulation (r (219) = -.321, p = .000). Besides, there was a significant and positive correlation between parenting stress and emotion dysregulation (r (219) = .523, p = .000), child aggression (r (219) = .490, p = .000) and child anxiety (r (219) = .264, p = .000). Hypotheses 2A (Parenting stress would negatively associate with children's positive emotional states (emotion regulation)) and 2B (Parenting stress would positively associate with children's negative emotional states (emotion dysregulation, child aggression, child anxiety)) were supported.

Additionally, association between demographics including child's age, and family SES, and emotional states (emotion regulation, emotion dysregulation, child aggression, child anxiety) were tested. Results indicated child's age was significantly and negatively correlated with emotion regulation (r (219) = -.150, p = .027) and child aggression (r (219) = -.136, p = .045). SES was significantly and positively correlated

with emotion regulation (r (219) = .190, p = .005) and significantly and negatively correlated with parenting stress (r (219) = -.195, p = .004).

Table 3

The Pearson Correlations of the Study Variables

Variables	1	2	3	4	5	6	7	8	9	10
1. Emotion Regulation	-									
2. Emotion Dysregulation	-.311**	-								
3. Child Aggression	-.204**	.766**	-							
4. Child Anxiety	-.442**	.341**	.389**	-						
5. Persistence	.110	-.258**	-.199**	.010	-					
6. Reactivity	-.204**	.606**	.660**	.296**	-.142*	-				
7. Parenting Stress	-.321**	.523**	.490**	.264**	-.242**	.354**	-			
8. Child Age	-.150*	-.054	-.136*	.015	.052	-.071	.106	-		
9. Family Socioeconomic Status	.190**	-.097	.031	-.062	.110	-.041	-.195**	-.127	-	
10. Child Sex (Girls=1, Boys=0)	-.032	-.102	-.081	.010	.045	-.054	.065	-.019	-.109	-

Note. *$p < .05$ (2-tailed), **$p < .01$ (2-tailed).

4.3. Hierarchical Multiple Regression Analyses

We conducted hierarchical multiple regression analyses to investigate the statistically significant amount of variance that each predictor contribute on outcome variable in which children's emotional states (emotion regulation, emotion dysregulation, child aggression, child anxiety) was regressed on demographic variables (family SES, child age and child's sex), temperamental characteristics (persistence and reactivity) and parenting stress, and two-way interaction terms between those variables (e.g., parenting stress x temperamental characteristics). To create interaction terms, we grand-mean centered of parenting stress and temperamental characteristics, then we multiplied these variables (Aiken & West, 1991). We examined each component of emotional state in separate model to see whether a set of predictors uniquely contribute to each outcome.

Emotion Regulation. In Block 1 in Table 4, demographic variables (family SES, child age, and child's sex) accounted for 5.2% of the variance in children's emotion regulation, F (3, 215) = 3.961, $p < .01$, $R^2 = .052$. The Block 2 included temperamental characteristics (persistence and reactivity) and accounted for additional 4.9% of the variance in children's emotion regulation, F (5, 213) = 4.789, $p < .001$, $R^2 = .101$. In second block, reactivity was significantly related to emotion regulation (β= -.200, t = -3.030, $p < .01$). The Block 3 included parenting stress and explained 4.3% of additional variance in children's emotion regulation, F (6, 212) = 5.959, $p < .001$, $R^2 = .144$. In third block, parenting stress was significantly associated with emotion regulation (β = -.234, t = -3.274, $p < .01$). The Block 4 contained two-way interactions between parenting stress and temperamental characteristics (persistence, reactivity) and

accounted for additional 2.8% of the variance in children's emotion regulation, F (8, 210) = 5.471, $p < .001$, $R^2 = .172$. The interaction between parenting stress and persistence was significant in predicting children's emotional regulation (β = -.158, t= -2.375, p = .018) (See Table 4). Hypothesis 3B (In the context of parenting stress, children with higher levels of persistence would not be strongly affected in prediction of their emotional states) was partially supported.

We ran simple slopes analyses to comprehend the nature of the significant interaction. We plotted the correlation between persistence and emotion regulation at three levels of parenting stress: high (1 *SD* above the mean), the mean, and low (1 *SD* below the mean; Aiken & West, 1991). Results from the simple slopes analyses displayed that the slope for persistence on children's emotion regulation when parenting stress was high (t = -1.60, p = .111) and average (t = 0.320, p = .748) was not significantly different from the zero. However, when parenting stress was low, the slope for persistence was significantly different from zero (t = 2.15, p = .03). Consequently, when parenting stress was high and average, persistence was unrelated to children's emotion regulation. However, when parenting stress was low, high persistence was related to higher emotion regulation for children (see Figure 1).

Table 4

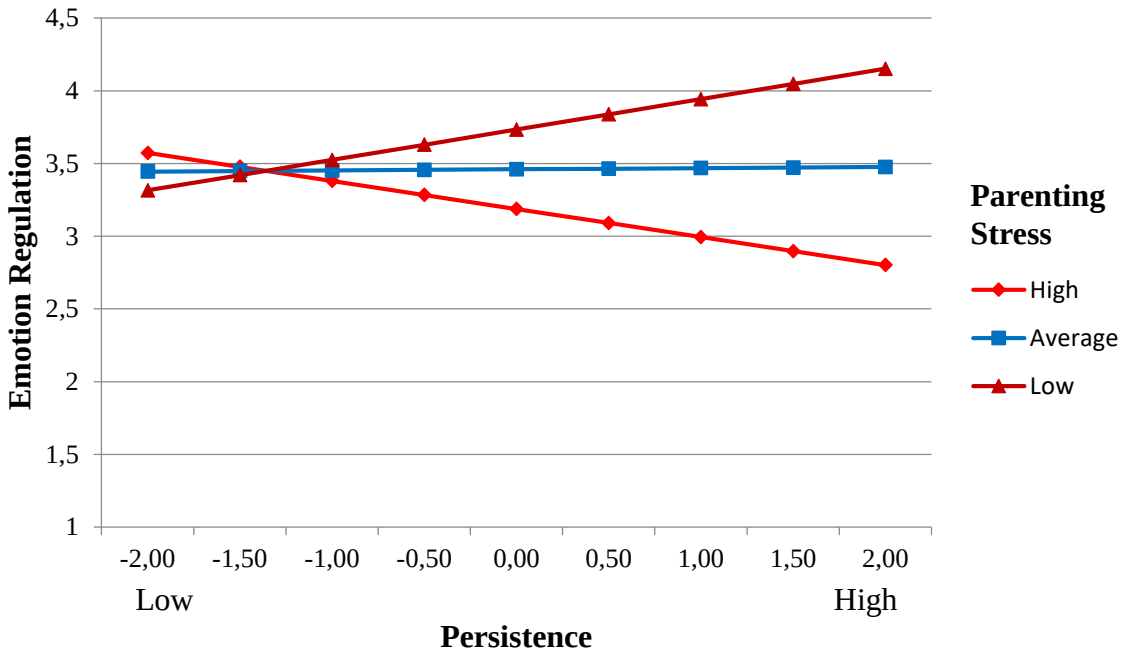
Summary of Hierarchical Regression Analysis for Child Temperament and Parenting Stress Predicting Child's Emotion Regulation (N=219)

		Emotion Regulation	
Variable	*B*	*SE B*	*β*
Block 1			
Family Socioeconomic Status	.081	.032	.172
Child's Age	-.004	.002	-.016
Child's Sex (Girls= 1, Boys= 0)	-.012	.049	-.016
Total R^2			.052
F			3.961**
Block 2			
Persistence	.027	.024	.074
Reactivity	-.074	.024	-.200**
Total R^2			.101
$R^2 \Delta$			.049
F			4.789***
Block 3			
Parenting Stress	-.086	.026	-.234**
Total R^2			.144
$R^2 \Delta$			.043
F			5.959***
Block 4			
Persistence x Parenting Stress	-.060	.025	-.158*
Reactivity x Parenting Stress	.011	.023	.033
Total R^2			.172
$R^2 \Delta$			.028
F			5.471***

Note. *p<.05, **p<.01, ***p<.001.

Figure 1

Parenting stress and persistence predicting children's emotion regulation.



Emotion Dysregulation. In Block 1 in Table 5, demographic variables (family SES, child age and child's sex) accounted for 2.7% of the variance in children's emotion dysregulation, F (3, 215) = 1.989, p = .117, R^2 = .027. The Block 2 included temperamental characteristics (persistence and reactivity) and explained additional 37.9% of the variance in children's emotion dysregulation, F (5, 213) = 29.078, p < .001, R^2 = .406. In the second block, persistence was significantly related to emotion dysregulation (β = -.165, t = -3.062, p < .01) and reactivity was significantly related to emotion dysregulation (β = .576, t = 10.742, p < .001). The Block 3 included parenting stress and explained additional 9.3 % of the variance in children's emotion dysregulation, F (6, 212) = 3.046, p < .001, R^2 = .499. In the third block, parenting stress was significantly associated with emotion dysregulation (β = .344, t = 6.304, p < .001). The Block 4 contained two-way interactions between parenting stress and temperamental characteristics (persistence, reactivity) and accounted for additional 0.3% of the variance in children's emotion dysregulation, F (8, 210) = 2.298, p < .001, R^2 = .502. The interactions were not significant in predicting child's emotion dysregulation (See Table 5)

Table 5

Summary of Hierarchical Regression Analysis for Child Temperament and Parenting Stress Predicting Child's Emotion Dysregulation (N=219)

	Emotion Dysregulation		
Variable	*B*	*SE B*	*β*
Block 1			
Family Socioeconomic Status	-.062	.036	-.118
Child's Age	-.002	.002	-.071
Child's Sex (Girls= 1, Boys= 0)	-.095	.055	-.116
Total R^2			.027
F			1.989
Block 2			
Persistence	-.068	.022	-.165**
Reactivity	.236	.022	-.576***
Total R^2			.406
$R^2 \Delta$			.379
F			29.078***
Block 3			
Parenting Stress	.141	.022	.344***
Total R^2			.499
$R^2 \Delta$			.093
F			35.261***
Block 4			
Persistence x Parenting Stress	-.011	.022	-.025
Reactivity x Parenting Stress	.016	.020	.045
Total R^2			.502
$R^2 \Delta$			.003
F			26.505***

Note. *p<.05, **p<.01, ***p<.001.

Child Aggression. In Block 1 in Table 6, demographic variables (family SES, child age and child's sex) accounted for 2.5% of the variance in child's aggression, F (3, 215) = 1.871, p = .135, R^2 = .025. The Block 2 included temperamental characteristics (persistence and reactivity) and accounted for additional 43.4% of the variance in child's aggression, F (5, 213) = 36.148, p < .001, R^2 = .459. In the second block, persistence was significantly related to child's aggression (β = -.108, t = -2.110, p < .05) and reactivity was significantly related to child's aggression (β = .639, t = 12.507, p < .001). The Block 3 included parenting stress and explained additional 8.5 % of the variance in child's aggression, F (6, 212) = 42.087, p < .001, R^2 = .544. In the third block, parenting stress was significantly associated with child's aggression (β = .327, t = 6.268, p < .001). The Block 4 contained two-way interactions between parenting stress and temperamental characteristics (persistence, reactivity) and accounted for additional 1.4% of the variance in child's aggression, F (8, 210) = 33.075, p < .001, R^2 = .558. The interaction between parenting stress and persistence significant in predicting child aggression (β = -.103, t = -2.116, p = .036) (See Table 6). Hypothesis 3A (Parenting stress would negatively moderate the associations between children's temperament (reactivity and persistence) and, their positive and negative emotional states) was partially supported.

We ran simple slopes analyses to comprehend the nature of the significant interaction. We plotted the association between persistence and child aggression at three levels of parenting stress: high (1 *SD* above the mean), the mean, and low (1 *SD* below the mean; Aiken & West, 1991). Results from the simple slopes analyses showed that the slope for persistence on child aggression when parenting stress was low (t = 0.988, p = .324) and average (t = -1. 104, p = .270) was not significantly different from the zero.

However, when parenting stress was high, the slope for persistence was significantly different from zero (t = -2.455, p = .01). Consequently, when parenting stress was low and average, persistence was unrelated to child aggression. On the other hand, when parenting stress was high, low persistence was related to higher child aggression (see Figure 2).

Table 6

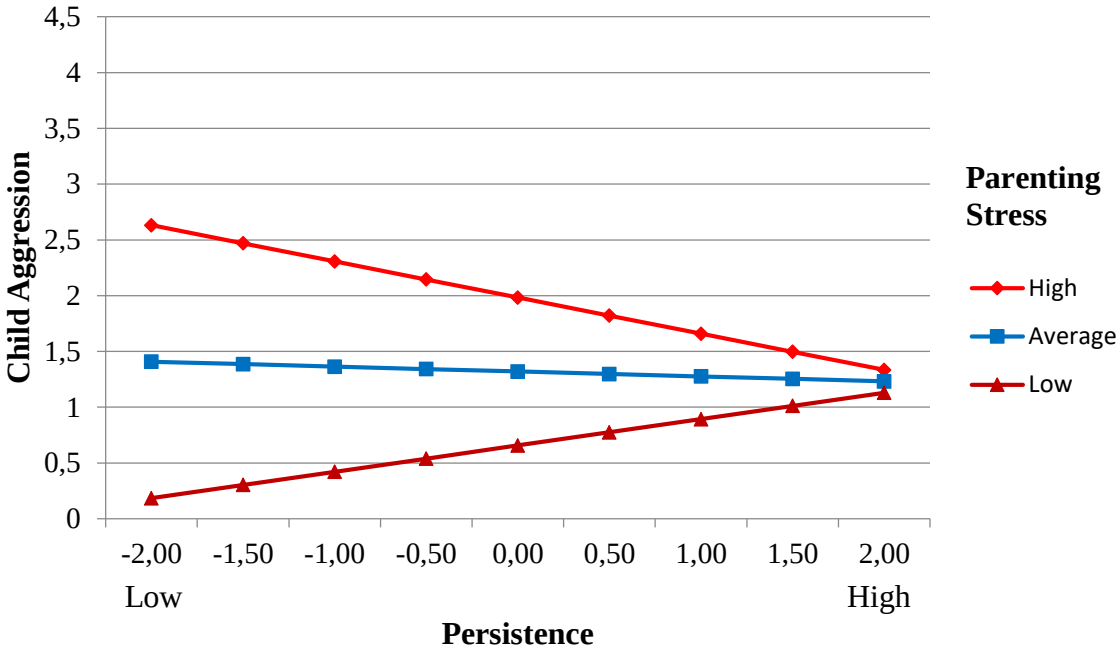
Summary of Hierarchical Regression Analysis for Child Temperament and Parenting Stress Predicting Child's Aggression (N=219)

		Child Aggression	
Variable	*B*	*SE B*	*β*
Block 1			
Family Socioeconomic Status	.005	.066	.005
Child's Age	-.009	.004	-.137
Child's Sex (Girls= 1, Boys= 0)	-.125	.102	-.083
R^2 Δ			.025
F			1.871
Block 2			
Persistence	-.081	.039	-.108*
Reactivity	.480	.038	.639***
Total R^2			.459
R^2 Δ			.434
F			36.148***
Block 3			
Parenting Stress	.246	.039	.327***
Total R^2			.544
R^2 Δ			.085
F			42.087***
Block 4			
Persistence x Parenting Stress	-.080	.038	-.103*
Reactivity x Parenting Stress	.026	.035	.040
Total R^2			.558
R^2 Δ			.014
F			33.075***

Note. *p<.05, **p<.01, ***p<.001.

Figure 2

Parenting stress and persistence predicting child aggression.



Child Anxiety. In Block 1 in Table 7, demographic variables (family SES, child age and child's sex) accounted for 0.4% of the variance in child's anxiety, F (3, 215) = .282, p = .838, R^2 = .004. The Block 2 included temperamental characteristics (persistence and reactivity) and accounted for additional 9.1% of the variance in child's anxiety, F (5, 213) = 4.465, $p < .01$, R^2 = .095. In the second block, reactivity was significantly related to child's anxiety (β = .305, t = 4.619, $p < .001$). The Block 3 included parenting stress and explained additional 3.1 % of the variance in child's anxiety, F (6, 212) = 5.067, $p <$ .001, R^2 = .122. In the third block, parenting stress was significantly associated with child's anxiety (β = .197, t = 2.722, $p < .01$). The Block 4 contained two-way interaction conditions between parenting stress and temperamental characteristics (persistence, reactivity) and accounted for additional 0.1% of the variance in child's anxiety, F (8, 210) = 3.787, $p < .001$, R^2 = .126. The interactions were not significant in predicting child anxiety (See Table 7)

Table 7

Summary of Hierarchical Regression Analysis for Child Temperament and Parenting Stress Predicting Child's Anxiety (N=219)

		Child Anxiety	
Variable	*B*	*SE B*	*β*
Block 1			
Family Socioeconomic Status	-.045	.052	-.061
Child's Age	.000	.003	.008
Child's Sex (Girls= 1, Boys= 0)	.004	.079	.004
Total R^2			.004
F			.282
Block 2			
Persistence	.033	.039	.057
Reactivity	.177	.038	.305***
Total R^2			.095
$R^2 \Delta$			.091
F			4.465**
Block 3			
Parenting Stress	.144	.042	.197**
Total R^2			.122
$R^2 \Delta$			.031
F			5.067***
Block 4			
Persistence x Parenting Stress	-.009	.041	-.015
Reactivity x Parenting Stress	-.014	.038	-.028
Total R^2			.126
$R^2 \Delta$			.001
F			3.787***

Note. *$p<.05$, **$p<.01$, ***$p<.001$.

CHAPTER 5

DISCUSSION

The purpose of the present study was to understand the contributions of children's temperament and parenting stress on children's emotional state with a further interest in examining the moderating role of parenting stress between children's temperament and their emotional state. In the present study, four main findings emerged. Firstly, in bivariate and multivariate analyses, persistence was negatively associated with children's emotion dysregulation and aggression. Second, in bivariate and multivariate analyses, reactivity was negatively associated with emotion regulation and positively associated with emotion dysregulation, aggression, and anxiety. Third, in bivariate and multivariate analyses parenting stress was negatively associated with emotion regulation and positively associated with emotion dysregulation, aggression, and anxiety. Lastly, parenting stress moderated the association between persistence, and emotion regulation and child aggression. In the following sections, each of these findings will be discussed in turn in the context of the relevant literature.

5.1 Children's Temperament and Emotional States

The study's first research question aimed to investigate whether children's temperament associate with their emotional states. In the light of this purpose, we hypothesized that persistence would be positively associated with children's positive emotional state (emotion regulation) and negatively associated with negative emotional states (emotion dysregulation, child aggression, child anxiety). In contrast, reactivity

would be negatively associated with children's positive emotional states (emotion regulation) and positively associated with negative emotional states (emotion dysregulation, child aggression, child anxiety).

Primarily, persistence was negatively associated with emotion dysregulation and child aggression. This finding confirmed our hypothesis and is coherent with previous research demonstrating that regulatory temperament (persistence) could be related to increased emotion dysregulation (Rothbart & Bates, 2006; Orta et al. 2013) and lower aggression in preschool (Murray & Kochanska, 2002; Olson et al., 2005). For instance, Valiente et al. (2003) stressed that children with higher levels of persistence were likely to have fewer externalizing problems. One possible justification for the finding regarding the negative correlation between persistence and negative emotional states may be related to the underlying cognitive aspects of persistence, such as inhibitory and attentional control. Inhibitory control serves a critical role in the behavioral regulation of emotions, which modulates response in a contextually appropriate way by suppressing impulsive response (Posner & Rothbart, 2000). Therefore, children with low persistence may have difficulties in inhibitory control, increasing aggression, and emotion dysregulation in children. In addition, attentional control supports children with the process of diverting their attention from unpleasant stimuli and experience less negative emotions. Persistent children may easily direct their attention from the negative cues, leading to anger or emotion dysregulation, and focus attention on positive cues so that they could display rather positive emotions. Accordingly, we can argue that persistence may prevent children from emotion dysregulation and aggression, resulting from an inability to regulate attention or behavioral response (Eisenberg et al., 1998; Lengua, 2003; Morris et al., 2002). For example, Crockenberg et al. (2008) found an association

between attention shifting and lower aggression. Besides, Noten et al. (2019) stated that inhibitory control and aggression were inversely associated.

Interestingly, while persistence was inversely associated with emotion dysregulation, it was unrelated to emotion regulation. This finding is somewhat contrary to the previous studies, which suggested an association between temperamental regulation and emotion regulation (Belsky et al., 2001; Eisenberg et al., 2004). However, consistent with our finding, Orta et al. (2013) argued that effortful control was a predictor of lower emotion dysregulation; however, it was not a predictor of emotion regulation in Turkish children (Orta et al., 2013). One possible reason for this result could be that while the emotion regulation subscale measurement focuses on emotional awareness and empathy, the emotion dysregulation subscale captures aspects such as anger management and emotional reactivity (Shields & Cicchetti, 1997). Considering these discrepancies, since persistence is related to attentional coping and behavioral regulation, it may help children modulate the intensity of their emotional reactions related to emotion dysregulation. However, it may not predict emotion regulation since it includes emotional aspects such as emotional awareness or empathy (Eisenberg et al., 2014), that are not directly related to temperamental regulation. Additionally, the finding that there was no association between persistence and emotion regulation supports the view that emotion regulation and temperamental regulation are distinct concepts (Batum & Yagmurlu, 2007; Eisenberg et al., 2000).

Unexpectedly, persistence did not significantly predict child anxiety in the present study. This result is inconsistent with what we expected, as previous research indicated that low persistence is linked with internalizing behaviors (Eisenberg et al., 2001, Lengua, 2003). Nevertheless, we purposely avoid making any speculative

interpretation of our inconsistent finding in the cross-sectional study context and believe that this finding warrants further investigation of this association in the Turkish context.

Secondly, similar to our expectations, reactivity was positively correlated with emotion dysregulation, child aggression, and child anxiety, whereas it was negatively associated with emotion regulation. This finding is in accordance with previous research demonstrating higher reactivity is a predictor of both externalizing and internalizing behaviors (Eisenberg et al., 2009; Kalvin et al., 2016; Khan et al., 2005), emotion dysregulation, and lower emotion regulation (Sanson et al., 2004; Yagmurlu & Altan, 2010). For instance, a study with preschool children showed that negative emotionality correlates with less empathy related to emotion regulation and elevated emotion dysregulation (Denham, 1998). Reactive children may encounter difficulties in regulating their extreme arousal, despite the coping they may try to use. Furthermore, reactive temperamental characteristics may prevent them from enhancing effective coping strategies such as attention shifting (Acar et al., 2015; 2018). As a result, reactive temperament may associate with maladjustment in children (Eisenberg et al., 2009).

5.2 Parenting Stress and Children's Emotional States

The second research question aimed to discover associations between parenting stress and children's emotional states. Considering this purpose, we hypothesized that parenting stress would be negatively associated with children's positive emotional states (emotion regulation) and positively associated with children's negative emotional states (emotion dysregulation, child aggression, child anxiety). The findings from the current study confirmed our expectations by indicating that parenting stress was negatively correlated with emotion regulation and positively correlated with emotion dysregulation,

aggression, and anxiety. As an explanation, exacerbated parenting stress undermines effective parenting practices like warmth, sensitivity, and closeness between parent and child (Anthony et al., 2005; Belsky, 1984; Chung et al., 2020), which may trigger the inability of being conscious of their children's emotions and the time when they need parental support. These harmful parenting practices, in turn, impact children's regulation of emotions and behaviors negatively. Congruent with our finding, previous studies emphasized the association between higher parental stress levels and emotion regulation difficulties (Chazan-Cohen et al., 2009; Encinger et al., 2020; Spinelli et al., 2020), and behavior problems in children (Costa et al., 2006; Neece et al., 2012). For example, a study with 3-year-olds, stated parenting stress as a predictor of emotional and behavioral difficulties (Tharner et al., 2012). Likewise, Fabes et al. (2001) stressed that children displayed increased emotion dysregulation when they experienced greater parenting stress. Moreover, parenting stress may be related to induced parental coping abilities. For this reason, mothers who are experiencing difficulties in coping with distress may fail to fully utilize the resources that support positive emotional states in their children (Encinger et al., 2020; Petrocchi et al., 2020; Ren et al., 2019).

Furthermore, especially during the COVID-19 pandemic, parents become more vulnerable to experience parenting stress due to limited social interactions, increased financial strains, the workload at home, and time spent with their child (Conger et al., 1984; Crnic et al., 1983; Östberg & Hagekull, 2000; Wu & Xu, 2020). For instance, Chung and et al. (2020) demonstrated that parenting stress is associated with stronger perceived effects of COVID-19. Relatedly, a study conducted during the pandemic demonstrated that when parents experience high stress related to parenting, their interest in their child, attention to their child, and engagement with their child were induced

(Spinelli et al., 2020). On that ground, the consequences of parental stress on children's emotional states may become more critical during the pandemic, which substantially require further investigation.

5.3 The Moderating Role of Parenting Stress between Children's Temperament and Emotional States

The third research question aimed to explore parenting stress's moderating role between children's temperament and emotional states. We hypothesized that parenting stress would negatively moderate the associations between children's temperament (reactivity and persistence) and their positive and negative emotional states. Besides, in the context of parenting stress, children with higher persistence levels would not be strongly affected in the prediction of their emotional states. Both of our hypotheses were partially supported.

Firstly, our results revealed that parenting stress moderated the association between persistence and emotion regulation. Comprehensively, when children with high persistence experienced low parenting stress, they displayed higher emotion regulation compared to children with low persistence. The finding is in accord with the Goodness-of-fit theory which emphasizes that developmental outcomes of the child vary depending on the attunement between the child's temperamental characteristics and parenting behaviors (Thomas & Chess, 1977). In terms of this theory, positive development occurs when the environmental demands are aligned with the temperament of child. Nevertheless, in the context of dissonance where the environment fails to adapt to the characteristics of the child, the child may struggle to meet the demands which may lead to negative developmental outcomes. When there is low parenting stress in the

environment, it decreases the tendency to show adverse parenting practices (Guajardo et al., 2009). Consequently, parents' awareness of their child's needs increase which may facilitate adequate expectations with their child's temperament. Additionally, high persistency promote children for easily adapting to their parent's demands and finding coping strategies (Acar et al., 2017; Prior et al., 2000). Temperamental regulation may also promote children to engage in more constructive ways to problematic behavior by inhibiting their anger or avoidance. Therefore, in the context of low parenting stress, children may take advantage of their high persistence as parents' behaviors are fit to children's temperament and consequently show increased emotion regulation. In line with the theory, children with high persistence may benefit from parenting practices that involve less parenting stress so that they display higher levels of emotion regulation due to a good fit.

Secondly, findings showed that parenting stress moderated the association between persistence and child aggression. In detail, when children with low persistence experienced high parenting stress, they displayed higher child aggression compared to children with high persistence. This finding also supports the view of Goodness-of-fit theory and previous studies (Calkins & Fox, 2002; Lengua et al., 2008; Rubin et al., 2003; Paterson & Sanson, 2011) that poor fit between a child's temperament and parenting may lead into adverse outcomes. In line with the theory, parents who engage in poor quality parenting practices (that could bring out elevated parenting stress) may lead children with develop lack of persistence to show externalizing problems. Consistent with our finding, several studies expressly indicated the interaction between persistence and parenting on externalizing behaviors (Morris et al., 2002; 2007). For instance, in a longitudinal study, Rubin and his colleagues (2003) showed that low

persistence is strongly associated with child externalizing behavior problems when exposed to poor maternal behaviors. In addition, Lengua et al. (2008) showed that deficient levels of effortful control in children is a predictor of behavior problems under high-risk contexts. As an explanation, children with low persistence may have difficulties in modulating inappropriate behaviors or negative emotions which are emerged under elevated parenting stress. Children find it difficult to adapt to parental expectations and engage in effective coping strategies when they are exposed to stressful circumstances (Prior et al., 2000). Furthermore, when parenting stress is high, parents may pay less attention to their child. This may lead to a discrepancy between parents' demands and child temperament. In other words, when low-regulated children are exposed to elevated parenting stress, their likelihood of receiving positive parenting is reduced, consequently, they may display increased externalizing problems.

Lastly, contrary to our hypotheses, parenting stress did not moderate the association between child temperament (persistence and reactivity) and, emotion dysregulation and child anxiety. This finding is somewhat unexpected since previous studies demonstrated a significant interaction between reactivity and negative parenting on behavior problems. For instance, Bates et al. (1998) stated that reactive children develop increased behavior problems, including emotion dysregulation when they receive negative parenting. A reason behind this inconsistency may be related to the developmental path of effortful control especially in preschool children (Kochanska et al., 2000). Furthermore, cognitive coping resources for effortful control also become more developed during preschool years. To illustrate, Murphy et al. (1999) found that, inhibitory and attention control increase between ages of 4 and 12. Thus, as children get into preschool years, reactivity may be suppressed by increasing regulation abilities

(Bates et al., 2010). Accordingly, instead of reactivity, effortful control may become susceptible to contextual impacts such as parenting stress during preschool years and, interact with the environment to determine child outcomes.

Furthermore, effortful children could manage their control levels, they may adapt effectively under stressful circumstances. Therefore, effortful control may become more critical during the COVID-19 outbreak, as more substantial need for adjustment to dramatically changed routines. Moreover, even reactive children are prone to environmental stressors, they may not exhibit problem behavior if their reactivity is optimal and they can regulate their behavior on some level. Thus, it may be more reasonable to assume that effortful control is a more significant predictor of developmental outcomes when they are exposed to parenting stress. Overall, effortful control may promote children to have more adequate coping in a stressful context (Lengua & Long, 2002). It seems to act as a protective aspect undermining the impacts of parenting stress on children's emotional states. Nevertheless, this should not mean that children drop reactivity in their interactions that require regulatory resources to respond to demands of the environment, meaning that temperamental regulation and reactivity go hand in hand in self-regulation process (Acar et al., 2017; 2015; Rothbart, 2011).

5.4 Strengths, Limitations, and Future Directions

Primary strength of the current study is the contribution to the literature by addressing both parenting stress and child temperament on children's emotional states. Additionally, the current study provides a comprehensive perspective on emotional states by examining emotion regulation, emotion dysregulation, child aggression, and

child anxiety. To our knowledge, there has been no research investigating the emotional and behavioral components of emotional states in a single study of preschool children, particularly in Turkey. Additionally, the current study extends literature by providing evidence of interaction between parenting stress and temperament on children's emotional states during COVID-19. Lastly, data were collected from 42 different cities in Turkey, indicating the representativeness of the data.

Nevertheless, there are some limitations needed to be mentioned. One major limitation is that data were collected only from mothers. Child behaviors and temperament may be dependent on the context they are in. Thus, using a single observant may be biased (Acar et al., 2018; Rudasill et al., 2014). Various observers may perceive children's behaviors and temperaments in different ways and conditions. Therefore, data could be collected from different informants such as fathers and teachers in order to assess data from different perspectives and also observations. Secondly, owing to the cross-sectional nature of the data, the current study prevents causal interpretation of the results. Future studies can design a longitudinal study to examine causal inferences. Another limitation is, data were collected from mostly medium to high-income families which may fail to represent all SES groups. Future studies would benefit from examining the generalizability by including families from all SES levels equally. Additionally, future research should investigate whether our results can be applied to other timelines different than the COVID-19 pandemic. Lastly, internal consistency was low for the Emotion Regulation subscale of the Emotion Regulation Checklist, hence using another scale to capture children's emotion regulation may increase internal consistency.

5.5 Implications

Findings from the current study demonstrated how parentings stress is directly linked to children's emotional states and moderated the association between child's temperament and their developmental outcomes. Parallel to our study, previous research showed that greater parenting stress is linked to higher behavior problems and emotion dysregulation, while decreased emotion regulation (Chazan-Cohen et al., 2009; Costa et al., 2006; Neece et al., 2012; Spinelli et al., 2013). Furthermore, recent studies demonstrated that stress levels of parents increased during the COVID-19 outbreak due to changing life conditions (Wu & Xu, 2020). These reasons put emphasis on the significance of managing parenting stress for the positive development of children and parent's well-being specifically during the pandemic. Several studies investigated the impacts of mindfulness interventions on parenting stress, and they have reported that supporting parents via mindfulness-based interventions could decrease the stress levels of parents, which could be reflected in child outcomes (Chaplin et al., 2018; Duncan et al., 2015). Duncan and his colleagues (2015) found that higher maternal mindfulness was associated with improved positive and steady and, fewer harsh parenting compared to mothers with lower maternal mindfulness. Besides, in mother-child observations, mindful mothers were rated as establishing improved communication and interaction and demonstrating lower harsh parenting. Therefore, with an adequate intervention programs utilizing mindfulness, parents can become more supportive, warm, and sensitive in their parenting practices, in turn, promote the positive development of their child.

In addition to parenting stress, children's well-being may be affected by the pandemic. Both previous studies (Eisenberg et al., 1998; Lengua, 2003; Morris et al., 2002) and the current study highlighted the role of effortful control on children's outcomes. Consideringly, interventions which aim to train cognitive abilities such as inhibitory and attentional control may develop effortful control to protect children from environmental risk factors, emotional and behavior problems. For example, preschool intervention programs such as Tools of the Mind and PATHS, focus on developing cognitive skills, problem solving and self-regulation abilities including inhibitory control and attentional focus (Diamond et al., 2007, Liew, 2011). With these specific preventive interventions, teachers provide a modified curriculum on a regular basis that may prevent children from risk factors related to negative outcomes (Diamond et al., 2007; Kam et al., 2004).

Additionally, several research indicated that temperament is strongly correlated to developmental outcomes of children (Denham, 1998; Eisenberg et al., 2011; Kagan et al., 1999), which creates a need for temperamentally based interventions. These interventions are in accordance with the Goodness-of-fit theory (Chess & Thomas, 1986), aiming to promote the coherency between child and the environment (Sanson et al., 2011). For instance, Insights into Children's Temperament is a preventive intervention program for caregivers and teachers to improve their understanding of child temperament and providing adequate environment to attune with child's temperament (McClowry, 2003). With workshops, parents are informed about management strategies that are fitted with the child's temperamental characteristics. As a result, parents learn how to achieve "good fit" by being knowledgeable about their child's temperament and

promote positive outcomes. Therefore, parents may be able to determine the developmental outcomes of their children by changing their parenting behaviors.

5.6 Conclusion

Overall, this study presented evidence for the contribution of parenting stress and child temperament to children's emotional states during COVID-19 from a comprehensive and broad perspective. Our results showed that persistence was negatively associated with emotion dysregulation and child aggression while reactivity was negatively associated with emotion regulation and positively associated with emotion dysregulation, aggression, and anxiety. In addition, parenting stress was negatively associated with emotion regulation and positively associated with emotion dysregulation, aggression, and anxiety. Furthermore, we examined the moderating role of parenting stress on the association between child temperament and children's emotional states. Our results indicated that parenting stress moderated the association between persistence, and emotion regulation, and child aggression. Nevertheless, parenting stress did not moderate the association between child temperament (persistence and reactivity) and, emotion dysregulation and child anxiety. To conclude, this study might be promising for the literature and future studies as it addressed the contributions of parenting stress and child temperamental characteristics on children's emotional states from a broad perspective.

APPENDIX A

(Demographics Questionnaire)

EBEVEYN KİŞİSEL BİLGİLER

Lütfen anaokulu dönemde bulunan çocuğunuzu göz önünde bulundurarak aşağıdaki soruları cevaplandırınız.

Formu Doldurduğunuz Tarih: …./…./….

Formu Dolduran Kişi: Anne ( ) Baba ( )

Çocuğunuzun yaşı: ……. (Ay olarak) **Çocuğunuzun Cinsiyeti:** ( ) Kız ( ) Erkek

Çocuğunuzun Doğum Tarihi: …./…./….

Yaşadığınız Şehir: ……..

Yaşadığınız yeri nasıl tanımlarsınız? Kentsel ( ) Kırsal ( )

Anne Yaş …… **Baba Yaş** ……

Şu anda anne çalışıyor mu? Evet ( ) Hayır ( )

Şu anda baba çalışıyor mu? Evet ( ) Hayır ( )

Anne Eğitim Durumu:

İlkokul ( ) Ortaokul ( ) Lise ( ) Üniversite ( ) Yüksek Lisans ( ) Doktora ( )

Annenin şu ana kadar almış olduğu toplam eğitim süresi: …. (Yıl olarak)

Baba Eğitim Durumu:

İlkokul ( ) Ortaokul ( ) Lise ( ) Üniversite ( ) Yüksek Lisans ( ) Doktora ( )

Babanın şu ana kadar almış olduğu toplam eğitim süresi: ……. (Yıl olarak)

İlişki durumunuz nedir?

Bekâr ( ) Evli ( ) Boşanmış ( ) Ayrı ( ) Tekrar evlenmiş ( ) Dul ( ) Birlikte yaşama ( )

Ailenin toplam aylık geliri?

1000 TL ve altı	
1000-2000 TL	
2001-3000 TL	
3001-4000 TL	
4001-5000 TL	
5000 TL ve üstü	

APPENDIX B

(Emotion Regulation Checklist)

Duygu Düzenleme Ölçeği

Bu ankette bir çocuğun duygusal durumu ile ilgili çeşitli ifadeler yer almaktadır. Verilen numaralandırma sistemini kullanarak, aşağıdaki ifadeleri çocuğunuzda COVID-19 karantina döneminde ne sıklıkla gözlemlediğinizi lütfen işaretleyiniz.

*Bu dönemde gözlemlenmeyen ifadeler için size en yakın gelen numarayı işaretleyiniz.

(1) Hiçbir Zaman/Nadiren (2) Bazen (3) Sık Sık (4) Neredeyse Her Zaman

(Sample Items)

2. Duygu hali çok değişkendir (Çocuğun duygu durumunu tahmin etmek zordur çünkü neşeli ve mutluyken kolayca üzgünleşebilir)	1 2 3 4
7. Yaşıtlarının arkadaşça ya da sıradan (nötr) yaklaşımlarına olumlu karşılık verir.	1 2 3 4

(Social Competence and Behavior Evaluation Scale)

Sosyal Yetkinlik ve Davranış Değerlendirmesi

Bu ankette bir çocuğun duygusal durumu ve davranışları ile ilgili ifadeler yer almaktadır. Verilen numaralandırma sistemini kullanarak, aşağıdaki davranışları çocuğunuzda COVID-19 karantina döneminde ne sıklıkla gözlemlediğinizi lütfen işaretleyiniz.

*Bu dönemde gözlemlenmeyen ifadeler için size en yakın gelen numarayı işaretleyiniz.

(1) Hiçbir Zaman (2 veya 3) Bazen (4 veya 5) Sık Sık (6) Her Zaman

(Sample Items)

3. Kolaylıkla hayal kırıklığına uğrayıp sinirlenir.	1 2 3 4 5 6
12. Hareketsizdir, oynayan çocukları uzaktan seyreder.	1 2 3 4 5 6

APPENDIX C

(The Short Temperament Scale for Children)

Çocuklar için Kısa Mizaç Ölçeği

Her bir soru için, çocuğunuzun son zamanlardaki ve şimdiki davranışını göz önünde bulundurarak, bu durumu en iyi anlatan seçeneği lütfen işaretleyiniz.

(1) Hemen Hiç (2) Sık Değil (3) Değişken, Genelde Olmaz (4) Değişken, Genelde Olur (5) Sık Sık (6) Hemen Her Zaman

(Sample Items)

5. Çocuğum, yeni bir işe geçmeden önce başlamış olduğu işini tamamlamayı sever.	1 2 3 4 5 6
11. Çocuğum saçının taranması gibi bir işe karşı çıkarsa, buna aylarca direnmeyi sürdürür.	1 2 3 4 5 6

APPENDIX D

(Parenting Stress Scale)

Ebeveynlik Stres Ölçeği

Bu ankette ebeveynlik ya da anne baba olmaya ilişkin yaşamış olduğunuz stres durumuna ilişkin maddeler bulunmaktadır. Her bir maddede sizin için en uygun olan ifadeyi işaretleyiniz. Eğer birden fazla çocuğa sahipseniz, okul öncesi dönemdeki çocuğunuzu düşünerek maddeleri cevaplayınız.

(0) Hiç Tanımlamıyor (1) Biraz Tanımlıyor (2) Oldukça İyi Tamamlıyor (3) İyi Tanımlıyor (4) Çok İyi Tanımlıyor

(Sample Items)

2. Çocuğumla iyi bir iletişim kurmayı başaramıyorum	0 1 2 3 4
6. Çocuğum yakın çevresiyle ilişkilerinde problemlere sahiptir.	0 1 2 3 4

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