THE RELATION OF MATERNAL CONTROL AND WARMTH TO INFANTS' REGULATION IN A WAIT TASK

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THE RELATION OF MATERNAL CONTROL AND WARMTH TO INFANTS' REGULATION IN A WAIT TASK

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DECLARATION OF ORIGINALITY

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ABSTRACT

The Relation of Maternal Control and Warmth to Infants' Regulation in a Wait Task

As infants' mobility increases at the end of the first year, they are more likely to move independently and approach prohibited objects or dangerous places, which makes parents more likely to exert control to cease such undesirable behaviors. Although power assertion is sometimes inevitable to protect child from injury or to prevent inappropriate behavior, little is known about the effect of maternal power assertiveness on infants younger than 2 years old. Moreover, research also reveals that maternal warmth is beneficial in the regulation of children's behavior and emotions. Yet, only few studies have examined maternal warmth during a prohibition situation in infancy. In the present study, the additive and interactive roles of mothers' power assertiveness and expression of warmth were examined on infant's regulation in a laboratory task that involved a prohibition paradigm. A total of 74 mother-infant dyads (M_{age} = 13.3 months, SD = 0.42) from low-to-middle income families participated in the present study. Maternal power assertiveness, warmth, and different facets of infant's regulation, i.e. noncompliance and distress, were coded in 5-second epochs during the task. Regression analyses revealed that maternal warmth negatively predicted children's noncompliance and distress, whereas positively predicted infant's regulation over and above power assertion. High power assertion made a unique contribution to the prediction of infants' distress. Yet, this main effect was qualified with an interaction effect. High levels of power assertion were positively associated with infants' more frequent distress expression, yet this relation was stronger in the case of low maternal warmth.

ÖZET

Bir Oyuncak Bekleme Etkinliğinde Sergilenen Anne Sıcaklığı ve Kontrolünün Bebeklerin Benlik Düzenlemesine Etkisi

Bir yaşın sonlarına doğru, bebeklerin bağımsızca hareket etme becerileri gelişir ve bu da onların yasak veya tehlikeli nesnelere yaklaşma ihtimalini artırır. Bunun gibi zorlayıcı durumlarda, ebeveynlerin bebeklerinin davranışlarını kontrol etme olasılığı artar. Özellikle, bebeklerini yaralanmalardan korumak ve onların uygunsuz davranışlarını önlemek söz konusu olduğunda, ebeveynlerin güç gösteriminde bulunması kaçınılmaz olabilir. Erteleme ve yasaklama içeren durumlarda, araştırmalar güç gösteriminin yanı sıra anne sıcaklığının da erken dönemdeki çocukların duygusal ve davranışsal benlik düzenlemesi üzerinde etkisi olduğunu göstermektedir. Buna karşın, bu ilişkileri iki yaşından küçük bebeklerle inceleyen sınırlı sayıda çalışma vardır. Bu çalışmada annenin güç gösteriminin ve sıcaklığının, ortalama 13 aylık bebeklerin benlik düzenlemesi üzerindeki bağımsız ve etkileşimli etkisi, bir oyuncağın yasaklanmasını içeren labarotuvar etkinliğinde incelenmiştir. Çalışmaya düşük veya orta gelirli ailelerden toplam 74 anne-bebek çifti katılmıştır (yaş ortalaması = 13.3 ay, *SS* = 0.42). Annenin güç gösterimi, sıcaklığı ve bebeğin benlik düzenlemesinin iki farklı boyutu, bir kurala itaat etme(me) ve olumsuz duygu gösterimi, yasaklama etkinliği süresince her bir 5 saniyelik aralıklar için kodlanmıştır. Annenin sıcaklığı, regresyon analizinde çocukların kurala itaat etmeme ve olumsuz duygu gösterme sıklığını negatif yönde yordamıştır. Buna karşın, anne sıcaklığı bebeklerin genel benlik düzenleme skorunu pozitif yönde yordamıştır. Yüksek güç gösterimi, bebeğin olumsuz duygu gösterme sıklığını hem tek başına hem de anne sıcaklığı ile etkileşime girerek açıklamıştır. Annenin görece yüksek

düzeyde güç gösterimi bebeklerin daha sık olumsuz duygu göstermesiyle ilişkilidir. Bu ilişkinin anne sıcaklığının düşük olduğu durumlarda daha güçlü olduğu bulunmuştur.

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CHAPTER 1

INTRODUCTION

The development of regulatory capacities helps young children exert control over their emotions, behaviors, and attention according to the situational demands (Feldman, 2009; Posner & Rothbart, 2000). Regulatory competence is an important milestone of healthy social and emotional development because of its close link with positive future outcomes such as better social competence (Calkins, Gill, Johnson, & Smith, 1999), reduced problem behaviors (Eisenberg, Spinrad, & Eggum, 2010), moral development (Kochanska, Murray, & Coy, 1997), and academic ability (Blair & Razza, 2007). Given the important link between self-regulation and positive child outcomes, many studies examined the early predictors of emerging regulatory competence (e.g., Braungart-Rieker, Garwood, Powers, & Notaro, 1998; Haley & Stansbury, 2003, Li Grining, 2007; Kim & Kochanska, 2015; Kochanska & Aksan, 1995).

The earliest form of regulation among very young children is commonly conceptualized as compliance (Kopp, 1982). Compliance reflects children's ability to change their behavior according to others' requests and social demands (Kochanska & Aksan, 1995). Emotion regulation is also another component of regulation and refers to children's ability to modulate the intensity and duration of emotional expression in order to meet situational demands (Calkins, Dedmon, Gill, Lomax, & Johnson, 2002; Cole, Martin, & Dennis, 2004; Kopp, 1989; Thompson, 1994).

Infants are born with fundamental capacities for emotion regulation (e.g., closing their eyes, directing their head away from the aversive stimulus, self-soothing with thumb sucking; Stifter & Braungart, 1995). However, young children need their

caregivers' external support to modulate arousal and develop self-regulatory competencies (for a developmental review, see Zimmer-Gembeck & Skinner, 2016). In the first year of their lives, infants are involved in several emotionally charged situations, such as separation from mother, inoculation, and exposure to novelty in which the need for emotion regulation is heightened. On the one hand, the need for the regulation of behaviors, or behavioral self-control (Calkins, 2007) comes into question later at the end of the first year when infants became able to differentiate their actions from those of caregivers with the developmental peak in locomotor activity (Kopp, 1982). During this stage, children's eagerness for movement competes with their lack of comprehension of social demands (Kaler & Kopp, 1990), which in turn makes young children's compliance with external requests harder. Therefore, the need for external support is especially heightened in challenging situations that entail restrictions for children (Braungart-Rieker, Garwood, & Stifter, 1997; Kochanska & Aksan, 1995).

Given the particular characteristic of the aforementioned developmental stage, it is a challenging task for caregivers to put limits while respecting the child who is eager to explore the environment and perform his/her autonomy (Scaramella & Leve, 2004). A growing body of research indicates that infants' development of behavioral and emotional regulation depends on the type, quality, and intensity of caregiver's control (Kim & Kochanska, 2015).

The very broad term which encompasses the caregiver's different control strategies is power assertive discipline. Strategies in the low end of power assertive discipline are characterized by providing guidance, structure, and support to children while applying rules. In contrast, intruding children's behaviors excessively, forcing them to meet demands, using coercion, physical harshness, and expressing negativity

toward children (Feng, Shaw, & Moilanen, 2011) are examples of highly power assertive control. In general, low assertive (or positive) control is associated with better child outcomes during early childhood (Gilliom, Shaw, Beck, Schonberg, & Lukon, 2002; Karreman, Van Tuijl, van Aken, & Deković, 2006; Kochanska & Aksan, 1995). On the other hand, higher assertive (or negative) control plays a detrimental role on children's compliance (Smith, Calkins, Keane, Anastopoulos, & Shelton, 2004), inhibitory control (Moilanen, Shaw, Dishion, & Gardner, & Wilson, 2010), rule internalization (Laurin & Joussemet 2017), externalizing problem behaviors (Kim & Kochanska, 2015), and moral cognition (Kochanska, Aksan, & Nichols, 2003).

Maternal warmth is also another caregiving practice linked with development of children's regulation. Mothers' physical affection, expression of positive emotions and love, affective vocalizations are found to decrease the distress of infants (Cirelli & Trehub, 2020; Leerkes & Crockenberg, 2003) and toddlers' (Jahromi, Putnam, & Stifter, 2004) under several stressors. Some studies also reported the positive link between maternal warmth and behavior regulation in toddlers (e.g., Kochanska & Aksan, 1995; Kochanska, Murray, & Harlan, 2000; Jennings et al., 2008) and preschoolers (von Suchodoletz, Trommsdorff, & Heikamp, 2011). However, only a few studies with infants investigated the role of supportive and controlling maternal behaviors in relation to emotional and behavioral aspects of regulation with direct behavioral observation in a compliance context (e.g., Kochanska, Tjebkes, & Fortnan, 1998; Reddy, Liebal, Hicks, Jonnalagadda, & Chintalapuri, 2013; Towe-Goodman & Teti, 2008; Volling, McElwain, Notaro, & Herrera, 2002).

To fill in this gap in the literature, of particular relevance to the present study is the role of caregiver warmth and maternal power-assertiveness on infants'

regulation of behaviors and emotions in a laboratory prohibition situation. Infants' approach and touch to prohibited toy and expressed distress were considered as indicators of very young children's regulatory competence.

CHAPTER 2

LITERATURE REVIEW

2.1 Regulation in infancy

Infants' regulatory competence develops as children gain increasing control over their impulsive behaviors, attentional processes, and emotional reactivity (Montroy, Bowles, Skibbe, McClelland, & Morrison, 2016; Posner & Rothbart, 2000). Development of this complex capacity requires incorporating different regulatory components: physiological regulation, attentional regulation, emotion regulation, and behavior regulation (Calkins & Fox, 2002; Kurth, 2019). In the first two years of life, the maturation of the brain, in particular the prefrontal cortex, supports infants' perceptual, attentional, and motor skills, which are crucial for the development of regulatory capacities (Belsky, Friedman & Hsieh, 2001; Thompson, Lewis, Calkins, 2008). From the first year of age throughout the preschool years, children start to exercise behavior regulation, which is a process of maintaining goal-directed behavior, exerting control over impulses, and resisting immediate temptations (Putnam, Spritz, & Stifter, 2002). Thus, in particular for infants and toddlers, behavior regulation pertains to young children's compliance with prohibitions or delays (Feldman, Masalha, & Alony, 2006; Keller et al., 2004).

Emotion regulation, as another component of regulation, refers to children's ability to alter the intensity, duration, and timing of emotional experiences (Cole et al., 2004). By the third month of life, infants start to express frustration (or distress) in response to restrictions and limits. Accordingly, studies examined emotion regulation in infancy, mainly as intensity and duration of expressed negative emotions under several stressors. Lower levels of crying and tantrums suggest that

the child can engage in emotional regulation. On the other hand, higher levels are seen as emotional manifestations of dysregulation (Cole et al., 2004; Thompson & Goodvin, 2007).

These early forms of behavioral and emotional (dys)regulation are crucial considering their link to later self-regulation (Braungart-Rieker & Stifter, 1996; Stifter, Spinrad & Braungard-Rieker, 1999) and future socio-emotional competence (Eisenberg et al., 2001). For example, there is evidence that 10- to 18-month-old infants with high levels of irritability/frustration in a toy removal task were less compliant as toddlers (Stifter et al., 1999). Braungart-Rieker et al. (1997) also found that children who were rated as high in negative emotionality by their mothers showed less committed compliance and more passive noncompliance at 30 months of age. Infants who are more regulated in the still-face procedure at 5-month showed more compliance in laboratory cleanup task at age 3 (Hill & Braungart-Rieker, 2002).

Studies with older samples also provided evidence on the link between frustration and children's later behavioral regulation (e.g., high compliance, low noncompliance, or low defiance). Toddlers who were reported as more reactive (Wood, Grau, Smith, Duran, & Castellanaos, 2017) or irritable (Lehman, Steier, Guidash, & Wanna, 2002) by their parents were found less compliant and more defiant in a compliance context.

A similar positive relationship between high frustration/activity levels-low task persistence and noncompliance was also observed during cleanup in a preschool context (Wachs, Gurkas, and Kontos, 2004). A longitudinal finding from Kuczynski and Kochanska's (1990) study also shows the positive link between toddlers' defiance (i.e., noncompliance with negative affect) and later externalizing problems at age 5.

There is also evidence that the link between young children's emotionality regulation of behaviors might depend on their caregiving context in early childhood. For example, Kochanska, Aksan, & Carlson (2005) did not find the direct effect of infant frustration at seven months on his/her cooperation with parents and committed compliance at 15 months. However, they noted that 7-month old infants with high levels of anger became highly cooperative in a compliance context at 15 months within the context of highly responsive mothers. Similarly, many studies reported the moderating or mediating role of maternal caregiving behaviors (e.g., sensitivity, support, positive affect) on later emotion regulation (Braungart-Rieker, Hill-Soderlund, & Karrass, 2010; Crockenberg & Leerkes, 2006), social competence (Penela, Henderson, Hane, Ghera & Fox, 2012) and behavior problems (Paulussen-Hoogeboom, Stams, Hermanns, Peetsma, & van den Wittenboer, 2008) in early childhood. Thus, it is important to consider the key role parenting plays on the developing regulatory competence of young children.

2.2 Parenting and development of infants' regulation

Children's social and emotional development flourishes through interactions with their parents. Specifically, the development of self-regulation capacities benefits from the external support of caregivers together with prolonged maturation of neural and physiological systems (Kopp, 1982). Many findings support the importance of the quality of caregiver-child interactions for the developing self-regulatory skills (Feng, Hooper, & Jia, 2017; Frankel, Umemura, Jabobvitz, & Hazen, 2015; Halligan et al., 2013).

Infants demand more independence by the end of the first year of life; hence, maternal requests to children about safety, routines, and prohibitions increase in

frequency by 13 to 18 months (Gralinski and Kopp, 1993). In this period, a child's compliance with parent's requests is hard, and mostly in need of parental assistance. In this period, parenting practices expand from nurturance and protection to limit-setting and control (Liebal, Reddy, Hicks, Jonnalagadda, & Chintalapuri, 2011; Sroufe, 1979).

In order to refrain a child from a dangerous place or a forbidden object, mothers' role as an external source of control is important. However, considering the challenging nature of the situation, mothers can also become more intrusive and less positive toward infants (Miller, McDonough, Rosenblum, & Sameroff, 2002). As Shaw, Bell and Gilliom (2000) indicated, mother-child interaction in the first years is crucial to examine because it may be the start of interactions with a high level of parental coerciveness. Therefore, it is important to know the characteristics of early parental control with its effects on the child.

2.3 Conceptualization of maternal control as power assertiveness

There is a lack of consensus in the literature on a clear definition of control, which includes various types such as positive or negative control, behavioral control, psychological control, forceful (coercive or harsh) control. One promising approach to overcome this complexity is to examine types of control (e.g., gentle guidance, assertive control, forceful control) on the continuum of *power assertiveness* that points to varying degrees of maternal pressure on the child (e.g., Kim & Kochanska, 2015; Kochanska et al., 2003).

Many studies conceptualized power-assertiveness in the order of increasing maternal pressure in terms of mothers' control style and physical interventions. Maternal assertiveness continuum ranged from social interaction but no control

(parent talks, plays with child), gentle control (asks gently, reminds child), to assertive control (assertive, firm commands), and forceful control (threats, negative or angry control). Additionally, physical interventions mostly included the following: assertive physical interventions (holds child firmly, moves child decisively, removes a toy from child's hand, etc.) and forceful physical interventions (shakes, spanks, handles roughly, yanks toys, gestures angrily).

Similar to other concepts such as positive control, or guidance in discipline literature, gentle control refers to explaining the rule gently, negotiating with the child and using regulatory tactics such as redirection of attention, and suggesting alternatives (Blandon & Volling, 2008). Assertive control or use of assertive instructions (or parental directiveness; Lindsey & Caldera, 2005; Kwon & Elicker, 2012) involve caregiver's matter-of-fact prohibitions and reminding the rule to the child. These strategies point to moderate use of power assertion. On the other hand, forceful control denotes harshness (e.g., negative and angry tone, yelling, screaming, threatening) to force the child to comply with parent's agenda (Chang, Schwartz, Dodge & McBride-Chang, 2003; Feng et al., 2011). In particular, forceful physical interventions involve in mother's excessive, intrusive behaviors and limitation of children's physical autonomy, with use of coercion such as spanking or hitting. Forceful, highly power assertive strategies are also labelled as negative control in some previous studies. In contrast, positive control strategies such as guidance, distraction, reassurance, and empathic statements toward children point to low power assertiveness.

2.4 Role of power assertiveness in the compliance context

Previous research has commonly investigated caregiver's control practices in two kinds of compliance contexts, namely in contexts that put a demand on the child to engage in an activity (*do* task) or stop an ongoing behavior (*don't* task). An example of a "do task" is a toy pick-up or cleanup task, in which the child is asked to pick up toys that she or he is already playing with. On the other hand, the Forbidden Toy task is commonly known as a "don't" or "prohibition" or "wait" task (e.g., Kochanska, Coy, & Murray, 2001, 2003). During these tasks, mothers attempt to refrain their children from touching an attractive but forbidden toy for a certain amount of time. Literature review in this section on maternal control will be confined to laboratory observations of the compliance context, mostly including research findings with the Forbidden Toy paradigm (i.e., don't context).

Towards the end of the first year of life children's oppositional behaviors to parental requests increase. Therefore, when a situation requires a child's compliance, parents' power assertiveness may be necessary to prevent infants from stopping unwanted behavior and learning about rules (Dahl & Chan, 2017). However, when caregivers' degree of power assertion is not adaptive for a specific situation, children's negative emotionality, in particular anger, may increase in the case of parental control (Shaw et al., 2000). Moreover, caregivers' use of high-power assertiveness (e.g., physical coercion, communication of negative emotions) may also contribute to children's noncompliance and other long-term detrimental effects such as less rule internalization, hostile attribution biases, and aggressive behaviors.

Findings from concurrent and longitudinal research converge that mothers' high-power assertion is positively associated with young children's noncompliance. For example, forceful maternal control toward children between 26- to 41-month-old

was positively related to their noncompliance in the prohibition context (Kochanska & Aksan, 1995). There is also evidence that high power-related control (commands and physical control) in infancy was associated with less autonomous-compliance at 24 and 36 months (LeCuyer-Maus & Houck, 2002). Mirabile, Scaramella, Sohr-Preston, and Robinson's (2009) finding in a toy-removal episode showed that power assertive behaviors (e.g., rejection, threats, harsh physical behaviors) is positively associated with two-year-old children's venting and aggression. Although mothers' immediate and firm verbal assertiveness was related to less transgression, the use of power assertive verbal directives was associated with children's negative affect (Pfiffner & O'Leary, 1989) and more defiance, both concurrently and longitudinally (Lindsey & Caldera, 2005). Negative control was found to be negatively related to two years old children's compliance and positively associated with defiance (Crockenberg & Litman, 1990; Rothbaum & Crockenberg, 1995).

High power assertive control is also reported to have a detrimental effect on children's independent regulation of themselves. For example, interaction between maternal negative control at year of 1.5 (Time 1) and child's negative emotionality during a delay task at the age 3.5 (Time 2) are linked with toddlers' focusing more on frustrating object at Time 2 (Gilliom et al., 2002). Similarly, mothers' use of power-assertive strategies during a toy-removal episode at age 2 was also associated with children's fewer use of effective attention-shifting (i.e., self-distraction, and proximity seeking) strategies (Calkins, Smith, Gill, & Johnson, 1998). A longitudinal finding also shows that power assertive control in toddlerhood also predicted more antisocial behavior and less internalization of morals at the age of 5 and 6 (Kochanska et al., 2003).

On the other hand, children between the ages of 18- to 41-month old were less likely to show noncompliance when their mothers used low power assertive strategies such as gentle (or positive) guidance (Braungart-Rieker et al., 1997; Calkins et al., 1998; Kochanska & Aksan, 1995; Lindsey & Caldera, 2005; van der Mark, Bakermans-Kranenburg, Van Ijzendoorn, 2002) and verbal assertiveness (Pfiffner & O'Leary; 1989; Reddy, Liebal, Hicks, Jonnalagadda, 2013). The use of distraction which is an example of low power assertive strategy was also found as an effective way of refraining 30-month-old toddlers from touching an attractive object (Putnam et al., 2002), predicted 12 month-old infants' later delay of gratification at age 5 (LeCuyer & Houck, 2006) and six-month-old girls' lesser degree of aggressive behavior at age two and a half (Crockenberg, Leerkes, & Jó, 2008). Less assertive verbal instructions and gentle guidance predicted two-year-old children's compliance (Feldman, Greenbaum, & Yirmiya, 1999; Feldman & Klein, 2003) in a laboratory "do task" as well. Besides that, some toddler studies (e.g., Kochanska, 1995; van der Mark et al., 2002) also showed that the effect of low assertive, gentle strategies might depend on the temperament of children, in which more fearful or anxious children would benefit more from this kind of maternal control.

However, some controversial findings are also present on different types of control coming from studies that measured different forms of compliance. Based on Kochanska and Aksan's (1995) classification, committed compliance refers to a child's willing acceptance and execution of maternal rules without the mother's repetition of control. In contrast, situational compliance refers to a child's temporary cooperation with the maternal agenda only as long as maternal control is present. Blandon and Volling (2008) found that gentle control in a toy-pick up session was related to more situational compliance for toddlers; however, Kwon and Elicker

(2012) reported the same type of maternal control was associated with toddlers' more internal, committed compliance.

2.5 Maternal warmth

Maternal responsiveness, which is basically characterized by sensitivity and warmth are essential sources of external support for children in the regulation of emotions and behaviors (e.g., Davidov & Grusec, 2006; Kochanska et al., 2000; Lehman et al., 2002; Moilanen et al., 2010). Numerous researches revealed that maternal sensitivity promotes children's sense of security, help them to manage negative emotionality and facilitates the development of emotion regulation in stressful situations (e.g., Braungart-Rieker et al., 1998; Nicely, Tamis-LeMonda, & Grolnick, 1999; Spinrad et al., 2012). As one important component of sensitivity, warmth is defined as parental positive involvement or positive regard towards the child (NICHD Early Child Care Research Network, 1997). More specifically, it is characterized by the caregiver's interaction with positive emotions and physical affection (e.g., kissing, hugging, rocking), and several practices such as singing, playful talk, and praising that potentially induce positive mood to the child (MacDonald, 1992).

Many studies in the literature did examine maternal warmth together with other concepts such as sensitivity, acceptance, autonomy support, as components of maternal responsiveness. For example, Towe-Goodman & Teti (2008) have found that a combination of mother-reported power-assertive discipline and high emotional involvement (a combination of sensitivity and positivity) during play and cleanup interactions were associated with higher child's socioemotional competencies at 6-14 months. However, less is known as the separate effect of warmth beyond sensitivity on children's regulation (Davidov & Grusec, 2006).

Most evidence on the separate role of warmth comes from studies with various distressing situations (e.g., still-face, separation or inoculation, exposure to novelty). These studies showed that maternal positive facial expressions, vocalizations and affective touch (Leerkes & Crockenberg, 2003), the combination of sensitive holding and affective vocalizing (Jahromi et al., 2004), mother's singing (Cirelli & Trehub, 2020) were linked to reducing infant distress. Moreover, Davidov and Grusec (2006) found that mothers' warmth during non-distressing free play interactions toward 6 to 8 years old children did not predict regulation of negative affect; whereas, responsiveness to distress when the child is upset was a meaningful predictor of regulation. This finding imply that the effect of mothers' supportive behaviors may depend on the context in which they are expressed. The role of warmth, particularly in compliance context will be examined in the next section.

2.6 Role of maternal warmth in the compliance context

Darling & Steinberg's (1993) model of parenting suggested that affective climate between parent and child may be particularly crucial in discipline context because it alters the impact of parenting practices in discipline situations through increasing child's responsiveness to parent's demand. Social Learning Theory (Dodge, 1980; Rotter 1966 cited in Owen, Slep, & Heyman, 2012) also proposed that the positive reinforcement, when it is delivered through warmth increases compliance when children associate their compliance with subsequent positive parenting responses such as cues of warmth (i.e., hugs, smiles, pats) and praises. In turn, the child becomes more eager to comply with maternal request to sustain positive relationships.

Previous studies with maternal self-reports found the link between maternal warmth and positive correlates of children's self-regulation, such as socioemotional competencies and reducing problem behaviors. For example, Zimmer-Gembeck and Thomas (2010) found that parents' reports of more warmth and less hostility toward their 9-months-old infants predicted higher child competence and less behavioral and emotional problems in toddlerhood. Other studies with an older sample also provided similar pieces of evidence. McCoy & Raver (2011) found that preschooler's externalizing behaviors were negatively predicted by caregivers' self-report positive expressiveness. Similarly, mothers' warm involvement was associated with low rates of oppositional behaviors in elementary school children independent from control practices (Stormshak, Bierman, McMahon, & Lengua, 2000).

However, the role of warmth on children's regulation is less investigated with the use of direct, observatory measurements in the laboratory context. Kochanska & Aksan (1995) reported that mother-child shared positive affect was both a concomitant and predictor of committed compliance both in prohibition and cleanup tasks. Jennings et al. (2008) also found that maternal warmth during a difficult toy task predicted child's later self-regulation at 34 months during several laboratory assessments including wait task. Cebioglu and Aksan (2010) also found that high fearful children showed more committed compliance in the context of high maternal warmth; however, this link was not supported for low fearful children. Unlike previous findings, Lengua, Honorado, and Bush (2007) found maternal warmth only predicted preschoolers' parent-report social competence but not effortful control in laboratory tasks which including gift delay. However, more recent observation studies found similar findings on the positive link between children's regulation and dyadic parent-child interactions such as dyadic connectedness (Li-Girining, 2007),

shared positivity (Kochanska, Forman, Aksan, & Dunbar, 2005), or dyadic reciprocity (van Huisstede, Winstone, Ross, & Crnic, 2019).

Some other self-reported studies with older samples showed a moderating role of warmth on the link between power assertion and self-regulation. Ispa et al. (2004) suggested that maternal warmth in discipline situations presumably influences children's attributions regarding parental control. Hence, children whose parents with high levels of warmth and using assertive, firm discipline may perceive this discipline as less hostile, unjust, and more child-centered (Kim & Kochanska, 2015; McLoyd & Smith, 2002). In other words, power assertive discipline can operate differently and be perceived by child more appropriate when accompanied by practices such as maternal explanations, reasoning, and warmth (Grusec & Goodnow, 1994).

In line with Baumrind's model of authoritative parenting (1966), the synthesis of supportiveness with power assertion benefits more for children's successful socialization (see discussion on parental structure vs. power assertion; Conger, 2009; Grolnick & Pomerantz, 2009). In particular, the relative ratio of supportive behaviors (i.e., sensitivity, warmth) to parental power assertiveness is found to be important. However, there is variability in the use of these two parental behaviors between different cultures. Therefore, there are controversies about how much parental authority and positive parenting is beneficial for children from different cultural groups.

2.7 Role of culture on maternal warmth, control, and regulation

"Families are embedded within social and cultural systems" (Gerschoff, 2002, p. 561). Therefore, the use of parental control is considerably affected by parental

beliefs and socialization goals on child's compliance in a particular culture. Besides that, children's perceptions of parenting control in discipline situations are also affected by the culture where they raised in. To contribute to the discussion on the role of culture in child's discipline, this section will summarize some findings on parental control, warmth, and indicators of children's regulation in different cultures and ethnic groups. More specifically, these findings will focus on the (i) interactive effects of warmth and power assertiveness, and (ii) perceived normativeness of discipline.

2.7.1 Warmth and power assertion

Dix, Ruble and Zambarano (1989) suggested that parents' level of negative emotions is associated with their use of higher power assertive techniques in discipline situations. However, other studies also revealed maternal control can co-occur with an expression of support and warmth in collectivistic cultures (Deater-Deckard, & Dodge, 1997; Kagitcibasi, 2007; Rudy and Grusec, 2001). Furthermore, a more recent study of Deater-Deckard et al. (2011) with different ethnic groups showed that warmth and control are positively associated for African American and Latino families in the United States. Similarly, in a study with Turkish mothers, Baydar, Akcinar and Imer (2012) found that mothers of 3-years-olds displayed control and warmth simultaneously. Cebioglu and Aksan (2010) argued that positive mother-child interactions help ensure child compliance in cultures that prioritize emotional closeness between partners. In Turkish culture, gentle, positive maternal interactions may serve as a facilitator to make discipline strategies more effective. For example, Turkish mothers of 2-year-old children mostly used control strategies together with high verbal comforting during a laboratory delay task (Friedlmeier, Corapci, Susa-

Erdogan, Benga, & Kurman, 2019). Use of this mixed strategy of control and warmth was higher in Turkey than other countries (United States, Israel, and Romania) in this study. In another study of Corapci and colleagues (2018), Turkish mothers reported use of reasoning as a problem-solving strategy together with emotion-focused comforting and reassurance in response to their toddlers' anger.

Previous studies conducted in different cultures found the moderating role of warmth on children when shown with higher degrees of maternal control. The association between harsh discipline and five-year-old children's aggression was found lower in the context of high parent-child warmth (Deater-Deckard & Dogde, 1997). In mother-reported harsh discipline situations, four-to-five years old Hispanic and African American children's problem behaviors did not increase in the context of high emotional support (McLoyd & Smith, 2002). In an observational study in Turkey, three-year-old children showed less externalizing behavior problems when their mothers showed high maternal warmth combined with high control (Akcinar & Baydar, 2014). Similar evidence on the protective role of maternal warmth in the case of externalizing and internalizing behavior problems was also present among older children from different cultures (Deater-Deckard, Ivy, & Petrill, 2006, McKee et al., 2007).

As pointed by Lee, Grogan-Kaylor and Berger (2014), most of the research into harsh discipline, particularly those involved in physical punishments, comes from preschool or school-age samples. Only a few studies (e.g., Chung et al., 2009; Slade & Wissow, 2004; Vittrup, Holden, & Buck, 2006) have examined moderators, and consequences of parental harsh discipline with a sample of very young children. There is a line of research that particularly focused on the specific forms of physical discipline (e.g., spanking, smacking, slapping) in infancy that revealed contradictory

findings with studies of older samples. For example, Stacks, Oshio, Gerard and Roe (2009) found that warmth does not moderate the effect of parent-reported spanking (at 14, 24, and 36 months) on children's behavioral aggression at age of 3. Similarly, Lee, Altschul, and Gerschoff (2013) found that spanking at age one is positively associated with children's aggression at ages 3 and 5 regardless of maternal warmth. These longitudinal findings are important in showing that mothers' spanking even at year 1 contributes to children's aggression, and warmth does not buffer this effect. Notably, physical discipline measures in these studies rely only parental reports. It is usually not possible to test these effects in the laboratory because high power assertion is seen very rarely.

2.7.2 Normativeness of control

Van der Mark et al. (2002) argued that "discipline may be in the eye of the beholder." In the parent-child context, this refers to maternal control that may depend on children's perceptions about the normativeness of these strategies in culture or the affective context in which discipline is exerted. For example, Gershoff et al. (2010) found that mother’s use of corporal punishment, yelling and expressing disappointment were significantly associated with 8- to 12-year-old children’s aggression in six countries (China, India, Italy, Kenya, Philippines, and Thailand). However, this relation was less strong when child-perceived normativeness of these strategies was high. A similar interaction was also found for the link between physical discipline and 6 to 12 years of children's aggression and anxiety (Lansford et al., 2005).

Although the magnitude of the relation between physical discipline and child outcome seems to depend on cultural normativeness of discipline, most studies

concluded that corporal punishment is positively associated with more adverse child outcomes across cultures (Gershoff, 2002). Even spanking without harsher forms of physical discipline (e.g., hitting a child with an object or beating up) is equally deteriorating and associated with more aggression, less long-term compliance, and less rule internalization in different cultures (Gerschoff, 2013; Gerschoff & Grogan-Kaylor, 2016). Weiss, Dodge, Bates, and Petit (1992) also found that the effect of harsh discipline on preschoolers' aggression remained significant after controlling potential confounders such as child temperament, SES, and marital violence.

2.8 Present study

This study investigated the link to mothers' power assertive control and warmth on 12-to-14-month-old infants' regulation of emotion and behaviors during a laboratory observation. All variables were coded from a three-minute Forbidden Toy task. Children's noncompliance, expressed distress, and a composite measure of regulatory competence were examined to see separate as well as joint aspects of regulation in infancy.

Given previous findings in early childhood literature, the present study investigated four research questions using direct behavioral observations in a prohibition paradigm.

1. To what extent does maternal power assertion predict 12- to 14-month-old infants' noncompliance, distress and regulation during a wait task?
2. To what extent does maternal warmth relate to infants' noncompliance, distress, and regulation during a wait task?"
3. Does maternal warmth contribute to infants' regulation over and beyond maternal control?

4. Does mothers' expression of warmth moderate the link between power assertion and infants' noncompliance and distress?

The following hypotheses were investigated:

1. Maternal power assertion would be related to infants' more noncompliance, more distress, and less regulation.
2. Maternal warmth would negatively contribute to the infants' noncompliance and distress, but positively with infants' regulation.
3. Warmth would contribute to infants' regulation over and beyond maternal control.
4. Maternal warmth would moderate the relationship between mothers' power assertion and infant distress. More specifically, we predicted that higher power assertive discipline would be associated with more distress and noncompliance even in the presence of warmth. Yet, we expected that in the case of high levels of maternal warmth displayed in the discipline context, the relation between power assertion and child distress/noncompliance might be attenuated.

CHAPTER 3

METHOD

3.1 Participants

The present study has drawn participants from an intervention project entitled *Istanbul95* that evaluates a home visitation program's effectiveness on child development. This home-visitation program has been implemented in four districts (Beyoğlu. Maltepe, Sarıyer, Sultanbeyli) in İstanbul. A total of 95 mothers from Sarıyer, who participants of Istanbul 95 project have been invited to a laboratory-based visit for the present study when their infants turned to 13 months of age. Out of ninety-five mothers, seventy-four agreed to participate in the laboratory visit. Forty intervention and 34 control mother-child dyads came to the Boğaziçi University Psychology Department research laboratory for in-depth behavioral observations between March 2019 and January 2020.

T-tests or Chi-square tests revealed no differences in demographics (e.g., child gender, age, mothers' years of schooling, number of children at home, mother and father age, income level) between the control and intervention groups at baseline. Furthermore, intervention and control families also did not differ significantly on study variables. Given the similarity between intervention and control groups, the data were combined for analyses, and demographics were reported for the combined data.

All infants had been healthy at birth, and 42 of them (%56.7) were male. Infants' mean age was 13.3 months (*SD* = 0.42, range = 12.23 – 14.57). Twenty-seven of the children (36.5 %) were only children, and the average number of children in the household was 2 (range = 1-4). Mothers' mean age was 33.0 years

(*SD* = 4.92, range: 21-45). The average years of mothers' completed schooling was 10.18 years (*SD* = 3.65, range = 2-17 years). 56.8 % of the mothers completed at least a high school degree or above, while the rest had less than a high school degree (17.6%: 5-years primary school or below). Most mothers (%77) were housewives, whereas most fathers (91.8%) had a full-time job. Only one mother was divorced, and the average length of marriage was seven years. Fathers' mean age was 36. 89 years (*SD* = 4.86, range = 25-49) and they had 9.64 years of education on average (*SD* = 3.86, range = 0-17 years). 53.4 % of fathers completed at least a high school degree or above, while the rest had less than a high school degree (27.4%: 5-years primary school or below). A summary of family demographics was presented in Table 1.

Table 1. Child and Family Demographics

Variables	Mean (SD)	Min	Max
Child age (in months)	13.3(0.4)	12.23	14.57
Child gender (% of boys)	56.7%		
Maternal age (years)	33.00	21.00	45.00
Maternal education (years of schooling)	10.18(3.65)	2	17
5-years primary school or below	17.6%		
High school or above	56.8%		
Maternal occupation (% of housewives)	77%		
Paternal age (years)	36.89	25.00	49.00
Paternal education (years of schooling)	9.64(3.86)	-	17
5-years primary school or below	27.4%		
High school or above	53.4%		
Paternal occupation (%of full time)	91.8%		
Length of marriage (years)	7.04(5.26)	< 1 year	22.00
Number of children in the household	2	1	4

3.2 Procedures

The total laboratory visit lasted approximately 90 minutes. Before the observation and video recordings starts, a consent form was given to mothers to obtain their

willingness to the study (see Appendix A for the English version and Appendix B for the Turkish version of the consent forms). During each visit, mother-child dyads participated in several age-appropriate activities such as free play, teaching tasks, peak-a-boo, feeding, and other tasks with different challenges (e.g., novel toy, separation, forbidden toy; see Appendix C for the complete procedure). After participating the observational laboratory procedure, mothers were given several questionnaires and responded to The World Health Organization's (WHO) indicators of Infant and Young Child Development (IYCD), which measures 13-18 months old infants' motor, language and social/emotional skills. At the end of laboratory session, a supermarket coupon value of 50 Turkish Liras has been provided to families for their participation. Within two weeks after the laboratory visit, each mother sent an evaluation report on the infants' developmental milestones based on their WHO-IYCD scores. All procedure including observations, interviews, and sending reports were carried out after obtaining approval from Boğaziçi University's Ethics Sub-Committee of the Institutional Review Board for Research with Human Subjects (see Appendix D).

In order to examine maternal power assertiveness, warmth, and infants' regulation in a wait situation, the "Forbidden Toy" task was used. In the introduction phase of this task, a research assistant brought an attractive toy (a Zebra Walker by FisherPrice) into the room and played music by touching the toy's buttons to obtain the infant's attention approximately for thirty seconds (see Figure 1 for Forbidden Toy laboratory setting). Once the toy captured the infant's attention, the research assistant asked the mother to refrain her infant from playing with the toy until she comes back to the room. After that, the research assistant left the mother and infant

alone in the room for three minutes. When she turned to the room, infants were allowed to play with the toy for two minutes.

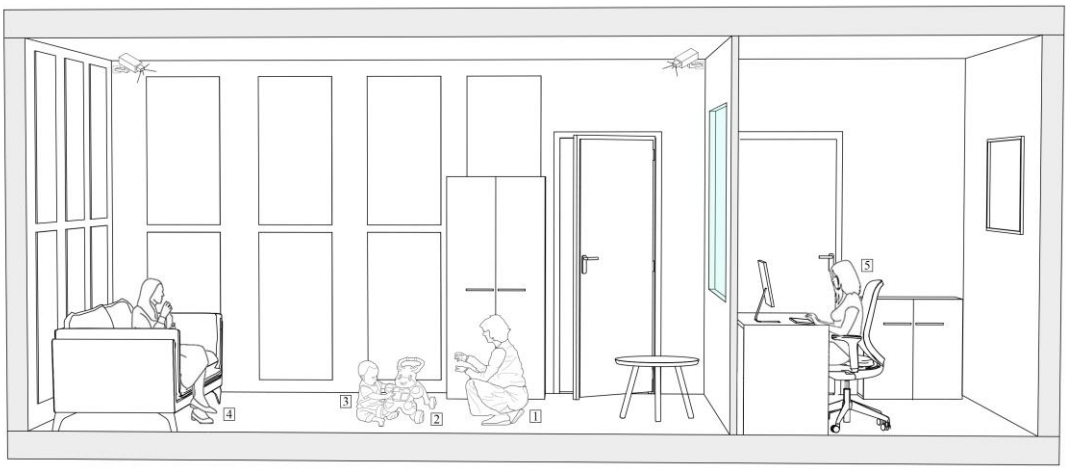

Figure 1. The depiction of the Forbidden Toy Task setting. The experimenter (1) introduces the toy (2) to the infant (3) and explains the task to the mother (4). All interactions are recorded by a second assistant (5) in the room behind a one-sided mirror.

3.3 Observational measures

3.3.1 Maternal power assertiveness

During the Forbidden Toy task, mothers' control strategies were coded using the Turkish translated version of a coding scheme from Kochanska and her colleagues (2003). This coding scheme is composed of two types of codes: global ratings of maternal control style and physical interventions (see Table 2 for detailed descriptions of codes).

Global control style included (0) no interaction, (1) no control, (2) gentle control, (3) assertive control, and (4) forceful control. Gentle control included empathic statements (e.g., *I know you liked the toy*), reassurance (e.g., *The lady will allow us if we wait for a little*; *I know you can wait a bit*), bargaining (e.g., *You can*

play it later), or distracting the child by talking about or drawing drawing infant's attention to other objects in the room. Assertive control included direct commands and prohibitions (e.g., *"No", "Don't play now!"; "The lady did not allow us to play."*). Forceful control included any command or prohibition delivered in a raised or angry voice, threatening (e.g., *I don't give it to you if you don't stop crying*) or scolding the child (e.g., *What did I tell you? You are such a mischievous baby*). Control style scores were given based on the mother's verbal comments as much as possible. In the case of the mother not verbalizing anything during an interval, the rating of the physical intervention was used to decide the control style score.

Table 2. Coding of Maternal Power Assertion

Codes	Definitions, Examples
Control Style	
No control (1)	Absence of any attempt to implement the rule of "not touching the toy."
Gentle (2)	Use of emphatic statements (i.e., I know you liked the toy), bargaining (i.e., you can play it later); distraction or redirection.
Assertive (3)	Control in an assertive, firm manner; mostly uses of direct commands with "no" or "don't" (e.g., Do not touch now; we cannot play with it now).
Forceful (4)	Use of commands and prohibitions with threats, negativity, anger toward child.
Physical Interventions (PI)	
No PI (0)	Absence of any physical intervention of the mother.
Distant PI (1)	Finger shaking from a distant; moves the target object before the child reaches it.
Gentle PI (2)	Light non-restricting physical contact; mom reaches out but does not touch the child.
Assertive PI (3)	Holding the child's hand abruptly, removing a toy from the child's reach, restriction of the child's contact with the toy.
Forceful PI (4)	Use of harsh physical interventions with anger and irritation.

Physical interventions included (0) no physical intervention, (1) distant interventions that referred to strategies such as finger shaking, moving the target object from a distance, (2) gentle interventions such as a light, non-restricting physical contact (e.g., shaky hand movements, putting a hand between child and toy to limit child's access to the toy), (3) assertive physical interventions were defined as any firm intervention to block the child from reaching the toy (e.g., holding the child's hand abruptly, removing the toy child's hand from the toy, or preventing the child from moving freely in the room), and (4) forceful physical interventions that referred to those assertive interventions delivered with anger or irritation on the part of the parent and with a certain degree of coercion.

Forbidden Toy task was coded by 5-second intervals during the 3-minute task. For each interval, two categories of maternal control were coded: global control style and physical intervention (see Appendix E for coding table). The instances of each code were tallied and divided by the number of coded segments. Thus, the proportion of each type of verbal control and physical interventions were calculated. No interaction category was rarely observed in the present sample of mothers of infants (less than 2 % of all data); therefore, this category was not included in analyses.

Two undergraduates are trained for interval-based coding by one graduate student and this thesis advisor. Undergraduate students completed coding after they became reliable with the master coder. The average kappa between each individual coder with master codes for control style were .79; for physical interventions were .84 for both coders. To prevent coding drift, 15% of the videotapes were double-coded. Ongoing reliability Kappas ranged from .82 to .94. Interrater reliabilities

between two coders ranged from .89 to .95 for control style and .82 to .94 for physical interventions.

3.3.2 Maternal warmth

Maternal warmth was also observed during the same 5-second intervals in the entire Forbidden Toy task. Coders of maternal control scale also trained for maternal warmth coding. Indicators of maternal warmth were derived from positive regard for the child scale from the NICHD global rating scales (Cox & Crnic, 2003) and the study by Jahromi et al. (2004).

Two undergraduate students coded the presence or absence (codes of 1 and 0) of maternal behaviors such as smiling, kissing, affectionate touch (e.g., stroking, caressing), play-like behaviors (flying, rocking) and affectionate vocalizations (signing, motherese speech) for each 5-seconds interval. For each interval, mothers were given a score of 1 if they showed one or more behavior reflecting warmth. Kappa as inter-rater reliabilities for two coders was .85. A proportion score of warmth was derived by dividing the number intervals coded as present for warmth by the total number intervals.

3.3.3 Infants' expression of distress

Infant distress was coded from children's expressions in the Forbidden Toy task according to the 4-point scale used by Jahromi & Stifter (2007). The same 5-second intervals with maternal codes were scored from 0 to 3 (see Appendix F for coding table). Higher negativity scores reflected the increasing intensity of distress. Scores included 0 = no audible vocalization, 1 = fussing, whining, or whimpering but not crying, 2 = low intensity crying without shrieking cries and yelling, and 3 = very

intense, loud, piercing crying, typically accompanied with a red face, squinted eyes, and an open mouth. Kappas for each level of distress ranged from .72 to .82 (mean κ =. *76).* The number of intervals with any degree of infant distress were summed and divided to total number of intervals to obtain proportion scores of distress expression.

3.3.4 Infants' noncompliance

Coding schemes that examine types of child compliance (e.g., situational compliance or committed compliance) were generally used with older samples around 18-to-36 months in previous research. Therefore, we decided to code noncompliance by looking at the mere presence of one-year-old infants' approach and touch behaviors (i.e., orienting toward task object; Calkins & Dedmon, 2000) to the forbidden toy.

For each interval, infants were given a score from 0 to 2 with the highest score reflecting the behavior of the infants' overt touch on the toy. A score of 0 indicated neither touch nor approach. A score of 1 indicated a child's behavioral orientation towards the toy such as leaning toward or walking towards the toy in a 5-sec interval. A score of 2 indicated the child's overt behavior of touch to the toy. Kappas for approach (mean κ =. *82)* and touch (mean κ =. *73)* has indicated satisfactory interrater agreement. The total number of intervals with either with infants' approach or touch to prohibited toy behaviors was calculated and divided to the total number of coded intervals to obtain noncompliance score.

3.3.5 Infants' regulation

In addition to two separate measures of infants' regulation as distress and noncompliance, we also generated a composite of infants' overall regulation scores based on previous research on emotional and behavioral regulation (e.g., Calkins &

Dedmon, 2000). For each interval, infant was coded as *regulated* if s/he does not approach or touch the toy (i.e., the score of 0 from noncompliance scale) and s/he shows either none or very little of any distress expressions (i.e., scores of 0 and 1 from distress scale). The frequency of regulated intervals was tallied and then divided of total coded intervals to obtain proportion data.

3.3.6 Infants' initial interest

To control the child's initial interest toward the toy while the experimenter is introducing it, we coded the infant's number of touches for three intervals before the start of the Forbidden Toy task. Besides, each child was given a global code as either 0 = no interest, or 1 = to approach or play with the toy until the experimenter's leaving the room. The number of touches (M = 1.36, range = 0-3) in coded intervals correlated to children's overall interest toward the toy, $r(74) = .52$, $p < .001$, and thus scores were standardized and summed to obtain a score of children's initial interest as a potential covariate.

CHAPTER 4

RESULTS

4.1 Descriptive statistics

Table 3 shows descriptive statistics for each type of control style and physical interventions. Mean scores on variables refer to the average proportion of time when mothers showed each type of control and physical intervention.

Table 3. Descriptive Statistics for Control Style and Physical Interventions

Variables	Mean (%)	SD (%)	Min (%)	Max (%)
Control Style				
No Control	12.46	21	0	94.40
Gentle Control	61.93	27.90	2.7	97.22
Assertive Control	24.73	22.02	0	80.56
Forceful Control	0.82	3.54	0	27.77
Physical Interventions (PI)				
No PI	15.08	22.49	0	91.67
Distant PI	40.94	29.63	0	100
Gentle PI	14.10	16.08	0	69.44
Assertive PI	29.84	29.56	0	100
Forceful PI	0.15	1.29	0	11.11

Proportion scores for each type of control and physical intervention were used to calculate each mother's composite power assertiveness score following previous studies (Kim & Kochanska, 2015, 2020). Accordingly, each control style score was multiplied as follows: no control by -1; gentle control by 1; assertive control by 2; forceful control by 3; for physical interventions; assertive physical interventions by 4; forceful physical interventions by 5. The mean control style composite was 1.01 (*SD* = 0.52), and the mean physical intervention composite was 1.20 (*SD* = 1.18). The control style and physical interventions was correlated, *r(*74) =

.39, $p < .001$. These scores were aggregated and to create maternal power assertiveness composite ($M = 2.21$, $SD = 1.47$). Table 4 shows descriptive statistics for the maternal power assertiveness scores and other study variables.

Table 4. Descriptive Statistics for Maternal and Infant Variables

	Mean	SD	Min	Max
MATERNAL VARIABLES				
Power Assertiveness	2.21	1.47	-.89	5.70
Control Style	1.01	0.52	-.89	1.89
Physical Interventions	1.20	1.18	0	4
Maternal Warmth (%)	56.02	26.17	0	100
INFANT VARIABLES				
Distress (%)	24.7	24.8	0	96.67
Noncompliance (%)	28.49	23.93	0	100
Regulation (%)	64.34	27.72	0	100

N = 74.

4.2 Intercorrelations among family demographics and study variables

Table 5 presents the correlations among family demographics, maternal and infant study variables. Maternal warmth was the only study variable that was significantly and positively correlated with demographics such as mothers' year of schooling, $r(72) = .39$, $p = .001$, maternal occupation status, $r(72) = .23$, $p < .05$, and maternal sensitivity, $r(72) = .42$, $p < .001$, but negatively correlated with the number of children living in household, $r(72) = -.33$, $p < .001$. Child age and gender were not correlated with any predictor or outcome variables. However, infant's initial interest towards the toy was significantly and positively associated with infant's noncompliance, $r(72) = .40$, $p < .001$ but negatively with infant's overall regulation $r(72) = -.28$, $p < .05$ during Forbidden Toy task; therefore, initial interest was entered in further hypothesis testing.

Table 5. Correlations among Family Demographics, Maternal and Infant Study Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Mother Education (#years in school)	1	.38**	-.44**	.26*	.09	-.04	.09	.39**	.19	-.12	-.02	.11
2 Mother Occupation		1	-.18	.09	-.09	.04	.25	.23*	.02	.12	.03	-.06
3 Number of child in household			1	.00	-.01	-.06	-.08	-.33*	.02	.21	.09	-.20
4 Sensitivity				1	.07	.13	-.17	.42**	-.13	-.03	-.17	-.09
5 Child age					1	.02	.07	.00	.03	.04	-.05	-.01
6 Child gender						1	-.17	.13	.13	-.18	.02	.14
7 Child's Initial Interest							1	-.14	.06	.40**	-.06	-.28*
8 Maternal Warmth								1	.08	-.33*	-.29*	.39*
9 Maternal Power Assertiveness									1	.11	.55**	-.31*
10 Child's Noncompliance										1	.24*	-.89*
11 Child's Distress											1	-.60*
12 Child's Regulation												1

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

Two predictors, namely warmth and power assertion were not significantly correlated, $p = .08$. However, there were significant correlations between maternal warmth and all outcome variables, namely infant's noncompliance, $r(72) = -.33$, $p < .01$, distress $r(72) = -.29$, $p < .05$ and regulation composite, $r(72) = .39$, $p = .001$. Maternal power assertiveness was positively correlated with infants' distress, $r(72) = .55$, $p < .001$ and negatively with regulation $r(72) = -.30$, $p < .01$; however, there was no relation between power assertiveness and infant's noncompliance, $p = .34$.

4.3 Overview of analyses

The assumptions of hierarchical multiple regression were checked before conducting analyses (Field, 2013). A sample with 74 participants were sufficient to add four independent variables to the analysis. Outcome variables, namely noncompliance, distress, and regulation were linearly related to all predictors. Intercorrelation between all independent variables was below .80 (see Table 5) and collinearity statistics (i.e., Tolerance and VIF) were within accepted limits. An examination of the Mahalanobis distance scores indicated no multivariate outliers. Residual and partial plots showed the residuals are normally distributed; linearity and homoscedasticity assumptions were met.

Hierarchical regression analyses were used to test hypotheses. Infants' noncompliance, distress, and overall regulation scores were dependent (outcome) variables. The first block included the child's initial interest in the toy as a covariate. Maternal power assertion was entered into the second block. We entered maternal warmth into the third block test the unique effect of maternal warmth over and above power assertion. Besides, we also tested whether maternal warmth interacted with the maternal power assertion to predict any of the infant's outcome variables. The

multiplicative interaction term was entered into analyses in the last step. The variables were centered before the interaction terms was computed.

4.3.1 Predicting infants' noncompliance

Firstly, we examined the contributions of maternal power assertiveness and warmth on infants' noncompliance. In the first step, infant's initial interest was significant predictor of the model $\beta = .39$, $p = .001$, and accounted for 15.3% of the variation in infants' noncompliance, $F(1,72) = 13.02$, $p = .001$. Adding maternal power assertiveness into the second step did not explain additional variance in the model, change in R^2 was not significant, $F(1,71) = 1.01$, $p = .32$. Maternal warmth in the third step was a significant and negative predictor of infant compliance $\beta = -.31$, $t(70) = -2.94$, $p = .004$, and explained additional 9.2% variance in infant's noncompliance, $F(1,70) = 8.66$, $p = .004$. Finally, the interaction between maternal power assertiveness and warmth was not significant, $F(1,69) = .57$, $p = .45$. Results are presented in Table 6.

Table 6. Regression Analysis Predicting the Infant's Noncompliance with Warmth as Moderator

		Dependent Variable Infant's Noncompliance		
		B	SE (B)	β
Step 1: Covariate	R^2 .153**			
Infant's Initial Interest		10.73	2.97	.39
Step 2: Predictor	ΔR^2 .012			
Power Assertion		1.77	1.76	.12
Step 3: Predictor	ΔR^2 .092**			
Warmth		-27.95	9.50	-.31
Step 4: Interaction	ΔR^2 .006			
Power Assertion x Warmth		4.54	6.02	.08

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

4.3.2 Predicting infants' distress

Secondly, we examined relations between maternal warmth, power assertiveness and infants' distress. In the first step, infant's initial interest was not a significant predictor of the model, $p = .50$. In the second step, maternal power assertiveness was a significant and positive predictor of infant's distress $\beta = .55$, $t(71) = 5.57$, $p < .001$, and explained an additional 30.2% variation in infant's distress and this change in R^2 was significant, $F(1,71) = 31.06$, $p < .00$. In the third step, maternal warmth also contributed significantly to variation in infants' distress $\beta = -.34$, $t(70) = 3.67$, $p < .001$, and explained an additional 11.2 % variance, $F(1,70) = 13.48$, $p < .001$. In the final step, the interaction between power assertiveness and warmth was significant and explained 8% additional variance, $F(1,69) = 11.02$, $p = .001$. Notably, the full regression equation containing all predictor variables showed that, infant's interest ($\beta = -.20$, $t(69) = -2.29$, $p < .05$), power assertiveness ($\beta = .53$, $t(69) = 6.11$, $p < .001$), warmth ($\beta = -.34$, $t(69) = -3.95$, $p < .001$), and interaction between power assertiveness and warmth ($\beta = -.30$, $t(69) = -3.32$, $p = .001$), were all significant predictors of infant's noncompliance. A summary of analyses is presented in Table 7.

Table 7. Regression Analysis Predicting the Infant's Distress with Warmth as Moderator

		Dependent Variable Infant's Distress		
		B	SE (B)	β
Step 1: Covariate	R^2 .006			
Infant's Initial Interest		-2.27	3.34	-.08
Step 2: Predictor	ΔR^2 .302**			
Power Assertion		9.24	1.66	.55
Step 3: Predictor	ΔR^2 .112**			
Warmth		-31.91	8.69	-.34
Step 4: Interaction	ΔR^2 .080**			
Power Assertion x Warmth		-17.05	5.14	-.30

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

4.3.3 Predicting infants' regulation

In the prediction of infants' regulation, child's initial interest was significant predictor in the first step β= -.27, $F(1,72) = 5.64$, $p < .05$, and accounted for 7.3% of the variation in infants' regulation. Maternal power assertiveness in the second step was a significant and negative predictor, $\beta = -.30$, $t(71) = -2.75$, $p = .007$. Maternal power assertiveness explained an additional 9% additional variance in the model, and change in R^2 was significant, $F(1,71) = 7.58$, $p = .007$. Besides, maternal warmth in the third step was a positive predictor of infant's regulation, $\beta = .40$, $t(70) = 3.97$, $p < .001$ and explained an additional 15.4% of the variance in outcome, $F(1,70) = 15.79$, $p < .001$. Finally, adding the interaction between maternal power assertiveness and warmth in the last step did not make a significant contribution to the model, $p = .62$. Table 8 summarized the results of the regression analysis.

Table 8. Regression Analysis Predicting the Infant's Regulation with Warmth as Moderator

		Dependent Variable Infant's Regulation		
		B	SE (B)	β
Step 1: Covariate	R^2 .073*			
Infant's Initial Interest		-8.56	3.61	-.27
Step 2: Predictor	ΔR^2 .090**			
Power Assertion		-5.62	2.04	-.30
Step 3: Predictor	ΔR^2 .154**			
Warmth		41.94	10.56	.40
Step 4: Interaction	ΔR^2 .002			
Power Assertion x Warmth		3.37	6.71	.05

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

To sum up, we have found partial support for the role of maternal power assertiveness on infant outcomes. As expected, greater power assertiveness is related to infants' increasing distress and regulation in a wait task. However, this link was not supported for infants' noncompliance. Consistent with our hypotheses, maternal

warmth significantly predicted all infant outcomes, namely noncompliance, distress and regulation over and above the effect of maternal power assertion.

Finally, there was a significant interaction effect of maternal power assertiveness and warmth only in the prediction of infant's distress, but not for infant's noncompliance and regulation. This significant interaction was further investigated using the Process Version 3.5 for SPSS with Model 1. The bootstrapped moderation analysis showed that main effects of power assertion (b = 8.89, CI [5.43, 13.25], t = 6.11, p < .001), and warmth (b = -32.11, CI [-48.02, -14.24], t = -3.95, p < .001) as well as the interaction of these two predictors (b = -17.05, CI [-27.40, -2.89], t = -3.32, p < .001). The interaction plot is presented in Figure 1.

The nature of interaction revealed that the relationship between power assertiveness and infant distress was strongest when maternal warmth is low (1 SD below mean), b = 13.36, CI [9.75, 16.96], t = 7.39, p < .001. When maternal warmth was average (b = 8.89, CI [5.79, 11.80], t = 6.11, p < .001) and high (1 SD above mean; b = 4.43, CI [.16, 8.71], t = 2.07, p < .05), there was a less strong positive relation between power assertion and distress as compared to low levels of warmth.

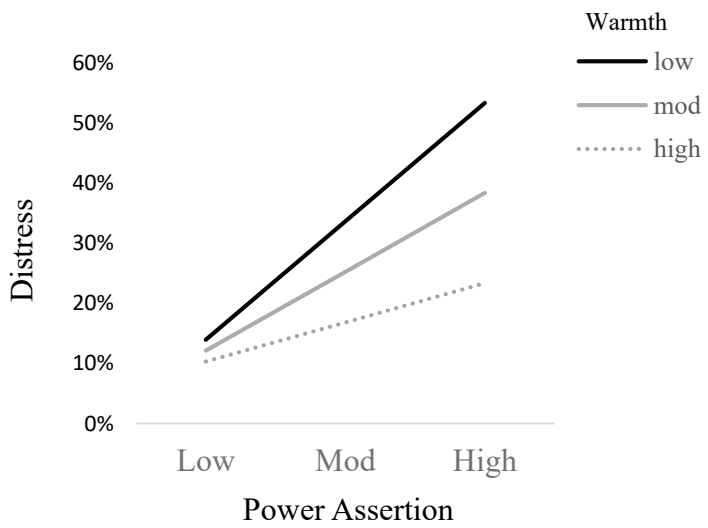

Figure 1. Maternal power assertiveness x warmth interaction plot

CHAPTER 5

DISCUSSION

The current study aimed to investigate the roles of two parenting practices - control and warmth - on infants' regulation and to extend previous findings from toddler studies to an infant sample. To our knowledge, this is the first observation study with Turkish infant-mother dyads in a compliance context to investigate the link between parenting and emotional as well as behavioral aspects of regulation. Noncompliance and expression of distress in the Forbidden Toy task have been selected as plausible indicators of regulation in infancy. We observed maternal control and warmth episode where mothers were required to enforce their infants from prohibited toy. Following previous research (Kim & Kochanska, 2015), we constructed a power assertion score that combined the weighted score of maternal control with varying intensities and forms. Specifically, maternal power assertiveness reflected higher degrees of maternal control style with assertive and forceful physical interventions of mothers towards the infants.

In the line with previous studies (Braungart-Rieker et al., 1997; Stifter et al., 1999), this study revealed that two aspects of dysregulation, namely distress and noncompliance were positively associated with each other. Similar to findings from other studies, warmth emerged as predictors of child's less noncompliance (Kochanska & Aksan, 1995; Jennings et al., 2008), less distress (Leerkes & Crockenberg, 2003) and more regulation (Moilanen et al., 2010). However, mother's power assertive control contributed variably to different outcomes of this study. Finally, maternal warmth moderated the relationship between power assertiveness and infants' distress.

5.1 Predictors of infants' distress

As we hypothesized, mothers' use of high degrees of power assertiveness was related to 1-years-old infants' distress during a laboratory wait task. This finding is in line with the toddler studies which showed the positive link between negative control and child defiance (Crockenberg & Litman, 1990; Rothbaum & Crockenberg, 1995). Parents' use highly power assertive strategies with negativity and harshness found to carry same negativity to the child and endanger children's emerging emotion regulation (Chang, Schwartz, Dodge & McBride-Chang, 2003). Nevertheless, many studies indicated the relationship between children's regulation and parenting behaviors should be interpreted as bidirectional (Lengua & Kovacs, 2005). Maternal power assertiveness can be a response to child's defiance as well. For example, Lipscomb et al. (2011) found that families who had children with greater increases in negative emotionality (from 9 to 27 months of age) reported increase in harsh, overreactive parenting.

Mothers' use of physical affection, expression of positive emotions, and affective vocalizations have been found to link with child's low degrees of distress in several situations such as separation from mother, exposure to novelty and limitation (e.g., Leerkes & Crockenberg, 2003; Jahromi et al., 2004). Consistent with findings from these settings, we also found that maternal warmth is associated with infant's less frequent distress expression for the situation involving parents' rule setting. As Shaw and colleagues (2000) indicated, parental demands from the child to stop misbehavior or to behave in the line with the expectations of others should not sacrifice the positive emotional climate between parent and child. Otherwise, parents' control without affection and positivity may act to contribute to children's increasing anger toward parent and decreasing cooperation with parental demands in

future. In the line with this view, higher levels of maternal warmth related less emotional negativity in infants in this study. Yet, given that this is a correlational study, it is also possible that less distressed infants elicited more maternal warmth.

In support of our hypothesis, the findings revealed that maternal warmth moderated the relationship between mother's power assertiveness and infant's distress. In particular, the relationship between power assertiveness and infant distress was strongest when maternal warmth is low. Although the moderating effect of maternal warmth needs to be replicated in future research, the pattern of this interaction was interpreted in light of previous research. Many previous studies showed the moderator role of warmth on aggression and behavior problems in toddlers (Akcinar & Baydar, 2014) and older children (McLoyd & Smith, 2002; McKee et al., 2007). However, the findings of the present study made a unique contribution in replicating this finding with a sample of Turkish mother-infant dyads using direct observational measures of both maternal and child behaviors. However, non-significant findings also prevalent in literature on the interactive role of warmth and power assertiveness to infant outcomes. Infant studies (Lee et al., 2013; Stacks et al., 2009) showed that maternal warmth does not moderate the effect of mother-reported harsh physical discipline (e.g., spanking, slapping, smashing) on infant's aggression. These finding points that when power assertive strategies involved in physical punishments, maternal warmth may operate differently in child's outcomes. However, power assertiveness measure in this study generally encompassed high assertive strategies, not forceful physical ones. For example, only one mother had spanked her child hand once during the activity.

5.2 Predictors of infants' noncompliance

The results of the current study showed that maternal warmth was the only predictor of infants' noncompliance to the rule. In other words, mothers who expressed more warmth were more likely to have infants who approached and touched the prohibited toys less often. This finding might imply two pathways. First, when compliance is reinforced with mother's affectionate behavior and positivity, infants might become more cooperative with maternal request to sustain this positive bond. Second, most studies in early childhood literature showed gentle control is linked with children's compliance to the rule (Crockenberg & Litman, 1990; Feldman et al., 1999; van der Mark et al., 2002). Considering the positive link between maternal warmth and gentle control strategies such as distraction, reassurance, and playful interactions (Jahromi & Stifter, 2007), the effect of warmth can be partly explained with its co-occurrence with gentle control.

Contrary to our expectations, maternal power assertiveness did not predict child noncompliance in the present study. However, earlier studies with toddler samples demonstrated a significant positive relationship between high levels of power assertiveness and child's noncompliance (Kochanska & Aksan, 1995) and noncompliance with anger (i.e., defiance; Crockenberg & Litman, 1990; Rothbaum & Crockenberg, 1995). Similarly, LeCuyer-Maus and Houck (2002) also found children's rejection of maternal commands and persistence toward task object (i.e. persistent-disengaged style) was associated with maternal power assertive control. Firstly, it should be noted that measurements of child defiance and persistent-disengaged style, both consisted of children's noncompliance with negative affect. In contrast, we conceptualized noncompliance as infant's orientation or touching of the toy regardless of child's emotion expression. Although we also have found the

positive relationship between maternal power assertiveness and infant distress, our noncompliance measure did not reflect infant's distress scores. Secondly, in the study of Kochanska & Aksan (1995), children's touching the toy without maternal reminders but stopping it when mother intervened was coded as a type of compliance (i.e. situational compliance). However, we coded child's approach to toy as noncompliance even it is stopped by maternal intervention. We did this because maternal interventions that are associated with child's stopping the touch mostly included mother's restriction of the child's body; therefore, it was hard to interpret these instances as child's willingness to comply with rule. Moreover, we coded five seconds intervals from a 3-minute task, these short intervals made unlikely the decision of situational compliance. Considering noncompliance measure in our study slightly differ from those of previous studies, inconsistency with previous findings might be understandable.

5.3 Predictors of infants' regulation

In the present study, a regulation composite score was developed from coded intervals in which infant shows no orientation to toy and a very little or none of distress expressions. In addition to emotional as well as behavioral measurements of dysregulation used in the present study; this composite score aimed to reflect overall regulation competence of infants during a laboratory wait task.

As hypothesized, greater expression of maternal warmth and lesser degree of power assertive control positively predicted the composite measure of infant's regulation. These patterns related to infant's regulation were also present for between infant distress, but not for child's noncompliance. This result may imply that regulation of distress in infancy is an integral component of overall regulatory

competence as Thompson and Meyer (2007) argued. Emotion dysregulation may directly link with attentional and behavioral facets of regulation such as aggressive behaviors and disruptions in attentional processes. On the one hand, a more indirect link between children's early inability to regulate negative affect and their regulatory competence can also be suggested. Emotion dysregulation which brings pressures of emotional distress to child may limit younger children's learning of adaptive strategies from the environment. However, for a better understanding of causal processes, longitudinal research is needed.

In summary, maternal warmth became a major predictor of all outcome variables of this study, namely less noncompliance, less distress and more regulation. This finding is important considering Turkish culture in which mothers rely on their affective ties by offering warmth to elicit compliance. In a study of Yagmurlu, Citlak, Dost and Leyendecker (2009), Turkish mothers highly expected that their children to be respectful towards adults and obliged their roles in the family. These mothers also endorsed closeness and relatedness as important socialization goals. Akcinar and Baydar (2001) also argued that Turkish mother's use of behavioral control accompanied with warmth can be an expression of acceptance rather than rejection of the children. Previous research with samples of Turkish mothers of toddlers and preschoolers have also shown that mothers display high levels of warmth and implement reasoning to achieve such socialization goals (Çorapçı et al., 2017; Friedlmeier et al., 2019; Nacak, Yagmurlu, Durgel, & van de Vijver, 2011).

Maternal power assertiveness was associated with more frequent distress expressions and less regulation in infants. The current literature indicates although noncompliance is prevalent in early childhood, the parents' use of harsh discipline and negativity as a response to noncompliance may contribute in aggression between

parent-child interactions at early age (Patterson, 2002; Shaw et al., 2000). Parents' own difficulty in self-regulation, in turn, disrupted dynamics between parent and child may diminish the child's opportunity to learn adaptive strategies from their parents. Over time, regulatory difficulties in parent-child relations may set a risk for children's later regulatory difficulties. However, this study was based on a three-minute short observation. Therefore, it was not observed that parents become emotionally dysregulated in such a short period of time.

Given the maternal warmth and control tend to co-occur in Turkish culture, we finally explored the interactions among them. Higher levels of power assertiveness were always positive predictor of infant's distress; yet, warmth affected the degree of this relationship. These results suggest that in the presence of higher levels of maternal power assertiveness, improving maternal warmth do not buffer infants from emotional distress. In general, our work suggests that highly frequent expression of maternal warmth is associated with regulatory competence in infancy. However, in a challenging dyadic contexts such as prohibitions, diminishing maternal power assertiveness should specifically be targeted along with enhancing maternal warmth.

5.4 Strengths and limitations

This thesis replicated some previous findings on emotional and behavioral aspects of regulation with 13-to-14 months of infants in a laboratory compliance context. Although emotion regulation has been widely studied in the first year of life, regulation of behaviors and its antecedents mostly focused on toddlers older than 2-years old. Our study demonstrated that mothers' control emerged in a laboratory context entailing restriction for infants, as well. This finding may provide support on the view (Vittrup et al., 2006) that emergence of parental control starts before two

years of age which many developmentalists acknowledged. However, there are some cases in our observations in which maternal soothing behaviors such as hugging and rocking may be confounded by physical control behaviors. This might be reason that parental control is mostly examined with children older than 2 years old when dimensions of parenting (i.e. nurturance and control) becomes more separated and clearly observed.

One strength of this research included labor-intensive interval coding for all mother and child variables. This is the first infant study in Turkey that relied on observation codes for both maternal and child variables in a compliance context. Despite many studies relied on parent-reports particularly for global measurements of parental control, we uniquely measured power assertiveness from two different scales: global control style and physical interventions to child's autonomy.

We measured infant's initial interest to toy from their initial approach and touch while experimenter was presenting forbidden Zebra Walker. Initial interest scores were positively linked with infant's noncompliance. This link suggested that the prohibited toy paradigm and the selected toy became successful to elicit interest and desire to touch in infants. Furthermore, the measure of initial interest may serve for a temperament-like measure of behavioral approach in this study. To control the effect of initial interest in regression analyses gave us a clearer picture of the relationship between parenting and infant's regulation.

However, some limitations of this study also should be noted. Firstly, this study was cross-sectional. As von Suchodoletz et al. (2011) discussed in their study, no directional interpretation could be suggested with cross-sectional data on the link between parenting and regulation of children. Although we controlled the effect of child's initial interest on outcome variables, we did not include the infant's distress

in regression analysis while predicting infant's compliance and regulation. However, it is possible that infant's expression of distress might have an effect on parenting behaviors. In particular, infant's expression of distress and anger may elicit either further anger from the caregiver or reinforce caregiver's giving in for rule setting situations depending on many factors. It is also likely that infant's distress can elicit more warmth from mothers. There is need to examine these kind of dyadic patterns in infant's expression of distress together with mothers' control and warmth. In addition to measuring task related approach and negativity of children, mother-reported child temperament can be also considered in further studies.

While several studies showed the link between caregivers' own emotion regulation competence during stressful situations and children's regulation (Crespo, Trentacosta, Aikins, & Wargo-Aikins, 2017; Morelen, Shaffer, & Suveg, 2016), our study did not measure mothers' regulatory competence. Future studies can add mother-reported questionnaires to measure maternal emotion regulation difficulties or strategies during stress to have a more comprehensive understanding of parenting and children's regulation.

There is also line of research showing the link between maternal socialization goals and control behaviors. Liebal et al. (2011) found more controlling behaviors of parents are associated with their more interdependent socialization goals. Given previous studies showed Turkish mothers value children's having interpersonally sensitive conduct with others, it might be intriguing to investigate this kind of mother-reported socialization goals together with observatory coding of compliance context.

Lastly, our sample size was modest to conduct hierarchical regression analysis. Power analysis for hierarchical regression with three predictors revealed

that in order for a small effect to be detected as significant at 5% level, a sample of 119 participants would be required. Since this thesis is part of a larger intervention study, the number of participants had to be limited to the families who are program participants. The detection of a statistically significant interaction effect between power assertion and child outcomes was limited by low statistical power. Ideally, larger samples would be better to conduct these kinds of moderation models.

In summary this study provides further evidence to links between maternal warmth and control on early regulatory outcomes of Turkish infants. Future studies with Turkish sample should consider longitudinal follow-ups to investigate the role of children's early noncompliance and distress to their later social emotional outcomes such as externalizing behavior problems, peer competence and school adjustment.

APPENDIX A

CONSENT FORM

The research institution: Boğaziçi University
Title of the study: Supporting Development in Early Childhood
Project Advisor: Prof. Dr. Feyza Çorapçı
E-mail address: feyza.corapci@boun.edu.tr
Phone number: (212) 359 73 23
Researchers: 1. Kıvılcım Değirmencioğlu
2. Duygu Yıldız
3. Zeynep Başar

E-mail addresses: kivilcimde@gmail.com; zeynep.basar@boun.edu.tr; duygu.yildiz@boun.edu.tr;
Phone numbers: 554 904 42 33; 538 607 71 41; 506 309 41 52

Dear Mother,

Boğaziçi University and Sarıyer Municipality are carrying out the project "Supporting Development in Early Childhood" for families with 0 to 3-year-old children. In this project, we aim to observe 12-month-old babies' development and their interactions with their mothers. Firstly, you will be informed about this research. Please sign this form after reading if you want to participate in this study.

In the Developmental Psychology Laboratory, you and your child will participate in many interesting activities for babies of this age. These activities will include free play, stacking rings, xylophone, peak-and-boo, and looking at a picture book together. In addition to these, we will observe your baby's reaction to new toys and how s/he complies with the rules. In all these events except separation, you and your baby will be together. We will ask from you to complete a questionnaire that will take 5 minutes during separation. In the meantime, your baby will stay in the room with our research assistant. After you fill in the questionnaire, you have a time to feed your baby. Finally, we will have a 25-minute development screening interview with you.

Your visit is expected to take approximately 1.5 hours. All these events are recorded by video camera. We will give the record as a gift on DVD.

This research is part of the scientific study in which the confidentiality of the participant information is essential. Your personal information will not be shared with anyone. We will give a random number for video records instead of the name of the participating family.

The data will be analyzed and published collectively, not individually. The video recordings will be kept in a lockable closet until the end of the project and will be deleted when the research ends.

At the end of the visit, you will be given a certificate of attendance and a gift card worth 50 TL that you can use at a grocery store. After the research is completed, a developmental report will be sent to you. If a potential risk is detected in your baby's development, we guide you to get the support the baby need.

Participating in this research is entirely voluntary. Even you participate, you also have the right to withdraw your consent at any stage of the study without giving any reason. If you withdraw your consent from the study, your video recording will be deleted immediately. If you would like additional information about the thesis research, please contact the project manager or researchers whose contact information has been provided in the first page. Participants can also consult the Graduate Institute for Studies in Social Sciences Master's and Doctoral Theses Ethics Committee regarding their research-related rights.

If you agree to participate in this study, please sign this form and return it to us.

Me, (mother's name) ..... I read the text. I fully understood the responsibilities I had. I had the opportunity to ask questions about the study. I realized that I can quit this study whenever I want without giving any reason, and I would not encounter any negativity.

In these circumstances, I agree to participate in this research voluntarily, without any pressure or coercion.

I received / do not want to get a copy of the form (in this case, the researcher will keep this copy).

Mother's Name-
Surname:.....

Signature:.....

Address (Phone Number):.....

Date (day/month/year):...../...../.....

Researcher's name-surname:.....

Signature:.....

Date (day/month/year):...../...../.....

APPENDIX B

CONSENT FORM (TURKISH)

Araştırmayı destekleyen kurum: Boğaziçi Üniversitesi
Araştırmanın adı: Erken Çocukluk Döneminde Gelişimin Desteklenmesi
Proje Yürütücüsü: Prof. Dr. Feyza Çorapçı
E-mail adresi: feyza.corapci@boun.edu.tr
Telefonu: (212) 359 73 23
Araştırmacıların adı: 1. Kıvılcım Değirmencioğlu
2. Duygu Yıldız
3. Zeynep Başar

E-mail adresleri: kivilcimde@gmail.com; zeynep.basar@boun.edu.tr; duygu.yildiz@boun.edu.tr;
Telefonları: 554 904 42 33; 538 607 71 41; 506 309 41 52

Sevgili Annemiz,

Boğaziçi Üniversitesi ve Sarıyer Belediyesi 0-3 yaş çocuğu olan ailelere yönelik "*Erken Çocukluk Döneminde Gelişimin Desteklenmesi*" projesini yürütmektedir. Bu çalışmada, 12 aylık bebeklerin gelişimi ve anneleriyle olan etkileşimlerini gözleme dayalı olarak incelemeyi amaçlamaktayız. Kararınızdan önce araştırma hakkında sizi bilgilendirmek istiyoruz. Bu bilgileri okuduktan sonra araştırmaya katılmak isterseniz lütfen bu formu imzalayıp bize veriniz.

Bu araştırmaya katılmayı kabul ettiğiniz takdirde, bir oyun odası olarak tasarlanmış ve dekore edilmiş Boğaziçi Üniversitesi Gelişim Psikolojisi Laboratuvarında bu yaştaki bebeklerin keyif aldıkları etkinliklere katılacaksınız. Bu etkinlikler serbest oyun, üst üste konan halkalar, müzik oyunu, Ce-E oyunu ve resimli bir kitaba birlikte bakmanızı içeren etkinlikler olacak. Ayrıca bu oyunlarda bebeğinizin yeni oyuncaklara gösterdiği tepkiyi ve odanın kurallarına nasıl uyduğunu da gözlemleme fırsatımız olacak. Tüm bu etkinliklerde, bebeğiniz ve siz odada birlikte bulunacaksınız. Ziyaretinizin sonuna doğru sizden yan odada 5 dakika sürecek bir anketi doldurmanızı rica edeceğiz; bu esnada bebeğiniz oyun odasında araştırma asistanımız ile kalacaktır. Siz anketi doldurduktan sonra, bebeğinizle birlikte bir yeme-içme zamanınız olacaktır. Son olarak, sizinle yaklaşık 25 dakika süren bir gelişim taraması görüşmesi yapacağız.

Ziyaretinizin yaklaşık 1,5 saat sürmesi beklenmektedir. Tüm bu etkinlikler video ile kaydedilecektir. Dileyen ailelere kaydın bir DVD kopyası hediye olarak vereceğiz. Bu araştırma bilimsel bir amaçla yapılmaktadır ve katılımcı bilgilerinin gizliliği esastır. Sizin ve bebeğinizin bilgileri kimseyle paylaşılmayacaktır. Sizden toplanan veriler sadece araştırmacılar tarafından görülebilecek, ailelerin isimleri kendilerinden alınan verilerle eşleştirilmeyecek ve video kayıtlarında katılımcı ailenin ismi yerine bir numara kullanılacaktır.

Toplanan veriler bireysel olarak değil toplu olarak değerlendirilip yayımlanacaktır. Video kayıtları araştırma projemiz süresince kilitli bir dolapta muhafaza edilip araştırma sona erdiğinde silineceklerdir.

Ziyaretin sonunda, katılımınız ve zaman ayırdığınız için bebeğinize bir katılım sertifikası ve size de erişiminiz olan bir markette kullanabileceğiniz 50 TL değerinde bir hediye çeki verilecektir. Araştırma tamamlandıktan sonra da size bir bilgilendirme raporu yollanacaktır. Bebeğinizin gelişiminde olası bir risk tespit edilirse ihtiyacı olan desteği alması için yönlendirme yapılacaktır.

Bu araştırmaya katılmak tamamen isteğe bağlıdır. Katıldığınız takdirde çalışmanın herhangi bir aşamasında herhangi bir sebep göstermeden onayınızı çekmek hakkına da sahipsiniz. Eğer çalışmadan onayınızı çekerseniz o sürece kadar sizden alınan video kayıt görüntüleri silinecektir. Tez araştırması hakkında ek bilgi almak istediğiniz takdirde lütfen yukarıda iletişim bilgileri verilmiş olan proje yürütücüsü veya araştırmacılar ile temasa geçiniz. Ayrıca katılımcılar araştırma ile ilgili hakları konusunda Boğaziçi Üniversitesi Sosyal ve Beşeri Bilimler Yüksek Lisans ve Doktora Tezleri Etik İnceleme Komisyonu'na danışabilirler.

Eğer bu tez çalışmasına katılmasını kabul ediyorsanız, lütfen bu formu imzalayıp bize geri verin.

Ben, (annenin adı) ....., yukarıdaki metni okudum ve katılmam istenen çalışmanın kapsamını ve amacını, gönüllü olarak üzerime düşen sorumlulukları tamamen anladım. Çalışma hakkında soru sorma imkanı buldum. Bu çalışmayı istediğim zaman ve herhangi bir neden belirtmek zorunda kalmadan bırakabileceğimi ve bıraktığım takdirde herhangi bir olumsuzluk ile karşılaşmayacağımı anladım.

Bu koşullarda söz konusu araştırmaya kendi isteğimle, hiçbir baskı ve zorlama olmaksızın katılmayı kabul ediyorum.

Formun bir örneğini aldım / almak istemiyorum (bu durumda araştırmacı bu kopyayı saklar).

Annenin Adı-Soyadı:.....

İmzası:.....

Adresi (varsa Telefon No, Faks No):.....

Tarih (gün/ay/yıl):...../...../.....

Araştırmacının Adı-Soyadı:.....

İmzası:.....

Tarih (gün/ay/yıl):...../...../.....

APPENDIX C

LABORATORY PROCEDURE

	TASK	DURATION	DESCRIPTION
1	EXPLORATION AND MEETING THE STRANGER	5 + 2 minutes	Assistant 1 informs the mother that she and her child have 5 minutes to explore the playroom as they wish. They are free to explore every toy and drawer. We are expecting them to get comfortable in the playroom during the exploration. After 5-minute exploration time pasts, Assistant 2 comes to the room in order to meet the child and to observe his/her first reaction to a stranger. The mother is requested to be silent in this activity.
2	FREE PLAY	8 minutes	The mother is requested to play with her child using three boxes of toys as they would normally play at home. The mother is free to select the toys that she prefers to play with and to spare as much time she wants for any toy. She may choose only one toy to play with and may ignore other toys at her given time for this task.
3	TEACHING TASK 1: Stacking Rings	3 minutes	The mother is requested to teach her child stacking rings from large to small one by one. If the mother does not know the toy, Assistant 1 first teaches her the toy. The mother is informed that this toy may be difficult for 13-month old toddlers and her toddler does not have to learn how to play with this toy right now.
4	TEACHING TASK 2: Xylophone	3 minutes	The mother is asked to teach her child beating keys one by one to play xylophone. Assistant 1 first teaches toy to mother and informed that this toy may be difficult for 13-month old toddlers and her toddler does not have to learn how to play with this toy right now.
5	SEPARATION AND REUNION WITH MOTHER Note. If the baby becomes too distressed or crying intensely for more than 30 s., the activity is terminated.	5 +3 minutes	After mother asked to leave room, Assistant 1 stays in the room with the baby for 5 minutes. She sits on the couch and waits quietly without making eye contact with the baby. At end of separation duration, the mother return to the room and interact with her baby as she wishes for three more minutes.

TASK	DURATION	DESCRIPTION	
6	PICTURE BOOK	3 minutes	Mother-child dyad was given wordless picture book contains pictures of baby faces, each with different emotion. The mother is instructed to go through the book with her infant and to talk about each picture.
7	NOVEL TOY Note. If the baby becomes too distressed or crying intensely for more than 30 s., the activity is terminated.	4 minutes	The mother is instructed to sit quietly on couch in the background and do not interact with her baby. Assistant 1 introduces the remote-controlled bee toy to the mother-child dyad and approaches it to the child using remote control. The toy comes close to the child and stops for 25 sec. Then, the toy moves away from child for a few seconds. This sequence is repeated three times.
8	PEEK-A-BOO	2 minutes	This activity aims to increase positive mood of the child. The assistant asks the mother to play a peek-a-boo game with her baby in the way that they play at home.
9*	FORBIDDEN TOY Note. If the baby becomes too distressed or crying intensely for more than 30 s., the activity is terminated.	3 + 2 minutes	The aim of the present activity is to see how babies react when they are restrained from playing with an attractive toy for a while. Once baby's attention is captured by the Forbidden Toy, Assistant 1 moves the toy closer to the baby and says to mother, "*I'm putting this new toy here for you. However, [baby's name] cannot play with this toy right now. He can play this toy when I come back after 3 min. Please don't let [baby's name] play with this toy or even touch it*". At the end of prohibition period, the mother and baby can freely play with toy for two minutes.

TASK	DURATION	DESCRIPTION	
10	FEEDING	5 minutes	Baby's feeding chair and a mother's chair are placed in the middle of the room facing to the camera. Assistant 2 brings the food. The mother is asked to seat the baby to feeding chair and feed his/her just as they are at home.
11	WHO INFANT AND YOUNG CHILD DEVELOPMENT INTERVIEW	20 minutes	Mothers were responded questionnaires and responded to The World Health Organization's (WHO) indicators of Infant and Young Child Development (IYCD).

Note. *Forbidden Toy activity was used solely in this study.

APPENDIX D

ETHICS COMMITTEE APPROVAL

T.C.
BOĞAZİÇİ ÜNİVERSİTESİ
Sosyal ve Beşeri Bilimler Yüksek Lisans ve Doktora Tezleri Etik İnceleme Komisyonu

Sayı: 2019 - 18

7 Mart 2019

Kıvılcım Değirmencioğlu
Psikoloji

Sayın Araştırmacı,

"Erken Çocukluk Döneminde Gelişimin Desteklenmesi *Bağlamsal Faktörler ve Annelik Yetkinliğinin Anne ve Bebek Etkileşimine Etkisi*" başlıklı projeniz ile ilgili olarak yaptığınız SBB-EAK 2019/20 sayılı başvuru komisyonumuz tarafından 7 Mart 2019 tarihli toplantıda incelenmiş ve uygun bulunmuştur.

.....
Dr. Öğr. Üyesi İnci Ayhan

.....
Prof. Dr. Feyza Çorapçı

.....
Doç. Dr. Mehmet Yiğit Gürdal

.....
Doç. Dr. Ebru Kaya

.....
Dr. Öğr. Üyesi Şebnem Yalçın

APPENDIX E

CODING TABLE FOR MATERNAL MEASURES

ID: _____ Coder: _____ Date: _____

Start Time: _____ End Time: _____

sec.	5	10	15	20	25	30	35	40	45	50	55	60	SUM
1st MINUTE													
Control Style (0,1,2,3,4)													
Physical Control (0,1,2,3,4)													
Warmth (0,1)													
2nd MINUTE													
Control Style (0,1,2,3,4)													
Physical Control (0,1,2,3,4)													
Warmth (0,1)													
3rd MINUTE													
Control Style (0,1,2,3,4)													
Physical Control (0,1,2,3,4)													
Warmth (0,1)													

APPENDIX F

CODING TABLE FOR INFANT MEASURES

ID: _____ Coder: _____ Date:_____

Start Time: _____ End Time: _____

sec.	5	10	15	20	25	30	35	40	45	50	55	60	SUM
1st MINUTE													
Infant's Distress (0,1,2,3)													
Infant's Touch (0,1,2)													
2nd MINUTE													
Infant's Distress (0,1,2,3)													
Infant's Touch (0,1,2)													
3rd MINUTE													
Infant's Distress (0,1,2,3)													
Infant's Touch (0,1,2)													

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