LONGITUDINAL RELATIONS AMONG PARENTING DAILY HASSLES, CHILD
REARING, AND PROSOCIAL BEHAVIORS IN TURKISH CHILDREN

A Thesis presented to
The Faculty of the Graduate School
At the University of Missouri-Columbia

In Partial Fulfillment
Of the Requirements for the Degree
Master of Science

By

ZEHRA GÜLSEVEN

Dr. Gustavo Carlo, Thesis Supervisor

JULY 2015
APPROVAL

The undersigned, appointed by the Dean of the Graduate School, have examined the thesis entitled

LONGITUDINAL RELATIONS AMONG PARENTING DAILY HASSLES, CHILD REARING, AND PROSOCIAL BEHAVIORS IN TURKISH CHILDREN

presented by Zehra Gülseven

a candidate for the degree of Master of Science

and hereby certify that, in their opinion, it is worthy of acceptance.

___________________________________________
Professor Gustavo Carlo

___________________________________________
Professor Duane Rudy

___________________________________________
Professor Amanda Rose
I would like to express my deepest appreciation to my advisor and committee chair, Dr. Gustavo Carlo, for all of his guidance and for his continuous encouragement. His expertise, understanding, and patience contributed considerably to my graduate experience and my growth as a scholar. His feedback helped me tremendously. I greatly appreciated how Dr. Carlo pushed me to think more critically about this study and strive to present the best possible product.

I would like to thank my undergraduate advisor, Dr. Asiye Kumru, for allowing me to use this data for secondary analysis and for taking time out from her busy schedule to serve as my external advisor. Without Dr. Kumru’s motivation and encouragement, I would not have considered a graduate career in developmental psychology. This study was supported by a research grant from the Scientific and Technological Research Council of Turkey – TUBITAK (SOBAG 104K068) to Dr. Kumru.

I would like to thank the other two members of my thesis committee, Dr. Duane Rudy and Dr. Amanda Rose for the assistance they provided. I received such helpful feedback throughout this process.

I would like to acknowledge my lab friend, Alexandra Davis, for her valuable proofreading and feedback.

I would also like to thank my family for the support they provided me through my entire life.
TABLE OF CONTENTS

ACKNOWLEDGEMENTS .............................................................................................................................. ii
LIST OF TABLES ........................................................................................................................................ v
ABSTRACT ................................................................................................................................................... vi
CHAPTER 1: INTRODUCTION ................................................................................................................ 1
CHAPTER 2: LITERATURE REVIEW ........................................................................................................ 2
  Traditional Socialization Theories of Prosocial Behavior ................................................................. 2
    Hoffman’s Socialization Theory ........................................................................................................... 2
    Baumrind’s Socialization Theory ......................................................................................................... 3
    Maccoby and Martin’s Socialization Theory ......................................................................................... 4
    Grusec and Goodnow’s Socialization Theory ....................................................................................... 5
  Cultural Theories of Socialization ......................................................................................................... 7
  The Present Study .................................................................................................................................... 10
  Theoretical Considerations of Parenting Daily Hassles ................................................................. 10
The Roles of Parental Warmth, Inductive Reasoning and Physical Punishment on Prosocial Behaviors ........................................................................................................................................ 13
  Warmth ................................................................................................................................................ 13
  Inductive Reasoning ............................................................................................................................... 15
  Physical Punishment ............................................................................................................................... 16
The Mediating Role of Parenting Variables on the Links Between Parental Daily Hassles and Children’s Prosocial Behavior ......................................................................................................................... 18
CHAPTER 3: METHODOLOGY .................................................................................................................. 20
  Summary and Hypotheses ..................................................................................................................... 20
  Study Hypotheses ................................................................................................................................ 21
  Method .................................................................................................................................................. 22
    Participants ......................................................................................................................................... 22
    Materials ............................................................................................................................................. 23
    Procedure ............................................................................................................................................ 25
CHAPTER 4: RESULTS ................................................................................................ 26
  Attrition Analysis ..................................................................................................... 26
  Preliminary Analysis .................................................................................................. 26
  Main Analysis Plan ..................................................................................................... 27
  Main Analysis ............................................................................................................ 28
  Gender Interaction Tests .......................................................................................... 31
CHAPTER 5: DISCUSSION .......................................................................................... 32
  Limitations ............................................................................................................... 37
  Future Directions ..................................................................................................... 38
  Implications .............................................................................................................. 39
  Conclusions ............................................................................................................... 40
REFERENCES ............................................................................................................... 41
APPENDIX ................................................................................................................... 48
LIST OF TABLES

Figure

1. Figure 1. First Conceptual Model for the Three Wave Longitudinal Model...............................................................................................................52

2. Figure 2. Second Conceptual Model for the Two Wave Longitudinal Model..........................................................................................................53

3. Figure 3. Multiple Regression Analyses for the Three Wave Longitudinal Model……………………………………………………………………........54

4. Figure 4. Multiple Regression Analysis for the Two Wave Longitudinal Model………………………………………………………………………….55

Table

1. Table 1: Correlations, Mean and SD for Three Wave Longitudinal Model.....56

2. Table 2: Correlations, Mean and SD for Two Wave Longitudinal Model…..56

3. Table 3: Correlations, Mean and SD for Three Wave Longitudinal Model Separate for Gender…………………………………………………………..57

4. Table 4: Correlations, Mean and SD for Two Wave Longitudinal Model Separate for Gender……………………………………………………………57
ABSTRACT

Parental child rearing behaviors predict children’s levels of prosociality (Eisenberg & Valiente, 2002; Hastings, Utendale, & Sullivan, 2007). Parents’ daily hassles are continuous sources of stress that can cause difficulties in effective parenting (Belsky, 1984; Crnic & Greenberg, 1990), which can both directly and indirectly affect children’s outcomes. Although stress has been linked to prosocial behaviors (e.g., McGinley et al., 2010), studies on the relations between daily hassles and children’s prosocial behaviors are lacking. The present study was designed to examine the longitudinal relations between parents’ daily hassles and young children’s prosocial behaviors, as well as the mediating role of parenting practices in a sample of children from Turkey. The final sample was 159 middle class Turkish preschool children and their mothers. Overall, we found longitudinal evidence that parenting daily hassles, warmth, inductive reasoning, and physical punishment were significantly associated with children’s prosocial behaviors. There was a direct link between parenting daily hassles and prosocial behaviors three years later. Additionally, there was partial support for the expected indirect effect of parenting daily hassles on the children’s prosocial behaviors through parenting practices. The present findings show partial support to family stress model in predicting children’s prosocial development, and extend our understanding of children’s prosocial development to a non-Western, predominantly Muslim culture.
CHAPTER 1: INTRODUCTION

There is a renewed interest in understanding the role of parental child rearing styles and practices in young children’s prosocial behaviors (Knafo & Plomin, 2006). Developmental scholars have noted that parental child rearing behaviors predict children’s level of prosocial behaviors (Eisenberg & Valiente, 2002; Hastings, Utendale, & Sullivan, 2007; Mussen & Eisenberg, 2001). Prosocial behaviors are defined as “voluntary actions that are intended to help or benefit another individual or group of individuals” (Eisenberg & Mussen, 1989, p.3). According to theorists, parents are important socializing agents in their children’s development of prosocial behaviors. Despite the attention to the role of parents in children’s prosocial development, there are still many gaps in our understanding.

Theorists (e.g., Crnic & Greenberg, 1990) have noted that parenting daily hassles (e.g. distressful, disturbing, and irritating demands in daily life events) as a source of daily life stress can cause strains and difficulties in effective parenting, and can both directly and indirectly affect children's outcomes, such as prosocial behaviors. However, research on how parents’ daily life stress might affect their child rearing behaviors and their children’s subsequent prosocial behaviors is lacking. Moreover, cultural group differences in children’s prosocial behaviors have been reported suggesting that culture-related processes are important to account for in these studies (e.g., Carlo & de Guzman, 2009; Whiting & Edwards, 1988). However, studies of young children’s prosocial development in non-Western societies are sparse. Therefore, the generalizability of theories of prosocial development in diverse societies is relatively unknown. The present study was designed to examine the relations between parents’ daily hassles and young children’s prosocial behaviors, and the mediating role of parents’ child rearing practices and styles in a sample from Turkey.
CHAPTER 2: LITERATURE REVIEW

Traditional Socialization Theories of Prosocial Behavior

Socialization can be defined as “the way in which individuals are assisted in the acquisition of skills necessary to function successfully as members of their social groups” (Grusec, 2002, p.143). Parents teach their children how to regulate emotions and live safely with others by building a warm and functional relationship with their children that promotes the socialization process within the family context (Grusec, 2011). There are several socialization theories in the current literature. Different socialization theories have different suggestions to conceptualize how parents socialize their children’s prosocial behavior.

Hoffman’s Socialization Theory

Hoffman is one of the early theorists to explain children’s prosocial and moral socialization. Hoffman’s (1983) moral internalization theory suggested that children’s moral socialization process is based on other-oriented disciplinary techniques. Parents, who are considered the primary socializers of children, are trying to promote children’s prosocial behaviors. Hoffman (1970) identifies three important sets of parenting dimensions which are warmth, inductive reasoning and power assertion to socialize children’s prosocial behavior.

Parental warmth (e.g. parental demonstration of affection and love and active involvement in children’s lives) might be one of the important aspects of the optimal socialization environment for children (Hoffman, 2000). Children who have warm and supportive parents are more likely to attend to parents and care about pleasing their parents. Parental warmth and positive support can make children feel secure and be less worried about their own needs. In these conditions, children have more opportunities to consider the needs of
others (Hoffman, 2000). Therefore, Hoffman (1970) hypothesized that high levels of parental warmth promote children’s prosocial behaviors. The other dimension to promote children’s prosocial behaviors is inductive reasoning (e.g., the use of reason during the establishment and enforcement of children’s behaviors). Inductive reasoning specifically focuses on children’s action and the consequences of such actions, and the casual relation between acts and consequences rather than on parents’ disciplinary actions (Hoffman, 1970). Therefore, children may continue to remember the casual relations between actions and consequences for others (Eisenberg & Valiente, 2002). In contrast, consistent use of power assertion (e.g. practices that involve physical punishment, withdrawal of privileges or possessions, direct commands, threats, and promises of physical harm) may increase children’s fear of punishment (Hoffman, 1970, 1983). Fear of punishment, in turn, may increase the level of arousal, which may inhibit learning and value internalization (Hoffman, 1970). Therefore, Hoffman (1970) hypothesized that inductive reasoning is more effective than power assertion in promoting children’s prosocial and moral development.

**Baumrind’s Socialization Theory**

Another early socialization theorist (Baumrind, 1967, 1971, 1991a, 1991b) argued that parents socialize their children by using disciplinary styles. Baumrind (1971) categorized three different types of parenting styles as authoritative, authoritarian and permissive parenting, depending on parents’ responsiveness and demandingness. Parental demandingness refers to the parent's own acts as a socializing agent, whereas parental responsiveness refers to the parent's supportive attitudes of the child's autonomy (Baumrind, 1991b). First, authoritative parenting involves a combination of medium-high levels of control, refers to parents' attempts to integrate the child into the family and society by demanding behavioral compliance, and also positive
encouragement of the children’s autonomy and independence. Children who have authoritative parents are most self-reliant, self-controlled, explorative and content. Second, authoritarian parenting involves a combination of high levels of control and low levels of warmth. These children are generally discontent, withdrawn and stressed. Third, permissive parenting involves a combination of low control, few demands and relative warmth. When compared to children of other parents, children with permissive parents are less self-reliant, less explorative and less self-controlled. Baumrind (1971) stated that authoritative parents not only impose rules and demand mature behavior, but they also reason and negotiate with their children by taking into account their view point, encouraging their autonomy. The outcomes for children are generally positive when their parents exhibit an authoritative parenting style, and children tend to display more social responsibility, prosocial behavior and independence when compared to children raised with other parenting styles (Baumrind, 1971, 1991a).

**Maccoby and Martin’s Socialization Theory**

Although Baumrind established basic typologies of parenting, Maccoby and Martin (1983) expanded Baumrind’s three parenting styles to four styles including authoritative, authoritarian, indulgent (permissive) and neglectful (uninvolved) parenting based on the combination of support/responsiveness, and demand/control. The fourth style, neglectful parenting, involves a combination of low levels of support and control. Neglectful parents are often emotionally distant from their children. These parents offer little or no supervision of their children and are not responsive to their children's needs. Furthermore, neglectful parents do not regularly communicate with their children, and they show little warmth and love towards their children.
According to Maccoby and Martin (1983), parents set clear standards and display clear, firm enforcement for those standards to socialize children’s positive outcomes, including prosocial behavior. Similar to other socialization theorists (e.g. Hoffman, Baumrind), Maccoby and Martin (1983) suggested that parental warmth and inductive reasoning are more likely to link with children’s compliance and other positive behavior outcomes.

**Grusec and Goodnow’s Socialization Theory**

The most recent and elaborate theory of moral socialization is Grusec and Goodnow’s theory. Grusec and Goodnow (1994) conceptualized how parental discipline is related to children’s internalization of values. Value internalization refers to the notion that children progressively accept and acquire values, which are offered by parents and society, and integrate those values into their sense of self (Grusec & Goodnow, 1994). Socially acceptable behaviors and values are motivated not only by external factors, but also by internal factors (e.g. self-regulation) (Grusec, 2002; Grusec & Goodnow, 1994). Grusec and Goodnow (1994) suggested that parents themselves have prosocial values and display prosocial behaviors in order to socialize such values in their children, which ultimately leads to the children exhibiting higher levels of prosocial behaviors.

Grusec and Goodnow (1994) highlighted the importance of inductive reasoning. They suggested that inductive reasoning draws children's attention to how their misdeed affects others, making them more sensitive of their behaviors and consequences. Grusec and Goodnow (1994) changed the focus of interest from disciplinary techniques to children’s perceptions about their parents’ behaviors. According to Grusec and Goodnow (1994), socialization of values and standards includes two aspects, the accurate perception of the messages and the children’s willingness to accept those messages. Clearly articulated messages, for example, may help
children’s value internalization. Thus, moderate levels of power assertion may force children to pay attention to the importance of the parental messages. Acceptance of parents’ messages involves three aspects: children’s feelings about parents’ message as acceptable or reasonable, children’s motivation, and any condition that leads children to feel that a value or norm has been self-generated (Grusec & Goodnow, 1994).

Grusec and Davidov (2010) suggested domain-specific socialization theory. Children interact with their parents in a variety of ways and contexts, and these interactions can be divided into several distinct types, which are called domains (Bugental & Goodnow, 1998). Domain-specific socialization refers to different types of social relationships or social interactions that occur between parents and children (Grusec & Davidov, 2010). There were four identified domains to explain socialization: attachment relationships (proximity between caregiver and child in times of stress to maintain the child’s safety), social identity relationships (shared identity with members of one’s in-group and the acquisition of group norms and routines), hierarchical relationships (caregivers’ use of their greater control of resources in order to facilitate children’s compliance and discourage disobedience), and reciprocal relationships (mutual, reciprocal exchanges of benefits and positive affect between functional equals) (Bugental, 2000; Bugental & Goodnow, 1998). Different types of parent–child interactions are linked with the development of different socioemotional skills and tendencies (Bugental, 2000; Bugental & Goodnow, 1998). Each domain of parent–child interaction is seen as fostering socialization in a different way. Therefore, there are no universal socialization principles or mechanisms that cannot be generalized across every situation and all parent-child relationships. However, different parent-child relationships foster different rules, regulations and mechanisms to facilitate different behavioral outcomes in children (Grusec & Davidov, 2010). Grusec (2012)
also suggested that the levels of parental control and warmth are the key determiners of parenting styles.

Taken together, parents are powerful socializers during children’s early childhood in most societies because socialization is considered one of the main caregiving roles (Grusec, 2011). Parents provide resources for their children’s welfare and can manage their children’s environments to ensure their children are exposed to positive social influences (Grusec, 2011). Additionally, parents prepare a suitable environment for their children’s prosocial behavior by giving opportunities to children to practice those behaviors, and by providing information about what is considered appropriate behavior (Eisenberg & Valiente, 2002). For the present study, parental warmth, inductive reasoning and physical punishment are examined as major predictors of children’s prosocial behavior.

**Cultural Theories of Socialization**

Parenting behaviors and child rearing practices may show variations across cultures. The diverse forms of parenting may depend on the various needs of societies and are all probably functional in their own sociocultural context (Ogbu, 1981; Whiting, B. & Whiting, J, 1975). Bugental and Grusec (2006) noted that children are socialized in the physical and social settings of their daily life, based upon parental ethnotheories. Whitings suggested the “Whiting Model” and the term “cultural learning environment” to explain how culture influences children’s development (Whiting, B. & Whiting, J, 1975). Similar to Whitings, Super and Harkness (1986) suggested the term “developmental niche”. The developmental niche is the conceptualization of three components as subsystems which are the physical and social settings of the child’s life, culturally regulated customs and childcare-childrearing practices, and the child’s (“caretakers”) psychology. In the large cultural context, these three subsystems have the common function of
mediating the individual’s developmental experience. Each component is centrally related to parents. Developmental niches lead naturally to an interest in the cultural construction of experience from the point of view of parents themselves, in particular their cultural belief systems or parental ethnotheories regarding children and parenthood (Super & Harkness, 1986).

Developmental scholars have largely studied European American populations when researching child rearing styles. Likewise, almost all of the studies of prosocial behavior and its predictors have been conducted with European American families (Yağmurlu & Sanson, 2009). However, child rearing is a culturally constructed phenomenon (Bornstein, 1991; Chao, 1994; Chen et al., 1998; Kagitcibasi, 2007; Miller & Goodnow, 1995; Stewart & Bond, 2002). Therefore, research findings of European American families may not be appropriate to generalize to families from other cultures (Gergen, Gulerce, Lock, & Misra, 1996; Yağmurlu, Köymen, & Sanson, 2005).

Every culture has its own traditions, beliefs, rules and values that can shape parents’ behaviors (Bornstein & Güngör, 2009; Harkness & Super, 2002; Stevenson-Hinde, 1998). The same child rearing practices may have different connotations and cause different behavioral outcomes for children in different cultural contexts (Kağıtçıbaşı, 2007; Rothbaum & Trommsdorff, 2007). For example, strict parental control can be perceived as a deviant parental behavior among European Americans, whereas it can be perceived as a socially valued parenting practice in Korean and Japanese cultures (see Kağıtçıbaşı, 2007).

In traditional Turkish culture, patriotism and respect for authority are two major cultural values (Kagitcibasi, 1970). High valuing of sons and a distinction between daughters and sons are among the common traditional parental attitudes. Daughters are more restricted than sons, and they are expected to learn housekeeping skills and help mothers with housework
(Kağıtçibaşi & Sunar, 1992). Being responsive toward parents and taking care of aging parents are some of the other expected behaviors from children; while high levels of obedience are valued and a highly functional child behavior, children’s self-assertion is perceived negatively (Kağıtçibaşi, 1982, 2007). However, Turkish family structure has changed remarkably in the last few decades (Sunar & Fisek, 2004). Although material independence has emerged, emotional interdependence is still an outstanding aspect of many Turkish families (Sunar & Fisek, 2004).

Turkish families in rural regions and from lower socioeconomic backgrounds often endorse more control (Kagıtcibasi & Sunar, 1992). Turkish parents have also been found to be highly authoritarian (Taylor & Oskay, 1995). Inductive reasoning is a rarely used parenting practice; however, physical punishment and punishment-oriented control are the most common child rearing practices among Turkish parents (Yağmurlu & Sanson, 2009). Turkish parents often interfere with their children’s lives (e.g. children’s choice of education area, school, and occupation). Such interferences discourage independence and parents rarely support children’s autonomy (Kagıtcibasi, 1989). However, the strong emphases on parental authority, control, punishment and children’s obedience and compliance in traditional Turkish families takes place in a mutual emotional attachment relationship (Sunar & Fisek, 2005). Moreover, children are dependent on their parents until they reach adulthood, at which time parents depend on their children in traditional rural Turkish culture (Kagıtcibasi, 1987).

Based on research findings from studies among European Americans, one might expect that non-inductive, highly controlling and punishment-oriented parenting practices may negatively affect the prosocial development of Turkish children. However, Yağmurlu and Sanson (2009) argued that hospitality and support are highly endorsed traditional values. Therefore, parental expectations of higher levels of prosocial behaviors are supported by the culture with the strong
emotional bonds between parents and children. This notion is consistent with findings from Asian and Latin American cultures that parents use high levels of power assertion and control to socialize their children’s positive outcomes and prosocial behaviors (see Chao, 1994; Halgunseth et al., 2006). Therefore, it may be valuable to explore the links between parenting daily hassles and children’s prosocial behavior and the mediating role of child rearing practices in different cultures rather than European American populations.

The Present Study

Theoretical Considerations of Parenting Daily Hassles

Although prior research emphasizes the link between parenting and prosocial behavior, less research is devoted to the influence of environmental factors affecting parenting and prosocial behavior. One possible variable is stress. There are two theoretical frameworks, family stress theory and social-ecological theory (e.g. parenting stress model), suggesting that stress affects children’s outcome through parenting. Family stress theory mostly focuses on economic stress, which is family level stress. Social-ecological theory emphasizes parenting stress, which is much more closely related to parenting and parent-child relationships. However, the present study specifically focuses on parenting daily hassles as a form of parenting stress.

First, family stress theorists (e.g., Belsky, 1984; Belsky, Woodworth, and Crnic, 1996; Conger, Patterson, & Ge, 1995; Deater-Deckard, 1998) have noted that parents’ episodic and chronic life stress is linked with the quality of parenting, the parent–child relationship, and ultimately child functioning. According to family stress theory, family stress can be best understood as an interconnected and interdependent system, which includes parental factors (e.g. parent gender, vulnerability to stress personality, beliefs in regard to child development and childrearing), child factors (e.g. gender, temperament, behavior), and family system factors (e.g.
marital relationship, co-parenting, the number of children in the home) play a role in parents’
experience of everyday stress (Deater-Deckard, 1998; Gable, Belsky, & Crnic, 1992). Carlo,
Walker and Day (2011) examined the relations among economic stress, parental depression and
adolescents’ prosocial behavior. Economic strain was found to be positively linked with parental
depression which was negatively associated with connectedness between parents and youth.
Parent-youth connectedness positively predicted adolescents’ prosocial behaviors one year later.
Findings suggested that parental stress has an indirect effect on children’s prosocial behavior.

The second theoretical framework, social-ecological theory, is directly linked to
parenting and children’s outcomes. Children’s behaviors can be influenced by parents’ and other
family members’ stress (Crnic & Greenberg, 1990). Conceptually, scholars have noted that
parenting stress is significantly associated with less optimal parent functioning, less optimal
parent-child interactions, and lower child developmental competencies (Crnic & Greenberg,
1990; McGinley et al., 2010). Kanner et al. (1981) noted that the cumulative impacts of minor
daily life stress may affect people’s sense of competence in a similar manner as other major
stress factors. After Kanner’s suggestion, researchers started to investigate the role of parenting
stress in predicting children’s psychopathology based on the following three main hypotheses
(see Deater-Deckard, 1998). The first hypothesis is that there is a causal relation between
parenting stress and parenting behavior. In this regard, parents who experience more daily stress
are more likely to display poorer parenting behavior, reactive and adult-centered behaviors rather
than child-centered deliberate behavior. Parents who are experiencing stress are less likely to be
responsive, warm, and are likely to be more controlling. The second hypothesis is that parenting
stress may affect children’s behavior. Causally, poor parental behavior may negatively influence
children’s cognitive and social-emotional development, and related outcome behavior. The third
hypothesis is that parenting behaviors can mediate the link between parenting stress and children’s behavioral outcomes (Belsky, 1984; Patterson, 1983; see Deater-Deckard, 1998).

One common form of parenting stress is daily hassles. Daily hassles are characterized as distressful, disturbing, and irritating demands in daily life events (Crnic & Greenberg, 1990). Crnic and Greenberg (1990) described two types of parenting daily hassles. While the first type of daily hassles include the daily routine of the child’s life (e.g., preparing them for school, sibling arguments, scheduling, housework), the second type of daily hassles emphasizes undesirable child behavior (e.g., whining, misbehaving, being difficult to manage). Some hassles might be more frequent and intense, while others may be episodic and less intense. For example, many parents frequently deal with cleaning up their children’s messes, calming down arguments between siblings, and several other daily stressful events. Every single daily event may not be perceived as a hassle, but the cumulative impact of daily hassles may have a negative influence on parent-child relationships (Crnic & Greenberg, 1990; Kanner, Coyne, Schaefer, and Lazarus, 1981).

In a relevant study, Crnic and Greenberg (1990) found that maternal perceptions of daily hassles with their five-year-old children significantly predicted more maternal distress and less parental functioning. More precisely, parenting daily hassles were linked with less sensitivity and responsiveness, and more controlling behaviors and parent functioning during the mother-child interactions. When Yağmurlu and Sanson (2009) compared Australian and Turkish mothers, they found that Australian mothers, who have less parenting daily hassles, were more likely to be warm, and less punitive.

Parents’ daily hassles also predict children’s outcome behaviors. For example, Crnic and Greenberg (1990) found that parents’ daily hassles were significantly linked to children’s
behavior problems and lower social competence. In another relevant study, Yağmurlu and Sanson (2009) compared Australian and Turkish mothers’ daily hassles and children’s prosocial behaviors, and found that when mothers had less daily hassles, their children tended to act more prosocially and less reactively among the Australian sample. However, they did not find any significant relation between daily hassles and children’s prosocial behavior among Turkish children.

Taken together, concurrent links between parenting stress, parents’ daily hassles and poor child outcomes have been well established and some studies have examined mediational relation in longitudinal studies (see Crnic & Low, 2002). However, only a few studies have attempted to understand how parents’ daily hassles directly and indirectly impact children’s prosocial behavior. Thus, to address this gap in the current literature, the present study aims to investigate the link between parents’ daily hassles and children’s prosocial behavior via three important parenting dimensions including warmth, inductive reasoning, and physical punishment.

The Roles of Parental Warmth, Inductive Reasoning and Physical Punishment on Prosocial Behaviors

Parents have a great influence on their children’s prosocial behavior (e.g., Carlo, Fabes, Laible & Kupanoff, 1999; Carlo, McGinley, Hayes, Batenhorst & Wilkinson, 2007; Hastings et al., 2007). Parental warmth, inductive reasoning and physical punishment are commonly theorized and researched childrearing dimensions linked to children’s prosocial and moral behaviors. Therefore, in the current study, we examine parental warmth, inductive reasoning, and physical punishment links to children’s prosocial behavior.

Warmth. There are several conceptual definitions of parental warmth in the literature. In this study, “parental warmth or responsiveness (also referred to as support) refers to the degree of
positive affection present in parent–child relationships” (Carlo, McGinley, Hayes, Batenhorst, & Wilkinson, 2007, p.148). Responsive or warm parents are more likely to be child-centered and support children’s autonomy (Baumrind, 1990b), to have better emotion regulation skills and to foster a positive parent-child relationship (Hoffman, 1983). Supportive or responsive parents also meet their children’s needs appropriately (Maccoby & Martin, 1983). Warm and responsive parents promote their children’s prosocial behavior by modeling other oriented behavior that may encourage children to care for others (Hastings et al., 2000).

The majority of researchers have found a significant positive relation between parental warmth/responsiveness and children’s prosocial behavior in European and European American samples (e.g., Dunn, Cutting, & Fisher, 2002; Hastings, McShane, Parker, & Ladha, 2007; Hastings, Zahn-Waxler, Robinson, Usher, & Bridges, 2000; Laible, Carlo, Torquati, & Ontai, 2004). Existing longitudinal research has also yielded evidence that high levels of maternal support and control are related to prosocial behavior towards mothers one year later among young European American adolescents (Padilla-Walker, Carlo, Christensen, & Yorgason, 2012). Additionally, authoritative parenting (i.e., the combination of responsive and demanding parenting) was positively associated with children’s prosocial behaviors (Baumrind, 1991a). Carlo and colleagues (2010) found that parental warmth positively predicted children’s prosocial behavior among 10 year-old children from Spain. Janssens and Decovic (1997) found that supportive, warmth and less restrictive parenting were positively linked to children’s prosocial behavior and to higher level prosocial moral reasoning among young Dutch children. Thus, in general, research with European American samples support the assertion that prosocial outcomes for children are associated with parental warmth.
There have been only a few studies on parenting and children’s prosocial behavior in Turkish culture. A previous study was designed to compare cultural differences on direct and indirect roles of parenting among Turkish and Australian preschool-age children (Yagmurlu & Sanson, 2009b). Researchers compared 4–6-year-old Australian and Turkish children living in Australia to explore cultural similarities and differences. Results revealed that Turkish and Australian children followed the similar prosocial development processes; however, maternal warmth positively predicted prosocial behavior of Australian children, whereas obedience-demanding positively predicted Turkish children’s prosocial behavior (Yağmurlu, Köymen, & Sanson, 2005; Yağmurlu & Sanson, 2009).

Altay and Güre (2012) investigated the links among children’s social competence and prosocial behaviors and mothers’ perception of parenting styles among preschool age Turkish children. Both the mother and teacher reported prosocial behaviors were positively found to be linked with high parental control and warmth, rather than low control and warm parenting. In another study, Kumru (2002) explored the relation between parenting and early adolescents’ prosocial behaviors toward parents, siblings and grandparents in a Turkish sample. She found a significant relation between parental warmth and closeness, and early adolescents’ prosocial behavior toward family members. Parental warmth positively predicted early adolescents’ prosocial behavior toward family members (Kumru, 2002). Although there is one non-significant finding in a Turkish sample, the remaining studies generally demonstrate positive relations between parental warmth and prosocial behaviors in Turkish children.

**Inductive Reasoning.** Inductive reasoning, which is used by parents to discipline children, emphasizes the negative effects of the child's misdeed on others. Inductive reasoning requires the child to actively reflect on and process the meaning of the parents’ statement, which
may increase the likelihood of the child’s internalization of the parental message (Grusec & Goodnow, 1994). Grusec and Goodnow (1994) suggested that inductive reasoning can develop the child's empathy and induces negative feelings from which the child cannot escape even when the socializing agent is no longer present. Furthermore, Hoffman (1970) suggested that induction specifically focuses on children’s action and its consequences, and the casual relation between their acts and consequences rather than on their parents’ disciplinary actions. Therefore, children may continue to remember the casual relations between actions and consequences for others (Eisenberg & Valiente, 2002). While inductions can help teach cause and effect relations and help children to understand their own agency, they can also induce responsibility to avoid harmful behavior and to compensate for their hurtful acts (Hastings et al., 2007).

The evidence on the links between inductive reasoning and prosocial behaviors is relatively scant. There is supportive evidence among European American children that inductive reasoning positively predicts school age children’s prosocial behavior (Krevans & Gibbs, 1996; McGrath, Wilson, & Frassetto, 1995). Additionally, inductive reasoning indirectly predicts prosocial behaviors via empathy (see Eisenberg & Valiente, 2002). More importantly, the research on the link between inductive reasoning and children’s prosocial behavior in Turkish samples is highly limited. In one known study of Turkish children, Yağmurlu and Sanson (2009) examined the Turkish mothers’ inductive reasoning and children’s prosocial behavior and did not find any significant links. In summary, based on conceptual models and the predominant empirical evidence (though mostly with European American children), inductive reasoning is expected to be positively associated with children’s prosocial behavior.

**Physical Punishment.** When parental control includes harsh verbal and physical disciplinary practices, then such control is labeled as power assertion (Hoffman, 1970). Power
assertive parenting is accompanied with negative emotions and self-focused parenting practices (Hoffman, 2000). Furthermore, power assertive parenting may involve the use of physical force, deprivation of possessions or privileges, direct commands or threats (Eisenberg & Valiente, 2002). Thus, in general, higher parental behavioral and psychological controls as well as power assertive parenting have been shown to negatively link to children’s prosocial behavior (see Hastings et al., 2000; Hastings et al., 2007; Krevans & Gibbs, 1996). Physical and corporal punishment, parental strict control, parental strict obedience and demanding, angry parenting are not adaptive parenting practices in the promotion of prosocial behavior (Hastings et al., 2007; Laible et al., 2004).

Parents who consistently use physical punishment inhibit children’s positive behavior (Padilla-Walker, 2014), and may direct children's attention to the self-oriented consequences rather than other-oriented consequences (Eisenberg & Valiente, 2002). Hastings and colleagues (2000) found that European American children who have mothers who are overly strict and harshly punitive, mothers who do not clearly set reasonable and consistent rules and mothers who strongly show their anger and disappointment with their children are less likely to be prosocial.

The research on the link between physical punishment and children’s prosocial behavior in Turkish samples is also very limited. Yağmurlu and Sanson (2009) found that physical punishment did not significantly predict Turkish children’s prosocial behavior. However, punishment suppressed variance in obedience demanding which was positively predicted children’s prosocial behavior.

Taken together, the overall research evidence suggests that power assertive and physical punishment parenting practices mitigate children’s prosocial behaviors.
The Mediating Role of Parenting Variables on the Links Between Parental Daily Hassles and Children’s Prosocial Behavior

Daily hassles and parenting are not only expected to have direct links to children’s prosocial behaviors, but also parenting mediates the relations between daily hassles and prosocial behaviors. When mothers have more daily hassles, they may become overwhelmed, irritable and impatient (Belsky, 1984; Patterson, 1983). Overwhelmed mothers might be more likely to be self-focused and display less warmth to meet children’s needs. Less-patient mothers may tend to provide less inductive reasoning. Irritable and impatient mothers might be more likely to use physical punishment. Daily hassles deplete people’s own resources (Muraven & Baumeister, 2000), make them less able to deal with children affectively and reduce people’s behavior and emotion regulation skills. Resource depletion makes parents more self-focused rather than child-focused. Thus, daily hassles may conceptually be linked to parental warmth, inductive reasoning and physical punishment (Deater-Deckard, 1998). Parents who report more daily hassles are less likely to effectively socialize prosocial behavior in their child because they become focused on their own needs rather than their child’s needs.

Although there is empirical evidence for a mediating role of parenting on the relation between parenting stress and children’s behavioral outcomes (see Deater-Deckard, 1998), direct evidence on the mediating effect of parenting practices and styles on the relation between parents’ daily hassles and children’s prosocial behavior is rare. In the most relevant study, Yağmurlu and Sanson (2009) compared the mediational role of parenting on the relation between mother’s daily hassles and children’s prosocial behavior in a Turkish sample. Although they did not find a significant mediation effect, we expect to find significant mediation effect in our sample because of the socioeconomic status differences. Because children’s prosocial behavior
may be related to socioeconomic status (SES) of their families (see Eisenberg et al., 2006). Children who are from low SES families display less prosocial behavior, whereas children who are from high SES families display more prosocial behavior (see Whiting & Whiting, 1975). In Yagmurlu and Sanson’s study, the Turkish sample was low income and less educated immigrant families in Australia. However, in this present study the sample is predominantly upper middle class families in Turkey.

Other research in European American samples demonstrates mixed support for mediation effects. In one longitudinal study, parent-child connectedness mediated the relations between economic stress and children’s prosocial behaviors two years later (Carlo et al., 2010). However, Crnic and colleagues (2005) explored the association between parenting daily hassles and child functioning as well as the possible mediating role of specific parenting factors and did not find support for mediating effects. Therefore, the mediating role of parenting on the relation between parents’ daily hassles and children’s prosocial behavior will be examined in the present study.
CHAPTER 3: METHODOLOGY

Summary and Hypotheses

The present study will assess the links between parenting daily hassles and children’s prosocial behavior as well as the mediational effects of parental warmth, inductive reasoning, and physical punishment, on those relations. Existing empirical research has primarily focused on school age children and adolescents (Dekovic & Janssens, 1992; Janssens & Dekovic, 1997; Laible & Carlo, 2004), and research during early childhood is lacking. Thus, I will examine these relations from pre-school age to school age because this age period is marked by children’s growing capacities to act prosocially and self-regulate their behaviors (Eisenberg, Fabes, & Spinrad, 2006). As children develop, their opportunities to display prosocial behaviors and to regulate their behaviors increase. The aim of this study is to investigate the relations between parenting daily hassles and children’s prosocial behavior via three parenting dimensions among Turkish young children.

As suggested by Darling and Steinberg (1993) and Carlo, McGinley, Hayes, and Wilkinson (2007), child rearing dimensions were used separately as physical punishment, warmth and inductive reasoning. Instead of describing parenting characteristics by using styles, the effects of physical punishment, warmth, and inductive reasoning were examined separately. The transition from testing the effect of parenting styles to specific parenting practices seems particularly important when studying cultures. Stewart and Bond (2002) suggested that testing the child rearing practices eliminates the need to be concerned about whether the particular combination of parenting dimensions captured by a style exists in the investigated culture. Additionally, the relations between single dimensions and outcomes is easier to test and
interpret; with multiple dimensions, whereas testing and interpreting the effect of styles might be difficult.

**Study Hypotheses**

The proposed study will address several gaps in the literature by examining the mediating roles of parenting dimensions on the relation between parenting daily hassles and prosocial behaviors among Turkish children (See Figure 1 and 2 for the conceptual models). Two different models were tested: (a) Three wave longitudinal model which included parenting daily hassles at the age of 4, parenting variables at the age of 6, and children’s prosocial behavior at the age of 7; (b) two wave longitudinal model which included parenting daily hassles and parenting variables at the age of 4, and children’s prosocial behavior at the age of 6. The following specific hypotheses will be examined.

H 1. Parenting daily hassles at age 4 will be negatively linked with parental warmth and inductive reasoning and positively linked with physical punishment at age 4 and 6.

H 2. Parenting daily hassles at age 4 will be negatively associated with children’s prosocial behavior at age 4 and 6.

H 3. Physical punishment at age 6 will be negatively linked with children’s prosocial behavior at age 7. Physical punishment at age 4 will also be negatively linked with children’s prosocial behavior at age 6.

H 4. Parental warmth at age 6 will be positively associated with children’s prosocial behavior at age 7. Parental warmth at age 4 will also be positively associated with children’s prosocial behavior at age 6.
H 5. Inductive reasoning at age 6 will positively predict children’s prosocial behaviors at age 7. Inductive reasoning at age 4 will also positively predict children’s prosocial behaviors at age 6.

H 6. Additionally, mediational effect of parenting dimensions (at age 6) on the relation between parenting daily hassles (at age 4) and children’s prosocial behavior (at age 7) will be expected. Furthermore, parenting dimensions (at age 4) will mediate the relation between parenting daily hassles (at age 4) and children’s prosocial behavior (at age 6). Parenting daily hassles will be positively linked with physical punishment, which, in turn, will predict lower levels of prosocial behaviors. Parenting daily hassles will also be negatively associated with both parental warmth and induction, which, in turn, will positively predict children’s prosocial behaviors. To address this issue, the relations among the main variables will be assessed to determine whether the data met criteria to test for mediation (Baron & Kenny, 1986).

Previous research demonstrates significant SES differences in prosocial behaviors and parenting practices (see Eisenberg et al., 2006; Eisenberg & Valiente, 2002). However, SES group differences are not focused on this present study. Therefore, we will statistically control for this variables in the analysis.

Method

Participants

The current study was a secondary analysis project using data from The Scientific and Technological Research Council of Turkey funded Longitudinal Study of Children’s Cognitive, Emotional & Prosocial Development [to Asiye Kumru, Bilge Yağmurlu and Melike Sayıl (Grant No: 104K068)]. For age 4 (time 1), the sample was 293 middle class Turkish preschool children (48.1% girls, 51.9% boys, $M_{age}=49.01$ months, SD=3.86) from public (48%) and private (52%)
schools in Bolu, Ankara, and İstanbul Turkey. The parents’ average number of years of education was 13.81 years for mothers (range=5-25 years) and 14.39 years for fathers (range=5-27 years). For age 6 (time 3), the sample was 184, 52.7% boys, 47.3% girls, 47.8% public school, 46.2% private school, 4.3% did not go to school. For age 7 (time 4), 159 children completed the study, 54.7% boys, and 45.3% girls. 76.9% went to public school, 23.1% went to private school. From time 1 to time 4, the attrition rate was 46% across four waves. Results from attrition analysis demonstrated that participants who withdrew did not differ significantly on the main variables from those who remained. Furthermore, parents reported average household income was reported for time 1 as 750-1,500 Turkish lira (M = 3.09, SD = 1.28; 1 = less than 450 Turkish lira, 6 = 5,000 and more), time 2 as 750-1,500 Turkish lira (M = 3.24, SD = 1.13), time 3 as 750 – 1,500 Turkish lira (M = 3.24, SD = 1.21) and time 4 as 750-1,500 Turkish lira (current exchange rate: 1 Turkish lira nearly equal to .36US$) (M = 3.50, SD = 1.14).

Materials

**Parenting Daily Hassles.** The Parenting Daily Hassles Scale (PDHS) (Crnic & Greenberg, 1990) was used to measure the frequency and intensity of everyday events that often cause parental daily stress. The PDHS includes 20 items, (e.g., ‘‘Kids get dirty and need to have clothes changed’’ and ‘‘Kids are difficult to manage in public places’’), which parents rate for frequency of occurrence of all 20 items (in a 4-point scale 1=rarely, 4=constantly) and intensity of the hassle ratings of all 20 items (in a 5-point scale 1=no hassle, 5=big hassle). First, the average of the 20 items were used to create the Frequency and Intensity scale scores. Then, the means of the standardized Frequency (Cronbach's alpha = .82) and Intensity (Cronbach's alpha = .87) subscale scores were calculated to create a ‘parenting daily hassles’ score (Crnic & Greenberg, 1990). The means of the standardized Frequency and Intensity subscales score are
found to be significantly correlated ($r = .73; p < .001$) to each other. Thus, in the present study, the overall parenting daily hassles score will be used. PDHS is valid and reliable scale in Turkish sample (Yağmurlu & Sanson, 2009).

**Parenting.** To measure parenting behaviors, mothers rating Child-Rearing Questionnaire (CRQ), developed by Sanson (1994) and elaborated by Patterson and Sanson (1999), was used. The factorial validity and reliability of the CRQ were examined via principal components factor analysis and internal consistency analysis. Originally the CRQ consists of 30 items the parent indicates the frequency of each behavior on a 5-point scale (1=Never and 5=Always) and has four subscales measuring inductive reasoning, punishment, obedience-demanding and warmth. The present study only included Inductive Reasoning, Cronbach's alpha was .85 for age 4 and .82 for age 6 (e.g., “I try to explain to my child why certain things are necessary.”); Physical Punishment (including items 2, 8, 22, 25, 28), Cronbach's alpha was .71 for age 4 and .75 for age 6 (e.g., “I use physical punishment, e.g., smacking, for very bad behavior.”); and Warmth, Cronbach's alpha was .73 for age 4 and .77 for age 6 (e.g., “My child and I have warm, intimate times together.”). CRQ was translated into Turkish by way of translation-back translation (Yağmurlu & Sanson, 2009) that is a widely used, valid and reliable parenting measurement in Turkey (Altan-Aytun, Yağmurlu, & Yavuz, 2013).

**Prosocial Behavior.** To assess children’s prosocial behavior, mothers completed the Prosocial Behavior Scale (PBS). The PBS consists of 13 items (Iannotti, 1985). The items are rated on a 7-point scale, and the measure is composed of four subscales: Helping (e.g., “Helps another child do something that the other child cannot do or which requires additional help”), Sharing (e.g., “Refuses to share a toy or other object that he/she is playing with at the time” [reversed]), Comforting (e.g., “Offers consolation to another child if he/she hurts himself or is
sad”), and Cooperating (e.g., “Does not cooperate with another child or the teacher” [reversed]). An additional six items (from Wilby, 2005) were added to obtain a more comprehensive assessment of prosocial behaviors (see Yağmurlu & Sanson, 2009). The final modified version of the prosocial behavior measure includes 19 items consisted of four items for helping, six for sharing, five for comforting and four for cooperating. Cronbach’s alphas were .92 for age 6 and .91 for age 7. See Appendix 1 for copies of the measures.

Procedure

The data was from Longitudinal Study of Children’s Cognitive, Emotional & Prosocial Development project from Turkey. Children were followed from 4 to 7 years of age. Mothers report measures were also administered to collect data.

Following the approval of Research and Development Department of National Education Ministry, data were collected from public and private schools in Ankara, Bolu and İstanbul, Turkey. Recruitment letters were sent to mothers via children and their teachers. All participants had returned consent forms signed by their parents, agreeing to their participation in the study. After mothers accepted to voluntarily participate in this study, measurements were sent to mothers. Mothers filled out the measurements and gave them in sealed envelope back to teachers via children. Teachers of the children, whose parents accepted to participate in this study, were asked to fill questionnaires. At the end of the application, teachers and parents were briefly informed about the study and thanked for their participation.
CHAPTER 4: RESULTS

**Attrition Analysis.** Possible effects of attrition were examined to test difference between Time 1 scores for participants who were retained at Time 3 and those who were absent; Time 3 scores for participants who were retained at Time 4 and those were absent; Time 1 scores for participants who were retained at Time 4 and those were absent. To test the gender differences a chi-square test of independence was performed. These groups were not significantly different on the gender distribution. A series of ANOVA tests were performed to test the differences on descriptive variables and main variables. These groups did not differ on any main variable. From Time 1 to Time 4, attrition rate was 46% across four waves. Results from attrition analysis demonstrated that participants who withdrew did not differ significantly on the main variables from those who remained.

**Preliminary Analysis.** Descriptives and correlational analyses were conducted on the variables from two different models (a three wave longitudinal model and a two wave longitudinal model; see Figures 1 and 2). Descriptive statistics and correlations between the main variables were conducted using SPSS (See Table 1 and 2 for descriptives and correlations on children’s gender, mother’s education, parenting daily hassles, parental warmth, inductive reasoning, physical punishment, and children’s prosocial behavior). Descriptives and correlations were also separately conducted for girls and boys (See Table 3 and 4). For the three wave longitudinal model (see Figure 1), correlations showed that parenting daily hassles were positively and significantly correlated with physical punishment. Daily hassles were also negatively correlated with parental warmth, inductive reasoning and children’s prosocial behavior. Physical punishment was negatively correlated with parental warmth, inductive reasoning and children’ prosocial behavior. Parental warmth and inductive reasoning were
positively and significantly linked with each other, and to children’s prosocial behaviors. No other relations were significant in the three wave longitudinal model.

For the two wave longitudinal model (see Figure 2), correlations showed that mother’s education was negatively correlated with physical punishment and positively correlated with inductive reasoning. Parenting daily hassles were positively and significantly correlated with physical punishment. Daily hassles were also negatively correlated with parental warmth and inductive reasoning. Physical punishment was negatively correlated with parental warmth, inductive reasoning and children’ prosocial behavior. Parental warmth and inductive reasoning were positively and significantly linked with each other and children’s prosocial behaviors. There were no other significant relations in the two wave longitudinal model.

In addition, an independent sample t-test was performed to examine gender differences on the main variables. However, there were no significant gender differences.

**Main Analysis Plan.** Mediational analyses were utilized to test whether parenting behaviors (warmth, inductive reasoning and physical punishment) mediated relations between parenting daily hassles and children’s prosocial behaviors. Separate mediational analyses were conducted for each of the three types of parenting behavior for two longitudinal model using hierarchical linear regression and the procedures outlined by Baron and Kenny (1986). Firstly, a linear regression was used to assess the association between parenting daily hassles and parenting variables (warmth, inductive reasoning, and physical punishment). Secondly, for each type of parenting behavior, a two-step hierarchical regression model was conducted to predict children’s prosocial behaviors. In the first step, mothers’ education, as a proxy of SES, and parenting daily hassles were entered. On the second step, each of the parenting behaviors were entered. According to Baron and Kenny’s (1986) criterion, for mediation to occur, (a) variations
in levels of the parenting daily hassles significantly account for variations in the warmth, inductive reasoning and physical punishment (three separate paths a), (b) variations in each of the three parenting variables significantly account for variations in the children’s prosocial behavior (path b), and (c) when paths a and b are controlled, the previously significant relation between parenting daily hassles and children’s prosocial behavior (path c) will be no longer be significant (Baron & Kenny, 1986). To obtain the strongest mediation effect, path c should be close to zero (Baron & Kenny, 1986).

**Main Analysis.** For the three wave longitudinal model testing warmth, regression analyses are presented in Figure 3a. Parenting daily hassles was a significant negative predictor of children’s prosocial behavior three years later. However, parenting daily hassles was not significantly linked to parental warmth. Therefore, regression analysis did not met the mediation criteria. Warmth was also a significant predictor of children’s prosocial behavior a year later. Furthermore, in the second step, with the addition of warmth in the model, parenting daily hassles negatively, and warmth positively, predicted children’s prosocial behaviors. The standardized regression coefficient between parenting daily hassles and children’s prosocial behavior dropped from -.20 to -.15, $R^2$ change = .13, $F$ change (3, 149) = 23.49, $p < .001$, (Multiple $R^2$=.17).

For the three wave longitudinal analyses testing inductive reasoning (see in Figure 3b), inductive reasoning positively predicted children’s prosocial behavior. The fact that daily hassles did not predict inductive reasoning, after inductive reasoning was added into the model, both the relation between parenting daily hassles and prosocial behavior, and the relation between inductive reasoning and prosocial behavior were remained significant. The standardized regression coefficient between parenting daily hassles and children’s prosocial behavior dropped
from -.20 to -.17, $R^2$ change = .08, $F$ change (3, 149) = 14.05, $p< .001$, (Multiple $R^2$=.12). These findings indicated that there is a direct relation between parenting daily hassles and children’s prosocial behavior.

For the three wave longitudinal analyses testing physical punishment (see in Figure 3c), parenting daily hassles was a negative significant predictor of prosocial behavior and a positive significant predictor of physical punishment. Furthermore, physical punishment negatively predicted children’s prosocial behavior. When physical punishment added into the model, both the relation between parenting daily hassles and prosocial behavior, and the relation between physical punishment and prosocial behavior were remained significant. The standardized regression coefficient between parenting daily hassles and children’s prosocial behavior dropped from -.20 to -.17, $R^2$ change = .03, $F$ change (3, 149) = 4.57, $p< .01$, (Multiple $R^2$=.07). Sobel’s test indicated the drop was marginally significant, $z$ = -1.73, $p = .08$. Although the drop did not reach the traditional significance level in this small sample, this relation met the criteria for partial indirect relations since both the relation between parenting daily hassles and prosocial behavior, and the relation between physical punishment and prosocial behavior were remained significant. These analyses revealed that there was both direct and indirect relation between parenting daily hassles and children’s prosocial behavior through physical punishment.

For the two wave longitudinal model, regression analyses are presented in Figure 4. Parenting daily hassles was not a significant predictor of children’s prosocial behavior two years later. For testing warmth (see in Figure 4a), parenting daily hassles was a significant negative predictor of parental warmth. Furthermore, parental warmth significantly predicted children’s prosocial behavior. When warmth was entered into the equation in the second step, the standardized regression coefficient between parenting daily hassles and children’s prosocial
behavior dropped from -.11 to -.06, $R^2$ change = .08, $F$ change (3, 166) = 13.99, $p < .01$, (Multiple $R^2$=.09). Sobel’s test indicated that the drop was significant, $z = -2.20$, $p < .05$. This meant that parenting daily hassles indirectly effect children’s prosocial behavior over time through parental warmth.

For testing inductive reasoning (see in Figure 4b), parenting daily hassles negatively and significantly predicted inductive reasoning. Additionally, inductive reasoning positively predicted children’s prosocial behavior. After inductive reasoning was added into the model, the standardized regression coefficient between parenting daily hassles and children’s prosocial behavior dropped from -.11 to -.07, $R^2$ change = .07, $F$ change (3, 166) = 11.51, $p < .01$, (Multiple $R^2$=.08). Sobel’s test indicated that the drop was significant, $z = -2.01$, $p < .05$, meaning that parenting daily hassles effect children’s prosocial behavior via inductive reasoning.

For testing physical punishment (see in Figure 4c), parenting daily hassles positively and significantly predicted physical punishment. Physical punishment negatively predicted children’s prosocial behavior. When physical punishment was added into the model in the second step, the standardized regression coefficient between parenting daily hassles and children’s prosocial behavior dropped from -.11 to -.06, $R^2$ change = .02, $F$ change (3, 166) = 3.87, $p > .05$, (Multiple $R^2$=.04). Furthermore, the standardized regression coefficient between physical punishment and children’s prosocial behavior dropped to nonsignificance from -.18 to -.16. Sobel’s test indicated the drop was marginally significant, $z = -1.85$, $p = .06$. Although the drop did not reach the traditional significance level in this small sample. These findings indicated that there was an indirect link between parenting daily hassles and children’s prosocial behavior through parental warmth, inductive reasoning and physical punishment.
**Gender Interaction Tests.** Gender interaction analyses were conducted to test whether gender significantly interacted with main variables (daily hassles, warmth, inductive reasoning, and physical punishment) in predicting children’s prosocial behavior. First, all of the main variables were centered in order to reduce non-essential collinearity (see Aiken & West). Second, separate regression analyses were conducted for each main variables. A set of two-steps hierarchical regression models were conducted to test the daily hassles X gender interaction effects on prosocial behavior, warmth, inductive reasoning and physical punishment: (1) to test the daily hassles X gender interaction effect on prosocial behavior, centered daily hassles and gender were entered into first step, then the daily hassles X gender interaction was entered into model in the second step, (2) to test the daily hassles X gender interaction effect on parenting behavior (warmth, inductive reasoning and physical punishment) separate regression analyses were conducted for each parenting behavior, centered daily hassles and gender were entered in first step, and then daily hassles X gender interaction was entered in the second step, (3) to test the warmth X gender interaction effect on prosocial behavior, centered daily hassles and gender were entered in the first step, then warmth X gender interaction was entered in the second step, (4) to test the inductive reasoning X gender interaction effect on prosocial behavior, centered inductive reasoning and gender were entered into first step, then inductive reasoning X gender interaction was entered in the second step, and (5) to test the physical punishment X gender interaction effect on prosocial behavior, centered physical punishment and gender were entered in the first step, then physical punishment X gender interaction was entered into model in the second step. Results indicated that there was not a significant gender interaction effect on the main variables.
CHAPTER 5: DISCUSSION

Overall, longitudinal evidence that parenting daily hassles, warmth, inductive reasoning, and physical punishment were significantly associated with Turkish children’s prosocial behaviors was found. There was a direct link between parenting daily hassles and prosocial behaviors three years later. Additionally, there was partial support for the expected indirect effect of parenting daily hassles on the children’s prosocial behaviors through parenting practices. Parents who reported relatively high levels of daily hassles were more likely to report the use of physical punishment, and less likely to report parental warmth and inductive reasoning. Parenting daily hassles indirectly influenced children’s prosocial behavior via physical punishment in three wave longitudinal model and via warmth, inductive reasoning and physical punishment in two wave longitudinal model (physical punishment marginally mediated those relations in both models). The present findings show partial support to family stress model in predicting children’s prosocial development, and extend our understanding of children’s prosocial development to a non-Western, predominantly Muslim culture.

Although links between parenting stress, parents’ daily hassles and poor or negative child outcomes have been well established in Western, non-Muslim oriented cultures (see Crnic & Low, 2002), prior research has not examined this model in a non-Western, Muslim culture. The present findings yield evidence that daily hassles may have adverse effects on Turkish children’s prosocial behavior, which suggests that children from this culture are affected by daily hassles in ways similar to children from Western, non-Muslim oriented societies (such as the U.S.). Additionally, these finding add to the growing evidence that daily hassles may negatively predict prosocial behaviors in children from collectivist-oriented cultures in way that are similar to
children from individualistic-oriented cultures. Thus, the findings lend credence to the universality of family stress models across families from different cultures.

Hypotheses one stated that parenting daily hassles at age 4 would be negatively linked with parental warmth and inductive reasoning and positively linked with physical punishment at ages 4 and 6. These hypotheses were partially supported. Consistent with the literature, parents who reported relatively high levels of daily hassles were more likely to report the use of physical punishment both concurrently and longitudinally. There were also concurrent negative links between parenting daily hassles and warmth and inductive reasoning. Perhaps the reason might be that when parents experience daily hassles, their patience, sensitivity, and responsiveness toward children may be reduced (Crnic & Low, 2002). Thus, when highly stressed parents discipline their children’s behavior, they may show less warmth and use less inductive reasoning, and more physical punishment toward their children. The findings are consistent with prior research (see Crnic & Low, 2002) that parental stress may negatively linked to positive parenting and positively linked to negative parenting practices.

Hypothesis two stated that parenting daily hassles at age 4 would be negatively associated with children’s prosocial behavior at age 6 and 7. This hypothesis was partially supported. Parenting daily hassles was a significant negative predictor of children’s prosocial behavior at the age of 7. This finding was contrary to the most relevant prior study that did not find any significant relation between daily hassles and children’s prosocial behavior among Turkish immigrant children who live in Australia (Yağmurlu & Sanson, 2009). In this latter study, the Turkish families were low SES, immigrant families who lived in Australia. Perhaps the reason for the inconsistent findings might be that in our study, the families are predominantly middle class families that live in Turkey. Immigrant families may have more stress because they
may experience acculturation stress or stress due to social class, in addition to normative family stressors. This added stress may have a more powerful effect on children’s prosocial behaviors than daily hassles and therefore overwhelmed the stress due to daily hassles. To better understand these relations, future research is needed to compare low- versus middle-SES families and immigrant versus non-immigrant families. Nonetheless, the present findings highlight the possible detrimental consequences of parenting daily hassles on the children’s prosocial behaviors.

Hypothesis three stated that physical punishment at age 6 would be negatively linked with children’s prosocial behavior at age 7. Physical punishment at age 4 would also be negatively linked with children’s prosocial behavior at age 6. These expected relations were supported. When parents use more physical punishment, their children displayed less prosocial behaviors. Physical punishment is associated with negative emotions and behavioral dysregulation, lower empathy and sympathy, and more aggression (Carlo, 2006). It might be that physical punishment increases children’s fear of punishment, and later on, fear of punishment increases children’s arousal, which might make children more self-oriented rather than other-oriented (Hoffman, 2000). These reactions and tendencies may lead children to not consider the others’ needs and act less prosocially (Eisenberg & Valiente, 2002). Alternatively, it might be that when parents use physical punishment, they are modelling aggressive behaviors (Hastings et al., 2000). Thus, physical punishment may lead children to be less prosocial and more aggressive. Another possibility is that angry parents might also model emotion dysregulation. Children who learn emotion dysregulation may have difficulties expressing prosocial behaviors (Eisenberg, 2000). Finally, scholars have noted that harsh and punitive parents might not successfully transmit moral and prosocial messages to their children. Therefore, when children
are physically punished, they learn only how not to behave but do not learn how to act prosocially to obtain their goals.

Hypotheses four and five stated that parental warmth and inductive reasoning at age 6 would each be positively associated with children’s prosocial behavior at age 7. Parental warmth and inductive reasoning at age 4 would also be each positively associated with children’s prosocial behavior at age 6. These hypotheses were supported and are consistent with previous findings (e.g. Carlo et al., 2010; Janssens & Decovic, 1997; Krevans & Gibbs, 1996; McGrath et al., 1995). These findings are consistent with the notion that warm parents are responsive and teach their children to be sensitive to other children’s needs. Parental warmth increases the sense of security and decrease self-concern, enabling the child to pay attention to others’ needs (Hoffman, 2000), thus children who have warmth parents have opportunities to display more prosocial behavior. Additionally, the use of inductive reasoning helps children consider the needs of others. Moreover, inductive reasoning helps children to understand the casual relation between acts and consequences by specifically focusing on the children’s action and the consequences of such actions (Hoffman, 2000). Thus, when children consider the consequences on others and understand the causal relations between acts and consequences, children are more likely to display more prosocial behavior.

Hypothesis six stated that mediational effect of parenting dimensions (at age 6) on the relation between parenting daily hassles (at age 4) and children’s prosocial behavior (at age 7) would be expected. Furthermore, these relations were also expected across 4 and 6 years of age. This hypothesis was partially supported. There were significant indirect effects of daily hassles on children’s prosocial behaviors through warmth and inductive reasoning in two wave longitudinal model. There was also evidence for partial mediation effects through physical
punishment in two and three wave longitudinal model that were marginally significant, perhaps because of the small sample size. These findings suggest that highly stressed parents may have difficulties regulating their emotions and behaviors, which may result in less warmth, less inductive reasoning and more use of physical punishment. These processes, in turn, might mitigate children’s prosocial behaviors.

Consistent with related previous research findings (e.g., McGinley et al., 2010), daily hassles were directly and indirectly related to children’s prosocial behaviors. Perhaps prosocial behaviors were directly and indirectly affected by hassles because some sophisticated forms of prosocial behaviors (e.g. cooperation, comforting, and sharing) require parental guidance and self-regulation skills. Interestingly, while parenting daily hassles was predicting children’s prosocial behaviors three years later, daily hassles was not predicting prosocial behaviors two years later. The possible explanation might be related with children’s development. Perhaps parents protect younger children, more than older children, from experiencing stress. Furthermore, older children may be more aware of parental stress than their younger children such that stress affects older children more than younger children. Therefore, parenting daily hassles might not be linked to children’s prosocial behavior two years later. Future research is needed to compare the effect of parenting daily hassles on the children’s prosocial behavior between younger and older children both in cross-sectional and longitudinal studies.

In light of theoretical expectations regarding gender differences in prosocial behaviors, we also examined gender effects. We expected to find girls display more prosocial behavior than boys. However, we could not detect any significant relation. These findings are not consistent with previously reported gender differences with the assertion that prosocial behaviors are more strongly socialized in girls rather than boys (Carlo et al., 2007). Additionally, we found no
gender differences in parenting practices, suggesting that parents might use similar approaches to socialize prosocial behaviors across gender. Interestingly, even though high valuing of sons and a distinction between daughters and sons are among the common parental attitudes among traditional Turkish parents, the relations among parenting daily hassles, parenting behaviors, and prosocial behaviors were found to show similar patterns across boys and girls. There can be at least four possible reasons for our inconsistent findings regarding gender differences. First, parents who participated in our study might not strongly endorse Turkish traditional parenting values. When parents may not have traditional parenting values, they do not high value of their sons and do not make a distinction between daughters and sons. We did not assess the cultural parenting values of those parents. Therefore, parents’ reports may not show significant gender differences. Second, the gender difference findings might be a function of development. Perhaps gender differences are more prominent at older ages as the effects of gender socialization practices consolidate. Third, it might be that the measures used in present study were originally developed in Western countries (e.g. United States, Australia) and there may have cultural validity limitations for use in research in non-Western countries. And fourth, because most of the previous research on prosocial behaviors has been conducted in Western countries (Eisenberg et al., 2002), it is unclear whether such gender differences should be expected in non-Western societies. Thus, more research in non-Western countries is needed to determine gender differences might be different in non-Western, collectivistic-oriented, predominantly Muslim societies than in Western, individualistic-oriented, predominantly Christian societies.

Limitations

There were several important limitations to the present study. First, the study primarily relied on mother-report measures and further studies with multiple methods will be needed to
reduce shared method variance and social desirability concerns. The current study focuses on parents’ perceptions of parenting and children’s prosocial behaviors rather than on children’s perceptions. Second, it would be useful to distinguish between both paternal and maternal practices in future studies. Third, the present sample was relatively small, homogenous middle-class sample of early childhood and not demographically diverse (e.g., SES, ethnicity). Future studies will be needed to examine the generalizability of the findings in larger, more representative and more diverse samples of children. Fourth, this study was conducted with Turkish children. It is important to note that the results cannot be generalized to other non-Western predominantly Muslim cultures. Fifth, we did not assess parents’ cultural values related with parenting practices in present study. While doing cross cultural study, it might be important to assess the cultural values. Finally, there are concerns regarding the ethnic measurement equivalence issues of the measurements used in the present study. Although previous researchers report acceptable psychometric properties for the measures, there could still be systematic assessment problems because of cultural differences since the measures were originally developed for Western cultures. Indeed, there were relatively low reliabilities for some of the measures and subscales. Thus, further refinement of the measures may be needed.

**Future Directions**

There are several important possibilities for future studies. First, future research should consider ethnic measurement equivalence issues and further measurement refinements. Second, to better understand the roles of SES and immigrant status on the proposed relations, future investigations are needed to compare low versus middle SES families and immigrant versus non-immigrant families. Third, while parenting daily hassles was predicting children’s prosocial behaviors three years later, daily hassles was not predicting prosocial behaviors two years later.
Future research is needed to compare the direct and indirect effect of parenting daily hassles on children’s prosocial behavior between younger and older children both in cross-sectional and longitudinal study designs. It may be that relations will be stronger in later childhood and adolescence as the cumulative effects of stress exposure affect children’s outcomes. Fourth, given the strong gender roles of traditional Muslim culture, future research will be needed to replicate and further our understanding of the role of gender on parenting practices and children’s prosocial behaviors.

**Implications**

The findings of the present study also have important theoretical, methodological and practical implications. First, overall, the findings lend partial support to family stress models of children’s development, and extend our understanding of children’s prosocial development in non-Western, Muslim-oriented cultures. The findings imply that the family stress model is generalizable across different cultures. Methodologically, more cross-cultural research to further test the generalizability of the family stress in other distinct cultures. Furthermore, longitudinal studies designed to examine the direction of causality and possible age-related differences in the relations between daily hassles and prosocial behaviors are needed. With regard to practical implications, further support of the family stress model will have be important to develop more effective prevention and intervention programs aimed at fostering prosocial development in children in non-Western, Muslim societies. An effective intervention program may aim to protect children from family stress, to teach parents alternative stress coping skills, to teach parents using an alternative disciplinary methods rather than physical punishment, and to teach parents to use more warmth and more inductive reasoning.
Conclusions

Despite these limitations, the findings yield overall supportive evidence for significant links of parents’ daily hassles, parental warmth, inductive reasoning, physical punishment and children’s prosocial behaviors. There was partial support for the expected indirect effect of parenting daily hassles on the children’s prosocial behaviors through parenting behaviors. Parents who reported relatively high levels of daily hassles were more likely to report the use of physical punishment, and less likely to report parental warmth and inductive reasoning. The findings are consistent with prior research that parental stress may negatively linked to positive parenting and positively linked to negative parenting practices. The present study yielded evidence on the importance of parenting stress and parenting practices in children’s prosocial behaviors.

Consistent with the family stress model, these findings are the first to suggest that parenting daily hassles as a specific form of parenting stress have direct and indirect effects on prosocial behaviors in children. These findings yield important evidence that the characteristics of the parenting daily hassles are important considerations in accounting for children’s prosocial actions. The findings are also consistent with the broader social ecological theories or models (Bronfenbrenner, 1979) that emphasize children’s behaviors can be influenced by parents’ and other family members’ stress (Crnic & Greenberg, 1990).
REFERENCES


APPENDIX

Measures used in this study

Daily Hassles Scale

1. Continually cleaning messes of toys or food.
2. Being nagged, whined at, and complained to.
3. Mealtime difficulties (picky eaters, complaining, etc.).
4. The children don’t listen, they won’t do what they are asked without being nagged.
5. Babysitters are difficult to find.
6. The children’s schedules (e.g., preschool, naps, etc.) interfere with meeting your own/the household’s needs.
7. Siblings have arguments or fights which need adult intervention.
8. The children demand that you entertain or play with them.
9. The children resist or struggle over bedtime with you.
10. The children are constantly underfoot, interfering with other chores.
11. The need to keep a constant eye on where they are and what they are doing.
12. The children interrupt conversations or interactions.
13. Having to change your plans because of an unpredicted child need.
14. The children get dirty several times a day requiring changes of clothes.
15. Difficulties getting privacy (e.g., like in the bathroom).
16. The children are hard to manage in public (store, shopping center, restaurant).
17. Difficulties in getting children ready for outings and leaving on time.
18. Difficulties in leaving children for a night out or school or daycare.
19. The children have difficulties with friends (e.g., fighting, trouble getting along, or no friends available).
20. Having to run extra errands to meet the children’s needs.

**Child Rearing Scale**

**Warmth Subscale**

1. I give my child comfort and understanding when he/she is scared or upset. [-3]
2. I express affection by hugging, kissing and holding my child.
3. I often hug or hold my child for no particular reason.
4. I prefer going places and doing things without my child.
5. I tell my child how happy he/she makes me.
6. My child and I have warm, intimate times together.
7. I enjoy listening to my child and doing things with him/her.
8. I like to hug and kiss my child.
9. I feel close to my child both when he/she is happy and when he/she is worried.
10. I joke and play with my child.

**Inductive Reasoning Subscale**

1. I explain to my child the consequences of his/her behavior.
2. I try to explain to my child why certain things are necessary.
3. I give my child reasons why rules should be obeyed.
4. I explain to my child why he/she is being punished or restricted.
5. I emphasize the reasons for rules.
6. I talk it over and reason with my child when he/she misbehaves.

**Physical Punishment Subscale**
1. I think smacking is a good way to make my child behave better.
2. I slap or hit my child to control his/her behavior.
3. I use physical punishment, e.g., smacking, for very bad behavior.
4. I believe that physical punishment is the best way to discipline my child.
5. I spank when my child is disobedient.

**Prosocial Behaviors Scale**

1. Cleans up surrounding (helping).
2. Shows another child how to do things (helping).
3. While doing something collaborate with another child (cooperation).
4. Accepts to share the toy that he is playing with or some other thing. (sharing)
5. Accepts to give or share his toy with another child who is distressed (comforting)
6. Gives the thing that he is playing with at that moment. (sharing)
7. When a child hurts himself comforts that child (comforting)
8. Cooperates with you or another child (cooperation)
9. Helps a child who is distressed (comforting)
10. If he has lots of toys or good enough toys that other children can play he will let them play with those toys (sharing)
11. Exchange his/her toys if the other child has a toy that he/she wants (sharing)
12. Help another child when there is a need for extra help (helping)
13. Shares his toys or play. (sharing)
14. If another child is scared, unhappy or afraid comforts that child. (comforting)
15. Helps you clean up surroundings (helping)
16. Hugs or kisses the unhappy child or adult (comforting)
17. Shares his/her food (sharing)
18. Says something to comfort an unhappy child or adult (comforting)
19. Helps another child or adult to clean up something spilled or dropped (Helping)
Figure 1: First conceptual model for the three wave longitudinal model

Parenting Daily Hassles Age 4  (c) -  Prosocial Behavior Age 7
(a) -  Warmth Age 6  (b) +

Parenting Daily Hassles Age 4  (c) -  Prosocial Behavior Age 7
(a) -  Inductive Reasoning Age 6  (b) +

Parenting Daily Hassles Age 4  (c) -  Prosocial Behavior Age 7
(a) +  Physical Punishment Age 6  (b) -
Figure 2: Second conceptual model for the two wave longitudinal
Figure 3: Multiple Regression Analyses for the Three Wave Longitudinal Model

a)

\[
\text{Parenting Daily Hassles} \quad \text{Age 4} \quad -0.20^* (-0.15^*) \quad \rightarrow \quad \text{Prosocial Behavior} \quad \text{Age 7}
\]

-0.14 (n.s.)

\[
\text{Warmth} \quad \text{Age 6} \quad \rightarrow \quad 0.40^{**} (0.36^{***})
\]

b)

\[
\text{Parenting Daily Hassles} \quad \text{Age 4} \quad -0.20^* (-0.17^*) \quad \rightarrow \quad \text{Prosocial Behavior} \quad \text{Age 7}
\]

-0.12 (n.s.)

\[
\text{Inductive Reasoning} \quad \text{Age 6} \quad \rightarrow \quad 0.31^{***} (0.29^{***})
\]

c)

\[
\text{Parenting Daily Hassles} \quad \text{Age 4} \quad -0.20^* (-0.17^*) \quad \rightarrow \quad \text{Prosocial Behavior} \quad \text{Age 7}
\]

\[
\text{Physical Punishment} \quad \text{Age 6} \quad \rightarrow \quad -0.21^{**} (-0.17^*)
\]

\* = p < .05, \** = p < .01, \*** = p < .001

Note: Values in parenthesis are the standardized beta coefficients for these paths after addition of parenting behaviors (warmth, inductive reasoning and physical punishment). Mothers’ education was entered as a control variable in all analysis.
Figure 4: Multiple Regression Analyses for the Two Wave Longitudinal Model

a)

Parenting Daily Hassles Age 4 ➔ -.11 (n.s.) (-.06 (n.s.)) ➔ Prosocial Behavior Age 6

- .16** ➔ Warmth Age 4 ➔ .29*** (.28***)

b)

Parenting Daily Hassles Age 4 ➔ -.11 (n.s.) (-.07 (n.s.)) ➔ Prosocial Behavior Age 6

- .15* ➔ Inductive Reasoning Age 4 ➔ .27*** (.26**)

c)

Parenting Daily Hassles Age 4 ➔ -.11 (n.s.) (-.06 (n.s.)) ➔ Prosocial Behavior Age 6

.31*** ➔ Physical Punishment Age 4 ➔ -.18* (-.16 (n.s.))

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

Note: Values in parenthesis are the standardized beta coefficients for these paths after addition of parenting behaviors (warmth, inductive reasoning and physical punishment). Mothers’ education was entered as a control variable in all analysis.
Table 1: Correlations, Mean and SD for Three Wave Longitudinal Model

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Mother’s education</td>
<td>13.81</td>
<td>3.46</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Daily Hassles age 4</td>
<td>2.17</td>
<td>.43</td>
<td>.01</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Physical Punishment age 6</td>
<td>1.52</td>
<td>.41</td>
<td>-.03</td>
<td>-.13</td>
<td>.23**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Warmth age 6</td>
<td>4.49</td>
<td>.34</td>
<td>-.12</td>
<td>.03</td>
<td>-.14</td>
<td>-.36**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Inductive Reasoning age 6</td>
<td>4.42</td>
<td>.45</td>
<td>-.06</td>
<td>.03</td>
<td>-.12</td>
<td>-.24**</td>
<td>.62**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Prosocial Behavior age 7</td>
<td>5.24</td>
<td>.84</td>
<td>-.01</td>
<td>-.20*</td>
<td>-.21**</td>
<td>.39**</td>
<td>.31**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Table 2: Correlations, Mean and SD for Two Wave Longitudinal Model

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Mother’s education</td>
<td>13.81</td>
<td>3.4</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Daily Hassles age 4</td>
<td>2.17</td>
<td>.6</td>
<td>.01</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Physical Punishment age 4</td>
<td>1.48</td>
<td>.37</td>
<td>-.02</td>
<td>-.21**</td>
<td>.31**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Warmth age 4</td>
<td>4.60</td>
<td>.29</td>
<td>-.01</td>
<td>.10</td>
<td>-.16**</td>
<td>-.23**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Inductive Reasoning age 4</td>
<td>4.49</td>
<td>.45</td>
<td>-.09</td>
<td>.13*</td>
<td>-.15*</td>
<td>-.23**</td>
<td>.52**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Prosocial Behavior age 6</td>
<td>4.93</td>
<td>.94</td>
<td>-.04</td>
<td>-.11</td>
<td>-.17*</td>
<td>.29**</td>
<td>.26**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05, **p < .01,
### Table 3: Correlations, Mean and SD for Three Wave Longitudinal Model Separate for Gender

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Mean for Boys</th>
<th>SD for Boys</th>
<th>Mean for Girls</th>
<th>SD for Girls</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mother’s education</td>
<td>13.79</td>
<td>3.57</td>
<td>13.83</td>
<td>.35</td>
<td>--</td>
<td>.07</td>
<td>-.05</td>
<td>-.12</td>
<td>-.16</td>
<td>-.01</td>
</tr>
<tr>
<td>2. Daily Hassles age 4</td>
<td>2.17</td>
<td>.42</td>
<td>2.17</td>
<td>.44</td>
<td>-.04</td>
<td>--</td>
<td>.16</td>
<td>.01</td>
<td>.04</td>
<td>-.19</td>
</tr>
<tr>
<td>3. Physical Punishment age 6</td>
<td>1.53</td>
<td>.41</td>
<td>1.51</td>
<td>.42</td>
<td>-.19</td>
<td>.28*</td>
<td>--</td>
<td>-.33**</td>
<td>-.12</td>
<td>-.20.</td>
</tr>
<tr>
<td>4. Warmth age 6</td>
<td>4.53</td>
<td>.30</td>
<td>4.45</td>
<td>.38</td>
<td>-.18</td>
<td>-.25*</td>
<td>-.40**</td>
<td>--</td>
<td>.60**</td>
<td>.39**</td>
</tr>
<tr>
<td>5. Inductive Reasoning age 6</td>
<td>4.44</td>
<td>.42</td>
<td>4.39</td>
<td>.47</td>
<td>.20</td>
<td>-.26*</td>
<td>-.36**</td>
<td>.64**</td>
<td>--</td>
<td>.27*</td>
</tr>
<tr>
<td>6. Prosocial Behavior age 7</td>
<td>5.19</td>
<td>.86</td>
<td>5.29</td>
<td>.81</td>
<td>-.03</td>
<td>-.23</td>
<td>-.22</td>
<td>.41**</td>
<td>.36**</td>
<td>--</td>
</tr>
</tbody>
</table>

*p <.05, **p <.01, bottom for girls, top for boys.

### Table 4: Correlations, Mean and SD for Two Wave Longitudinal Model Separate for Gender

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Mean for Boys</th>
<th>SD for Boys</th>
<th>Mean for Girls</th>
<th>SD for Girls</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mother’s education</td>
<td>13.79</td>
<td>3.57</td>
<td>13.83</td>
<td>3.35</td>
<td>--</td>
<td>.07</td>
<td>-.21**</td>
<td>.03</td>
<td>.12</td>
<td>-.07</td>
</tr>
<tr>
<td>2. Daily Hassles age 4</td>
<td>2.17</td>
<td>.42</td>
<td>2.17</td>
<td>.44</td>
<td>-.04</td>
<td>--</td>
<td>.26**</td>
<td>-.13</td>
<td>-.10</td>
<td>-.04</td>
</tr>
<tr>
<td>3. Physical Punishment age 4</td>
<td>1.48</td>
<td>.37</td>
<td>1.47</td>
<td>.38</td>
<td>-.20*</td>
<td>.36**</td>
<td>--</td>
<td>-.24**</td>
<td>-.22**</td>
<td>-.14</td>
</tr>
<tr>
<td>4. Warmth age 4</td>
<td>4.61</td>
<td>.28</td>
<td>4.60</td>
<td>.30</td>
<td>.17*</td>
<td>-.19</td>
<td>-.22**</td>
<td>--</td>
<td>.49**</td>
<td>.28**</td>
</tr>
<tr>
<td>5. Inductive Reasoning age 4</td>
<td>4.53</td>
<td>.41</td>
<td>4.45</td>
<td>.48</td>
<td>.13</td>
<td>-.19*</td>
<td>-.24**</td>
<td>.55**</td>
<td>--</td>
<td>.26**</td>
</tr>
<tr>
<td>6. Prosocial Behavior age 6</td>
<td>4.90</td>
<td>.97</td>
<td>4.96</td>
<td>.90</td>
<td>.01</td>
<td>-.18</td>
<td>-.20</td>
<td>.30**</td>
<td>.27*</td>
<td>--</td>
</tr>
</tbody>
</table>

*p <.05, **p <.01, bottom for girls and top for boys