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The current study examined the effect of parental monitoring on later oppositionality outcomes in the context of early relational parenting behaviors (e.g., maternal warmth and maternal intrusiveness). It was hypothesized that the direction of relation between monitoring and oppositionality would vary based on the presence of maternal warmth or maternal intrusiveness. Additional hypotheses included the examination of sex and race separately to determine whether the hypothesized associations differed for these groups. Ratings of maternal warmth and intrusiveness were obtained from observational coding at age 7. Oppositionality and parental monitoring data were obtained from maternal report. Hierarchical regression analyses indicated that monitoring predicted decreases in oppositional behavior from ages 7 to 10 for female, African American, and Caucasian groups. Additionally, intrusiveness moderated the relation between and oppositionality for males, such that lower levels of monitoring in the presence of early intrusiveness were associated with increases in oppositional behavior over time. Implications for future research examining the role of parental monitoring and relational parenting behaviors in predicting oppositionality were discussed.

PARENTAL MONITORING AND OPPOSITIONALITY IN THE CONTEXT OF EARLY PARENTING BEHAVIORS

by

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CHAPTER I

INTRODUCTION

Decades of parenting research have supported the importance of various parenting behaviors and their influence on child outcomes (e.g., Caron, Weiss, Harris, & Catron, 2006; McKee, Colletti, Rakow, Jones, & Forehand, 2008). McKee et al. (2008) cite three primary constructs to explain dimensions of parenting: warmth, hostility, and behavioral control. These may be thought of as either positive or negative, depending on whether high levels of such behaviors predict adaptive or maladaptive child outcomes.

Both warmth and behavioral control, regarded as positive parenting behaviors, have been associated with fewer maladaptive problems across child development. As early as age 2, behaviors such as maternal warmth/responsiveness and maternal overcontrol/intrusiveness have been associated with children's effortful control at age 5 (Graziano, Keane, & Calkins, 2010), which has implications for later externalizing behaviors. Additionally, greater levels of behavioral control at age 3 have been associated with decreases in behavior problems from ages 2 to 4 (Shelleby et al., 2012). Harvey and Metcalfe (2012) found that observed maternal warmth at ages 3, 4, 5, and 6 each directly predicted oppositional or defiant behavior one year later. Furthermore, maternal warmth was stable across the four-year period (Harvey & Metcalfe, 2012). Parents' supportiveness has also been related to psychological adjustment of both children and adolescents (see White & Renk, 2012). For example, van der Molen and

colleagues (2011) found that low maternal warmth was associated with increases in girls' disruptive behavior from ages 7 to 12. Pettit and colleagues (2001) found that mother-reported monitoring in late middle childhood was associated with concurrent mother-reported delinquency. Also, behavioral control, assessed in middle school, was related to antisocial behavior four years later among a large-scale, ethnically diverse sample of male and female adolescents (Barber, Stolz, & Olsen, 2005).

Hostility has been associated with increased levels of externalizing behavior and is regarded as a negative parenting behavior due to its influence upon maladaptive outcomes (see McKee et al., 2008), such as physical discipline. Maternal spanking has been associated with increases in child aggression across early childhood, from ages 1 to 5 (Lee, Altschul, & Gershoff, 2013). Psychological control may also be included within the domain of hostility and researchers have found that parents who pressure children to behave or think a certain way or who provide excessive, or non-contingent, stimulation to the child may actually undermine adaptive skills they hope to impart (Tamis-LeMonda, Briggs, McClowry, & Snow, 2009), such as independence or problem-solving skills. Maternal intrusiveness, also associated with psychological control, has been longitudinally related to toddler peer inhibition and social reticence at age 4 (Rubin, Burgess, & Hastings, 2002). Parents' psychological control in seventh grade was positively associated with children's dampened emotional functioning (Wang, Pomerantz, & Chen, 2007). Furthermore, both psychological autonomy (i.e., fostering a child's individuality and self-determination) and behavioral control were associated with

enhanced academic functioning (Wang et al., 2007), differentiating the positive and negative influences of different forms of parental control.

Externalizing Behavior

The parenting dimensions of warmth, hostility, and behavioral control have all been associated with externalizing outcomes in children (see McKee et al., 2008), both concurrently (e.g., Caron et al., 2006) and longitudinally (e.g., Feldman, 2010). Externalizing behaviors include lying, fighting, bullying, cruelty to animals, substance use, having a temper, and being stubborn (Reef, Diamantopoulou, van Meurs, Verhulst, & van der Ende, 2010). These behaviors are commonly associated with symptoms of disruptive behavior disorders in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association, 2000). Disruptive, externalizing behaviors are important to examine in childhood due to their maladaptive effects on academic and social functioning, as well as their prediction of future negative behaviors (Shaw, Keenan, & Vondra, 1994).

Oppositional behavior. Within the broader construct of externalizing behavior are oppositional or defiant behaviors, which specifically consist of manipulative, disruptive, and emotionally reactive behaviors (American Psychiatric Association, 2000). An oppositional individual is one who argues often; is disobedient at home and at school; is stubborn, sullen, or irritable; sulks or teases often; and has a reactive or explosive temper (Reef et al., 2010). Although the prevalence of oppositional behavior at clinical levels is only 10.2% (American Psychiatric Association, 2000), most children exhibit some form of oppositionality during the typical course of development (Mash & Barkley,

2003; Nock, Kazdin, Hiripi, & Kessler, 2007). Oppositional behavior that is maintained into childhood has implications for later adolescent behavior, as well as functioning in adulthood. In a longitudinal sample of males, ages 6 to 15, Nagin and Tremblay (1999) found that chronic levels of opposition predicted covert acts (e.g., theft) even when other externalizing behaviors were held constant. Furthermore, those with a chronic oppositional trajectory experienced increases in oppositional behavior from ages 12 to 14 (Nagin & Tremblay, 1999). Thus, oppositional behavior in early adolescence may have implications for later oppositional and delinquent behavior.

Research indicates that parenting behavior influences child externalizing behaviors across development. In a sampler of toddlers, child temperament and maternal controlling behavior has been related to aversive styles of noncompliance and lower levels of committed compliance (Braungart-Rieker, Garwood, & Stifter, 1997). In examining 1- and 2-year-old children's responses to maternal control, Dix and colleagues (2007) found that with age, children displayed more willing compliance, indicating that developmentally, children increase in their directly compliant behaviors. Forehand, Gardner, and Roberts (1978) provided some normative data among a sample of community mother-child pairs with children ages 3.5 to 6.5. They found that children complied with 51% of mothers' commands and possible responses to such compliance included contingent positive attention or ignoring of the compliant behavior (Forehand et al., 1978). Regarding how parental responses may influence later compliant or defiant behavior, it has been found among a sample of early adolescents that parental responses to child disclosure can affect youths' feelings of being controlled by and connected with

their parents (Tilton-Weaver et al., 2010). Additionally, parents' negative reactions to disclosure predicted increases in adolescents' secrecy and decreases in adolescent disclosure (Tilton-Weaver et al., 2010). Thus, it appears that parental control cannot be equally applied across development; at later stages, such as early adolescence, parents must combine attempts to control and shape their child's appropriate behavior with increased sensitivity and problem-solving (see Dishion & McMahon, 1998), as these skills may be less likely to foster secrecy and limited disclosure (Tilton-Weaver et al., 2010).

Oppositionality can also affect the development of positive functioning. Children who followed high-level trajectories of parent-reported opposition, as compared to other externalizing behaviors, were more likely to report social functioning impairment (Bongers, Koot, van der Ende, & Verhulst, 2008). Importantly, different predictive associations were found among the various externalizing behaviors, indicating that constructs such as oppositionality, aggression, status violations, and property violations are distinct outcomes (Bongers et al., 2008). Such outcomes can also be differentially predicted by parenting behaviors. For example, low levels of parental warmth and high levels of punitive discipline are particularly associated with greater oppositional behavior among elementary-age children (Stormshak, Bierman, McMahon, Lengua, & Conduct Problems Prevention Research Group, 2000).

Functions of Parenting

Not only are parenting behaviors characterized by their positive or negative influence on later outcomes, but parenting behaviors can also be categorized based on

function. For example, Kerr and Stattin (2003) recognize two classes of parenting behaviors: (a) relational and (b) regulatory/supervisory.

The *relational* function of parenting involves emotional warmth and responsiveness to the child's needs (Kerr & Stattin, 2003), and such behaviors have been related to adaptive child outcomes across development, e.g., early childhood and toddlerhood (Dix et al., 2007; Rubin, Hastings, Chen, Stewart, & McNichol, 1998), middle childhood and early adolescence (Aunola & Nurmi, 2004; Benson, Buehler, & Gerard, 2008), and later adolescence (Baumrind, Larzelere, & Owens, 2010; Steinberg, Lamborn, Darling, & Mounts, 1994). For example, Feldman (2010) characterized warmth as the manner in which information is delivered to a child and regarded it as a behavior that could be instructional, disciplinary, or affectionate in nature. Hostile behaviors may also serve a relational function, acting as the negative counterpart to warmth and sensitivity (Barber et al., 2005). For example, intrusiveness, a component of hostility, has been characterized as a controlling maternal style that may inhibit children's social interactions (Feldman, 2010).

The *regulatory/supervisory* function of parenting involves active regulation and supervision of the child's activities and associations (Kerr & Stattin, 2003). Such activities are analogous to behavioral control, in which parents attempt to manage their child's actions and whereabouts (Barber, 1996). Behavioral control among preschool and early childhood samples has been primarily related to the prevention of injury and insurance of safety (Dishion & McMahon, 1998). Thus, parents and caretakers across multiple studies have indicated that the need for monitoring increases with the risk in the

environment, e.g., at home, at the park, in a car (see Dishion & McMahon, 1998). Additionally, less parental monitoring was deemed necessary as child age increased (Dishion & McMahon, 1998). Dishion and McMahon (1998) proposed a developmental model of monitoring in which the associated behaviors evolve from infancy to adolescence. Specifically, monitoring at younger ages would involve such observable processes as caretaking, safety, compliance, and supervised activities. In adolescence, monitoring would involve communication and problem-solving skills so as to resolve parent-adolescent conflict, which may emerge as adolescents begin to exert their autonomy and independence (Dishion & McMahon, 1998).

The relational and regulatory functions of parenting behavior have often been studied in association with adolescent delinquency, and well-established literatures of parental monitoring and parenting styles indicate that children of parents who exhibit high levels of both relational and regulatory behaviors are less likely to be delinquent (e.g., Baumrind, 1968; Steinberg et al., 1994). In contrast, children of parents who exhibit low levels of relational and regulatory behaviors have been found to engage in greater delinquency (e.g., Dishion & McMahon, 1998; Steinberg et al., 1994). Thus, both regulatory (e.g., behavioral control) and relational (e.g., warmth and hostility) parenting behaviors are relevant in predicting child outcomes.

Regulatory Influence of Parental Monitoring

Parental monitoring, a specific component of behavioral control, involves appropriate limit-setting and an awareness and guidance of child behavior (McKee et al., 2008). And, monitoring has been found to have a significant relation with externalizing

problems (Barber, Olsen, & Shagle, 1994). High levels of control can act as a buffer against child and adolescent disruptive behaviors (Pettit, Laird, Dodge, Bates, & Criss, 2001). For example, low levels of parental control (i.e., poor monitoring) have been associated with child and adolescent externalizing symptoms, such as conduct disorder, drug use, and delinquency (see McKee et al., 2008).

Evidence for the longitudinal effects of parental monitoring can be found in the parenting styles literature. Baumrind's parenting styles examined dimensions of parenting behavior related to levels of demandingness and responsiveness (Baumrind, 2005), analogous to behavioral control and warmth, respectively. Two well-studied parenting styles that have evolved out of Baumrind's research include authoritarian parenting (i.e., high in demandingness and low in responsiveness) and authoritative parenting (i.e., high in both demandingness and responsiveness) (Baumrind, 1991a, 1991b). Authoritative parenting styles assessed in preschool were associated with higher levels of competence and emotional health in adolescence (Baumrind et al., 2010). In contrast, it was found that adolescents who had parents rated as authoritarian during preschool were notably maladjusted on dimensions such as communal and cognitive competence, individuation, and self-efficacy (Baumrind et al., 2010).

Monitoring is most often regarded as a positive parenting behavior, labeled as an adaptive form of parental control (Barber et al., 2005). Thus, it has often been associated with warm and sensitive parenting in empirical research (e.g., Barber et al., 2005; Baumrind, 2005; Dishion & McMahon, 1998; Fletcher, Steinberg, & Williams-Wheeler, 2004; Pettit et al., 2001). For example, parental control can convey to a child that parents

are interested and involved in his or her life, promoting positive adjustment (Pomerantz & Eaton, 2000). Yet, limited research shows that monitoring may predict maladaptive child outcomes if associated with less sensitive parenting or negative aspects of control (e.g., psychological control; Barber, 1996; Barber, Olsen, & Shagle, 1994).

Barber and colleagues (1994) emphasized the dual role of parental control, e.g., behavioral and psychological, asserting that developing children require both regulation (i.e., presence of behavioral control) and autonomy (i.e., lack of psychological control). For example, children require sufficient regulation in order to understand that society is governed by a set of rules and standards that they must abide by in order to function as competent citizens (Barber et al., 1994). Additionally, they require a degree of psychological autonomy so that, through social interactions, children acquire knowledge that they are effective, functioning members of society with a clear personal identity (Barber et al., 1994). This is supported by findings related to Baumrind's authoritative parenting style, in which parents apply high levels of behavioral control in the context of a warm and responsive relationship (Baumrind et al., 2010), thus, lower levels of psychological control are employed. Baumrind's research has also highlighted the negative consequences of high levels control in the absence of responsiveness, e.g. an authoritarian parent (Baumrind, 1968; Baumrind et al., 2010).

Pomerantz and Eaton (2000) also recognized the dual purposes of control. One purpose of parental control is to indicate to the child that a parent is involved and interested, but parental control may also communicate to the child that he or she is not competent, thus challenging and suppressing the child's autonomy (Pomerantz & Eaton,

2000). For example, providing homework help to a child when such help is not solicited may convey that the child is not capable of completing the task independently and needs to be regulated by the parent (Pomerantz & Eaton, 2000). In their longitudinal study of elementary-age students, Pomerantz & Eaton (2000) found evidence that, as children progressed from Grades 2 to 5, they increasingly perceived parent behaviors such as helping, monitoring, and decision-making as indicative of their own incompetence. Additionally, even when children were ultimately compliant, they reported feeling "sad or angry about being told what to do" (Pomerantz & Eaton, 2000, p. 142). Thus, although behavioral control has been associated with positive outcomes, it is necessary to consider multiple aspects of parental control and how these can affect child outcomes as early as ages 7 and 10, as well as later into adolescence. It may be the case, for example, that relational parenting behaviors moderate the association between forms of parental control and externalizing outcomes.

Relational Influences of Parenting

Aspects of parental control, such as behavioral and psychological control, serve to regulate children's behaviors, but, as previously mentioned, parenting behaviors also serve a relational function. Dimensions of relational parenting behaviors include maternal intrusiveness and maternal warmth.

Maternal intrusiveness. Maternal intrusiveness is a controlling parent-child interaction style characterized by the mother's over-stimulation of the child (Feldman, 2010), i.e., the mother is providing more stimulation for the child than the environment requires (Tamis-LeMonda et al., 2009). During intrusive interactions, mothers impose a

personal, maternal agenda, often disregarding what the child desires (Feldman, 2010). Operational definitions of intrusiveness include physical manipulation of the child's body, interruption of the child's activities or conversations, disregarding the child's signals, and parent-led interactions (Winslow, Shaw, Bruns, & Kiebler, 1995). Parent-child interactions that are abrupt or intrusive are powerful precursors for the development of maladaptive responses from children (Barber et al., 1994). In a longitudinal study by Feldman (2010) that examined mother-child relational patterns from infancy to adolescence, two groups of adaptation levels (i.e., low and high) were examined, where adaptation refers to reports of psychosocial adjustment at age 13 (see Feldman, 2010). The overall pattern of intrusiveness was a gradual decline, however, when adaptation groups were examined separately, it was found that the low adaptation group experienced an increase in observed maternal intrusiveness from ages 6 to 13. Thus, children reporting low psychosocial adjustment at age 13 experienced a different trajectory of intrusive parenting; not only were these children less likely to experience a decline in maternal intrusiveness, but also this maladaptive parenting behavior actually increased across six years of middle childhood and the transition to adolescence (Feldman, 2010). These findings indicate a significant relation between maternal intrusiveness and problem behaviors during adolescence. In Feldman's sample, there was a divergence in maternal intrusiveness between adaptation groups at age 6 (Feldman, 2010), indicating that at this developmental stage, there may be important differences in parenting behaviors that distinguish adaptive and maladaptive behavior during adolescence.

We know that high levels of regulatory parenting behaviors, such as parental monitoring, in conjuction with less sensitive parenting, such as intrusiveness, may influence maladaptive child outcomes. Some evidence for this is shown in literature examining overprotective parenting behaviors. Among adopted adolescents who were biologically predisposed towards externalizing behavior, it was found that rates of problem behaviors were highest for those adolescents who rated their mothers above the median on overprotective behaviors (Riggins-Caspers & Cadoret, 2001). Such findings support the potential negative implications of parental behavioral control. Importantly, maternal overprotection was the only proximal environmental risk factor that significantly added to an adolescent's biological risk for expressing psychopathology (Riggins-Caspers & Cadoret, 2001). Parenting literature indicates some evidence for the detrimental effects of parental monitoring behaviors, a regulatory/supervisory function of parenting, but the specific circumstances under which this is a positive or negative parenting behavior are still unclear.

Maternal warmth. Maternal warmth, one of the parenting dimensions enumerated by McKee et al. (2008), is defined by displays of physical affection, positive affect, and friendliness, as well as quality of conversation provided by the mother towards her child (Feldman, 2010; Winslow et al., 1995). Parent-child warmth has emerged as a significant predictor of child behavior across the parenting literature (MacDonald, 1992) and across development, from early childhood to adolescence (e.g., Graziano et al., 2010; Harvey & Metcalfe, 2012; van der Molen et al., 2011; White & Renk, 2012). Expressions of positive emotions, both in the home environment and

specifically in the child's presence, have been related to low levels of externalizing behavior (see Eisenberg et al., 2005). Warmth has also been associated with externalizing outcomes in longitudinal studies. In a sample that followed children from infancy through late adolescence, Olson, Bates, Sandy, and Lathier (2000) found that individual differences in levels of observed maternal warmth, supportiveness, and positive engagement as early as six months of age predicted later externalizing behaviors assessed by multiple raters. For example, lower levels of warmth and positive engagement measured at 13 to 24 months predicted greater levels of externalizing behavior at age 17 (Olson et al., 2000).

The importance of warmth in predicting child behavior may come from its role in facilitating a positive parent-child relationship across development. For example, MacDonald (1992), using social learning theory, hypothesized that a continuing relationship of warmth between parent and child would result in the child more easily (a) accepting the values of the parent, (b) identifying with the parent, and (c) engaging in a higher level of compliance to parental requests. In contrast, a lack of warmth in parenting interactions has been associated with delinquency and aggression (MacDonald, 1992). The presence of warmth in the context of behavioral control was also noted. In a review of warmth as a developmental construct, it was indicated that relatively high amounts of control are tolerated by children if these are also accompanied by parental warmth (MacDonald, 1992), further implying the moderating effect of relational parenting behaviors among regulatory parenting behaviors and child outcomes.

Developmental Considerations

The developmental stage of a child's life is important to consider in determining how parenting behaviors may influence child behaviors. For example, Dubin and Dubin (1963) named the *authority inception period*, from birth to 6 years, as the period in which children experience the exercise of their parents' authority and learn possible responses to such authority. As young as 3-5 years old, children may learn that rebellion is one response to an adult's authority (Dubin & Dubin, 1963). Thus, even in early childhood, children acquire strategies other than compliance and obedience to respond to parental demands. Literature on parenting styles demonstrates that an authoritative parent, one who combines high levels of warm and sensitive parenting with high levels of behavioral control, will promote the healthiest child outcomes (Baumrind, 1991b, 1996), such as low levels of defiance. And these findings support the implication that both relational and regulatory parenting behaviors of early childhood are important in predicting early adolescent oppositional behavior.

Regarding the period of early adolescence, Baumrind (1991a) noted the presence of a transition from childhood to adolescence, occurring from ages 10 to 15. The transition to adolescence marks the developmental stage in which individuals are navigating the move from a safe, controlled, and predictable childhood to a more autonomous, indeterminate adulthood (Baumrind, 1991a). Regulatory parenting behaviors, such as behavioral control, are particularly important during this transition, in which there is increased autonomy and independence and thus greater opportunity for individuals to engage in independent decision-making; the exertion of behavioral controls

helps prevent association with delinquent peers and engagement in risky behaviors (Dishion & McMahon, 1998; Patterson, 2002). Baumrind (1991a) suggested that in navigating the transition between life stages, adolescents are likely to resist unilateral exercises of authority, which have likely been the precedent for parental control during childhood. Thus, more sensitive parenting must be combined with behavioral control at this stage in development to promote positive adolescent adjustment.

Individual Differences of Sex and Race

Literature regarding externalizing and aggressive behaviors shows that there are differences in the presentation of such behaviors between boys and girls. For example, longitudinal analyses employing growth curve modeling techniques have found that girls' externalizing symptoms improved more over time than boys' symptoms (Capaldi, Pears, Kerr, Owen, & Kim, 2012). Among 9-year old boys who met criteria for disruptive behavior disorders, Campbell and colleagues (1996) found that teacher ratings of these children, as compared to those whose behavior improved by age 9, evidenced a pathway to persistent behavior problems beginning at age 6. These findings indicate that externalizing behaviors among boys who are already at risk in early childhood are more likely to be stable nearing the transition to adolescence. Davidov and Grusec (2006) found that maternal warmth was linked to better regulation of positive affect among boys and girls, but was linked to greater peer acceptance for boys only, suggesting different processes for how warmth helps socialize males and females. Further evidence for gender socialization has been found by Pomerantz and Ruble (1998), who showed that mothers are more likely to exert control in the presence of autonomy granting for boys,

whereas they were more likely to exert control without autonomy granting for girls. These findings indicate that controlling mothers may differentially allow for independent decision-making based on the sex of the child.

Additionally, the parenting literature supports these sex differences, as some differential effects have been found for same-sex parent-child dyads. For example, correlational analyses showed that a parent's antisocial behavior was more associated with child externalizing behavior when the parent was of the same sex; antisocial behavior of the opposite-sex parent was less correlated with child externalizing behavior (Capaldi et al., 2012). Deater-Deckard and Dodge (1997) found magnified effects between harsh discipline and externalizing behaviors when the parent and child were of the same sex. A study of African American mother-child dyads found that mothers were observed to be more empathetic, more encouraging, warmer, and less negative towards their daughters than towards their sons (Mandara, Murray, Telesford, Varner, & Richman, 2012). Barber and colleagues (2005) found that parental monitoring from the mother, as opposed to the father, was one of the most salient negative predictors of antisocial behavior in adolescence. Thus, it appears that sex is an important individual factor to consider in the processes between parenting behaviors and child outcomes.

Literature regarding ethnic or racial differences in parenting has found consistent differences between the behaviors of Caucasian and African American families. For example, research has indicated that African American families generally display greater levels of physical discipline as compared with Caucasian families (e.g., Deater-Deckard & Dodge, 1997; Dodge & Gonzales, 2009; Giles-Sims, Straus, & Sugarman, 1995),

although such behaviors are more detrimental among Caucasian participants (e.g., Deater-Deckard, Dodge, Bates, & Pettit, 1996). The lack of detrimental effects among African American families may be partially explained by research indicating that physical discipline and "no nonsense" parenting is normative among ethnic minority families (Maynard & Harding, 2010). Thus some parenting behaviors that may be regarded as having a negative influence among a homogenous majority sample may operate differently for racially diverse samples.

Additionally, studies conducted with racially diverse samples have found significantly different levels of warmth, behavioral control, and psychological control across European American and African American mothers. For example, mother-reported warmth was significantly higher among European Americans and child-reported behavioral and psychological control were greater among African Americans (Hill & Tyson, 2008). Fung and Lau (2012) examined a sample of European American and Hong Kong Chinese participants and found that psychological control was independently related to child behavior problems among European American families only, but not among Chinese participants, indicating that such components of control may not necessarily lead to negative implications among certain ethnic minority groups. Chao and Aque (2009) examined differences in adolescent perceptions and interpretations of parental control among Chinese, Korean, Filipino, and European American participants. Findings indicated that Asian immigrant adolescents reported their parents as higher on dimensions such as strictness and psychological control, but European American adolescents were more likely to report feelings of anger towards these parent behaviors

(Chao & Aque, 2009). Such differences across ethnically diverse groups indicates that parenting behaviors that are often understood to be maladaptive may operate within a different process across cultures.

The Present Study

The current study examined the interplay of specific regulatory and relational aspects of parenting in predicting later oppositional behavior in a community sample of children. The relational parenting behaviors of warmth and intrusiveness were measured at age 7 and the regulatory parenting behavior of monitoring was measured at age 10. It was hypothesized that the association between regulatory parental monitoring and early adolescent oppositionality would be moderated by earlier relational parenting behaviors. Consistent with previous literature, it was hypothesized that within the context of positive relational parenting behaviors (i.e., warmth), monitoring would be negatively associated with problem behaviors (e.g., Barber, 1996; Barber et al., 2005; McKee et al., 2008). Specifically, at high levels of warmth, higher monitoring was hypothesized to predict lower levels of oppositionality. Thus, the protective effect of monitoring would be augmented by the positive relational parenting behavior of warmth. In contrast, within the context of negative relational parenting behaviors (i.e., intrusiveness), monitoring was expected to be positively associated with negative outcomes. Specifically, at high levels of intrusiveness, higher monitoring will predict higher levels of oppositionality. Thus, when associated with a negative relational parenting behavior, monitoring was expected to exert a maladaptive influence on oppositional behavior in early adolescence. Furthermore, in order to contribute to the mixed literature that indicates sex is an

important individual factor to consider, it was hypothesized that the associations between early relational parenting behaviors, regulatory parenting behaviors, and early adolescent oppositionality may vary for males and females. Additionally, it was hypothesized that the relations may vary depending on the reported race of the family. Thus, separate analyses were conducted to test the specific effects of sex and race on the proposed models.

CHAPTER II

METHOD

Recruitment and Attrition

The current study utilized data from three cohorts of children who were part of an ongoing longitudinal study, the RIGHT Track project. The goal of recruitment for RIGHT Track participants was to obtain a sample of children who were at risk for developing future externalizing behavior problems that was representative of the surrounding community in terms of race and socioeconomic status (SES). All cohorts were recruited through child day care centers, the County Health Department, and the local Women, Infants, and Children (WIC) program. Potential participants for cohorts 1 and 2 were recruited at 2-years of age (cohort 1: 1994-1996 and cohort 2: 2000-2001) and screened using the Child Behavior Checklist (CBCL 2-3; Achenbach, 1992) completed by the mother in order to over-sample for externalizing behavior problems. Children were identified as being at risk for future externalizing behaviors if they received an externalizing T-score of 60 or above**.** Efforts were made to obtain approximately equal numbers of males and females. A total of 307 children were selected.

Cohort 3 was initially recruited when infants were 6-months of age (in 1998) for their level of frustration based on laboratory observation and parent report and these participants were followed through the toddler period (see Calkins, Dedmon, Gill, Lomax, & Johnson, 2002 for more information). Children from cohort 3 whose mother's

completed the CBCL at 2-years of age were included in the current study (n = 140). Of the entire sample (N = 447), 37% of the children were identified as being at risk for future externalizing problems. There were no significant demographic differences between cohorts with regard to sex, χ^2 (2, N = 447) = .63, p = .73, race (i.e. African American or Caucasian), χ^2 (2, N = 447) = 1.13, p = .57, or 2-year SES, F (2, 444) = .53, p = .59. Cohort 3 had a significantly lower average 2-year externalizing T-score (M = 50.36) compared to cohorts 1 and 2 (M = 54.49), t (445) = -4.32, p = .001.

Families lost to attrition included those who could not be located, who moved out of the area, which declined participation, and who did not respond to phone and letter requests to participate. There were no significant differences noted between families who have and have not participated in terms of sex, χ2 (1, N = 447) = 2.51, p = .11, race, χ 2 (3, N = 447) = 3.95, p = .27, 2-year socioeconomic status, t (432) = 0.22, p = .83 or 2-year externalizing T-score, t(445) = -.56, p = .58.

Participants

This project utilized data from participants of the RIGHT Track study at ages 7 and 10. At age 7, 308 families participated in lab-visit data collection. Of these, 6 tapes were not usable due to technical difficulties. At age 10, 346 families participated. The final sample included participants with data from both the 7- and 10-year lab visits (n = 296). T-tests were conducted to determine whether participants in the current sample differed on mean levels of study and demographic variables from those participants who were not included. Significant differences were found by sex [t(435) = -2.07, p = .04], indicating that participants in the current study were more likely to be

female than those participants who were not included (i.e., those who did not have both 7- and 10-year data).

Procedures

Prior to each assessment, families were contacted for follow-up data collection. Mother-child dyads came in to the lab and participated in several interaction tasks, which were videotaped for later coding. Mothers and children also independently completed several questionnaire measures during the lab visit.

Measures

Observational coding. Mother-child interaction tasks recorded during the 7-year lab visit were scored using global codes adapted from the Early Parenting Coding System (see Appendix D; Winslow et al., 1995). Two research assistants coded 10% of the total sample together, for all tasks. Another 10% were coded separately to assess reliability (weighted kappas for all ratings were above .70). Two coded tasks were used in the current study: 1) a *craft task*, in which mother-child dyads were instructed to create a mask together, using a grocery-sized brown paper bag, with a slot already cut for the eyes, and assorted craft materials; and 2) a *games task*, in which mother-child dyads were either given a selection of age-appropriate toys and asked to play as they normally would at home (Cohort 1; 7 min) or instructed to play a game of pick-up-sticks, with rules explained by the researcher (Cohorts 2 and 3; 7 min). These tasks were selected because their activities allowed for a broad range of relational parenting behaviors to be observed, in contrast to more structured, goal-oriented tasks.

Maternal warmth. Warmth was coded as maternal behaviors that included physical affection, quality of conversation, positive affect, and friendliness with the child. Additionally, general displays of warmth such as tone of voice and displays of closeness contributed to mothers' ratings. For each task, mothers were rated from low to high warmth on a 4-point likert scale (1 = None, 2 = A little, 3 = Some, 4 = A lot), with sum scores across two observational tasks (e.g., craft and games) ranging from 2 to 8.

Maternal intrusiveness. Intrusiveness assesses the degree to which the mother attempts to direct the task and prevents the activity from being child-centered and was coded regardless of the child's response to the parent's behavior. Examples of coded behaviors include not deferring to the child's expressed desires, giving unnecessary commands, physically manipulating or restricting the child, and preventing the child from attempting tasks by doing it for him or her. For each task, mothers were given a rating on a 4-point likert scale (1 = Not at all, 2 = A little, 3 = Somewhat, 4 = Intrusive) and ratings were summed across the two observational tasks to yield a maternal intrusiveness score, ranging from 2 to 8.

Parental monitoring. Mother report of monitoring was assessed using a subscale from the Alabama Parenting Questionnaire (APQ; Shelton, Frick, & Wootton, 1996). The APQ is a 42-item scale designed to assess several important aspects of parenting practices related to children's disruptive behaviors, including parental involvement, monitoring/supervision, use of positive parenting techniques, inconsistency in discipline, and harsh discipline. The current study utilized the Poor Monitoring/Supervision subscale (10 items), which assessed parental knowledge of child's activities, supervision

at home, and communication between parent and child when leaving the home (see Appendix A). Mothers rated the typical frequency of behaviors in the home on a 5-point likert scale (1 = Never, 2 = Almost never, 3 = Sometimes, 4 = Often, 5 = Always). Sample items included: "child fails to leave note or to let you know where he/she is going," "you don't check that your child comes home at the time he/she was supposed to," and "your child comes home from school more than an hour past the time you expect him/her." Mothers' ratings of items were reverse-coded so that higher scores indicated more adaptive levels of monitoring and supervision. Ratings were averaged across items to yield a monitoring score, ranging from 1 to 5. Internal consistency for the measure in the current sample (Cronbach's alpha = .55) was similar to that established by the measure authors (Shelton et al., 1996).

Child oppositionality. Ratings of oppositional behavior at age 10 were obtained from mother report on the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004). The BASC-2 is composed of 160 items that assess a range of child behaviors. At age 10, mothers assessed the frequency of behaviors over the past several months by rating items on a 4-point likert scale (1 = Never, 2 = Sometimes, 3 = Often, 4 = Always). The BASC-2 yields composite scores, e.g., externalizing and internalizing problems, as well as specific subscales, e.g., attention problems and anxiety. In order to assess oppositional and defiant behavior specifically, individual items were selected based on diagnostic descriptors of oppositional defiant disorder from the *DSM-IV-TR* (American Psychiatric Association, 2000). From behavioral subscales such as aggression and conduct problems, 11 items were selected to

measure oppositionality: easily annoyed, disobeys, argues with parents, listens to directions (reversed), breaks rules, argues when denied own way, annoys others on purpose, seeks revenge, loses temper easily, breaks rules just to see what happens, and stubborn (see Appendix C; Reynolds & Kamphaus, 2004). For each participant, mothers' responses were summed to yield a total early adolescent oppositionality score, ranging from 11 to 44, with higher scores indicating higher overall levels of oppositional and defiant behavior. Internal consistency was established in the current sample (Cronbach's alpha = .85).

Early oppositionality, at age 7, was also assessed and used as a covariate in the current study. To measure early oppositionality, items were selected from mother report of child behavior on the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992), which similarly assesses child behaviors on a 4-point likert scale. Seven items were selected from the Parent Report Scale: listens (reversed), throws tantrums, argues with parents, gets easily frustrated, lies to get out of trouble, complains about rules, and argues when denied own way (see Appendix B; Reynolds & Kamphaus, 1992). Mothers' ratings were summed to yield an early oppositionality score, ranging from 7 to 28. Internal consistency was established in the current sample (Cronbach's alpha = .80).

CHAPTER III

RESULTS

Preliminary Analyses

The data was first imputed to account for missing values using the missing value analysis (MVA) technique in SPSS. Little's (see Appendix B; Reynolds & Kamphaus, 1992) missing completely at random (MCAR) showed a Chi-Square = 924.69 (p = .001; df = 798), indicating that the data were systematically missing. As previously mentioned, it was found that participants in the current study were more likely to be female than those participants who were not included in the current sample. An expectation-maximization (EM) algorithm was then used to generate values to fill in all the missing data.

Preliminary analyses included examining skewness and kurtosis values to determine normality of the study variables (see Table 1). All skewness values were between -3 and 3 and thus the variables were determined to be normally distributed. Although variables were normally distributed, it was noted that among the current sample there was a restricted range of reporting on parental monitoring. When descriptives were examined, the range of scores for the monitoring scale was restricted, with no parents reporting low levels of monitoring (M = 4.72, Range = 1-5) (see Table 1). About 23% of parents reported levels of monitoring at greater than one standard deviation above

the mean (M = 4.72, SD = 0.28). Only 16% of the sample reported lower monitoring behaviors, i.e., average monitoring scores lower than one standard deviation below the mean. Although the possible average scores ranged from 1 to 5, the lowest score reported was 3.50. Thus, participants in the current sample reported a restricted range of monitoring, overall.

Correlational analyses were conducted with all study variables (Table 2). As expected, early oppositionality was significantly correlated with oppositionality at age 10 (r = .68, p < .001), and thus was included in all future analyses as a covariate. Furthermore, including early oppositionality allowed for the assessment of increases in oppositional behavior across the three-year span. Socioeconomic status (SES) at age 7 was not correlated with oppositionality at age 10 and so it was not included as a covariate, although SES was correlated with concurrent parenting behaviors (see Table 2). Maternal warmth and maternal intrusiveness were negatively correlated (r = -.27, p < .001), such that higher levels of warmth were associated with less intrusive parenting behaviors and vice versa, although the magnitude of this association was small. Maternal warmth was also negatively associated with early oppositionality (r = -.13, p = .024). Finally, parental monitoring was negatively associated with oppositionality at age 7 (r = -.28, p = .001) and oppositionality at age 10 (r = -.31, p < .001), indicating that greater levels of parental monitoring were associated with lower oppositional behaviors at both ages.

Regression Data Analyses

Regression models examining warmth and monitoring. To test the hypothesis that children whose mothers' exhibited high levels of warmth and high levels of monitoring will exhibit lower levels of later oppositionality, a hierarchical regression analysis was conducted. Early oppositionality was entered in the first step, in order to assess changes in oppositional behavior. Additionally, the contrasting early parenting behavior of interest (i.e., maternal intrusiveness) was entered in the first step to account for the fact that parenting behaviors do not occur in isolation (Little & Rubin, 2002). In the second step, maternal warmth and parental monitoring were entered in order to test main effects. The interaction of maternal warmth X parental monitoring, calculated using methods recommended by Aiken and West (Caron et al., 2006), was entered in the third step. Table 3 shows the beta weights and significance for each step in the warmth model. Early oppositionality, explained nearly half the variance in oppositionality at age 10. Neither maternal warmth nor maternal intrusiveness were significant predictors of changes in oppositional behavior from ages 7 to 10, although parental monitoring was a negative predictor of the outcome, $t(291) = -2.85$, $p = .005$. No support for the hypothesis that maternal warmth would moderate the relation between parental monitoring and early adolescent oppositionality was found [R^2 change = .006; F-change$(1, 290) = 3.12$, $p = .08$].

Regression models examining intrusiveness and monitoring. To test the hypothesis that high levels of early maternal intrusiveness and high levels of parental monitoring predict greater levels of later oppositionality, a hierarchical regression

analysis was conducted, parallel to the model testing maternal warmth. The covariates of early oppositionality and early parenting (i.e., maternal warmth) were entered in the first step. Table 4 shows the beta weights and significance for each step. The hypothesis that maternal intrusiveness moderates the relation between parental monitoring and early adolescent oppositionality was also not supported [R^2 change = .003; *F*-change(1, 290) = 1.94, *p* = .17]. The results did indicate, however, a direct effect for monitoring, such that change in oppositionality from ages 7 to 10 is lower when monitoring behaviors are higher, *t*(291) = -2.85, *p* = .005.

Models Separated By Sex

To test the hypothesis that the process among positive relational parenting behaviors, behavioral control, and later externalizing behaviors differs between males (n = 133) and females (n = 163), the previous regression models were run separately for males and females.

Preliminary analyses. Descriptive statistics separated by sex are provided in Table 5. All skewness values were between -3 and 3 and thus the variables were determined to be normally distributed for both males and females. One-way analyses of variance (ANOVAs) were conducted to test for differences on study variables between males and females (see Table 6). Males had significantly higher levels of parent-reported early oppositionality than females [*F*(1, 294) = 4.89, *p* = .028], although no sex differences were found for 10-year oppositionality. Differences in the levels of observed maternal warmth were marginally significant [*F*(1, 294) = 3.23, *p* = .069], suggesting that males experienced patterns of greater warmth than females at age 7.

Correlational analyses were also conducted separately for males and females (Table 7). Socioeconomic status was positively correlated with maternal warmth and negatively correlated with maternal intrusiveness for both males and females (see Table 7). Early oppositionality was highly correlated with later oppositionality for both sexes (females: $r = .71$, $p < .001$; males: $r = .63$, $p < .001$). Early oppositionality was negatively correlated with parental monitoring at age 10 for both males ($r = -.21$, $p = .02$) and females ($r = -.33$, $p < .001$). The same pattern was present for the association between parental monitoring and oppositionality at age 10, which were significantly correlated for both males ($r = -.20$, $p = .02$) and females ($r = -.39$, $p < .001$). Maternal warmth and maternal intrusiveness were negatively correlated for both males ($r = -.22$, $p = .01$) and females ($r = -.31$, $p < .001$), such that greater levels of warmth at age 7 were associated with lower levels of concurrent intrusiveness.

However, not all patterns of correlations were similar between males and females. Early oppositionality was significantly related to maternal warmth at age 7 among males ($r = -.19$, $p = .03$) but not among females ($r = -.12$, $p = .14$). Additionally, maternal warmth was negatively associated with oppositionality at age 10 among males ($r = -.20$, $p = .02$), but warmth was not associated with later oppositionality for females ($r = .02$, $p = .78$).

Regression models examining warmth and monitoring. The previous warmth and monitoring model was run separately for males and females. Given that race was another demographic characteristic of interest, it was entered as a covariate in analyses examining the separate processes of sex such that any differences found could be

explained above and beyond the effect of racial differences. Hierarchical regression methods parallel that of the previous models, with early oppositionality, early parenting (i.e., maternal intrusiveness), and race being entered as covariates into the first step. Tables 8 and 9 show the beta weights and significance for each step in the warmth models for males and females, respectively.

As expected, oppositionality at 7-year was a significant predictor of later oppositionality for both males [$t(129) = 9.22$, $p < .001$] and females [$t(159) = 12.55$, $p < .001$]. The overall model explained 11% more variance for the increases in female oppositionality than male oppositionality across the three-year period. Parental monitoring was a significant predictor of changes in oppositionality from ages 7 to 10 for females [$t(157) = -2.79$, $p = .01$], but not for males. Furthermore, maternal warmth exerted a marginally significant effect for females, $t(157) = 1.90$, $p = .06$. Warmth did not moderate the relation between parental monitoring and oppositionality for either males [R^2 change = .012; F-change(1, 126) = 2.72, $p = .10$] or females [R^2 change = .003; F-change(1, 156) = 0.96, $p = .33$].

Regression models examining intrusiveness and monitoring. The covariates of early oppositionality, early parenting (i.e., maternal warmth), and race were entered into the first step of the hierarchical regression and all subsequent steps were run parallel to previously described models. Tables 10 and 11 show the beta weights and significance for each step in the intrusiveness models for males and females, respectively. Early oppositionality was a significant positive predictor of later oppositional behavior at age 10 for both males [$t(129) = 8.98$, $p < .001$] and females [$t(159) = 12.84$, $p < .001$], and

again, the model explained 10% more variance in the change in oppositionality from ages 7 to 10 for females. Maternal warmth was not a significant predictor of male oppositionality. However, warmth was marginally associated with female changes in oppositionality across the developmental period [$t(159) = 1.89$, $p = .06$]. Neither maternal intrusiveness nor parental monitoring exerted a main effect for males within this model, although parental monitoring was a significant predictor of increases in female oppositionality, $t(157) = -2.79$, $p = .01$. Early intrusiveness significantly moderated the relation between monitoring and increases in oppositional behavior among males [R^2 change = .018; F-change(1, 126) = 4.01, $p = .05$], but not females [R^2 change < .001; F-change(1, 156) = 0.05, $p = .83$].

To further probe the interaction for males, simple slopes analyses were conducted to determine if the slope plotted was significantly different from zero using Preacher's online tool for assessing two-way interactions (1991). The minimum and maximum observed values of intrusiveness and monitoring among males (see Table 5) were entered to determine high and low levels of the interaction variables. Analyses revealed that the lines representing children whose mothers expressed low levels of intrusiveness ($b = -4.42$, $p = .02$) and high levels of intrusiveness ($b = -18.88$, $p = .03$) were significantly different from zero. The steep negative slope associated with high levels of intrusiveness indicates that in the context of a highly intrusive mother, increases in monitoring predict greater overall decreases in oppositional behavior. Low levels of intrusiveness are associated with less steep decreases in oppositionality. Figure 1 shows

plotted slopes for high and low values of parental monitoring in the presence of early intrusiveness.

Models Separated By Race

Preliminary analyses. To examine the potential differences among racial groups in the current sample, separate analyses were conducted, beginning with descriptive statistics (Table 12). All variables among the groups were determined to be normally distributed, as skewness values were between -3 and 3. Participants were identified as Caucasian (n = 199), African American (n = 83) or of mixed origin (n = 14) through parent report. The mixed origin group was excluded from the following analyses due to its low sample size.

One-way ANOVA results revealed significant differences across all study variables except parental monitoring (see Table 6), indicating that Caucasian and African American parents did not differ on their levels of reported monitoring at age 10. It was found that mean level of socioeconomic status (SES) among Caucasian families at age 7 was significantly higher than SES for African American families (Mean difference = 8.72, $p < .001$). Thus, SES was entered as a covariate in the following regression analyses. There was a significant difference between Caucasian and African American families on early oppositionality (Mean difference = 1.39, $p = .002$), indicating that Caucasian participants reported higher levels of oppositionality at age 7 than African American participants. There were also significant differences on the observational coding scales, such that Caucasian mothers were rated as higher on mean levels of warmth than African American mothers (Mean difference = 0.36, $p = .05$) and African American mothers were

rated as higher on mean levels of intrusiveness than Caucasian mothers (Mean difference = 0.51, $p < .001$).

Correlational analyses were conducted separately for Caucasian and African American participants (Table 13). Socioeconomic status at age 7 was positively related to maternal warmth among both groups, although this relation was low and only marginally significant for Caucasian families ($r = .14$, $p = .06$) and was small for African American families ($r = .26$, $p = .02$). For both Caucasian and African American participants, early oppositionality was highly correlated with oppositionality at age 10 (African Americans: $r = .72$, $p < .001$; Caucasian: $r = .62$, $p < .001$). Early oppositionality was also related to maternal warmth at age 7, but only among African American participants ($r = -.24$, $p = .03$). Both measures of oppositionality were related to parental monitoring at age 10 (see Table 13). There was a significant small correlation between early maternal warmth and maternal intrusiveness for both Caucasian ($r = -.19$, $p = .01$) and African American ($r = -.24$, $p = .03$) participants.

Regression models examining warmth and monitoring. The following regression models separated by Caucasian and African American participants included sex as a covariate in order to predict differences in parenting processes above and beyond those explained by sex. Additionally, early oppositionality, socioeconomic status, and early parenting (i.e., maternal intrusiveness) were entered in the first step, and the remaining steps for the models were parallel to those previously described. Tables 14 and 15 show the beta weights and significance for each step in the warmth models separated by Caucasian and African American participants. Early oppositionality was a

significant predictor of oppositionality at age 10 for both Caucasian [$t(185) = 10.68$, $p < .001$] and African American [$t(76) = 8.74$, $p < .001$] participants. Additionally, the model accounted for 13% more variance in the prediction of oppositionality at age 10 among African American participants than Caucasians. There were no significant main effects found for either early relational parenting behavior, i.e., warmth and intrusiveness. Parental monitoring at age 10 was a significant predictor of change in oppositionality from ages 7 to 10 for both Caucasians [$t(183) = -2.76$, $p = .01$] and African Americans [$t(74) = -2.20$, $p = .03$]. Furthermore, the interaction between warmth and monitoring was marginally significant for Caucasian participants [R^2 change = .011; F-change(1, 182) = 3.61, $p = .06$], but not among African Americans [R^2 change = .004; F-change(1, 73) = 0.73, $p = .40$].

To further probe the interaction of warmth and monitoring for Caucasian participants, simple slopes analyses were conducted, using Preacher's online tool for assessing two-way interactions (Preacher, Curran, & Bauer, 2006). The minimum and maximum observed values of warmth and monitoring among Caucasians (see Table 12) were entered to determine high and low levels of the interaction variables. Given the significance level of the results among Caucasian participants, the moderating influence of warmth is interpreted with caution. Analyses revealed that the lines representing children whose mothers expressed low levels of warmth ($b = -4.90$, $p < .01$) and high levels of warmth ($b = -12.96$, $p = .02$) were significantly different from zero. The negative slopes associated with both high and low levels of the moderator indicate that in the context of both high and low warmth, monitoring predicts decreases in oppositional

behavior from ages 7 to 10. Though, children who experienced high levels of warmth were reported to express greater decreases in oppositional behavior as monitoring increased (see Figure 2).

Regression models examining intrusiveness and monitoring. Sex, early oppositionality, socioeconomic status, and early parenting (i.e., maternal warmth) were entered in the first step, and the remaining steps for the models were parallel to those previously described. Tables 16 and 17 show the beta weights and significance for each step in the intrusiveness models separated by race. Early oppositionality was a significant predictor for both Caucasian [$t(185) = 10.75$, $p < .001$] and African American [$t(76) = 8.79$, $p < .001$] participants. No main effects were present for early relational parenting behaviors, but parental monitoring did exert a significant negative association, predicting change in oppositional behavior from ages 7 to 10 among both Caucasian [$t(183) = -2.76$, $p = .01$] and African American participants [$t(74) = -2.20$, $p = .03$]. Intrusiveness did not moderate the relation between parental monitoring and later oppositionality for either Caucasian [R^2 change = .001; F-change(1, 182) = 0.29, $p = .59$] or African American [R^2 change = .009;
F-change(1, 73) = 1.54, $p = .22$] participants. Overall, the full model for African Americans explained 15% more variance than the same model among Caucasian participants and accounted for more than 50% of the variance in changes in oppositional behavior from ages 7 to 10 (see Tables 16 and 17).

CHAPTER IV

DISCUSSION

The purpose of the current study was to contribute to the literature regarding the influence of parental monitoring on oppositional behavior. The unique contribution of this study was to examine whether relational parenting behaviors moderated the effects of monitoring, which was construed as a regulatory behavior, on oppositional outcomes. Furthermore, race and sex differences were examined, given that the literature outlines the importance of differential parenting practices in predicting optimal outcomes for these groups.

Findings of the current study confirm that parental monitoring exerts a direct protective effect on increases in oppositional behavior from ages 7 to 10, after accounting for both early relational parenting behaviors and early oppositionality. Parental monitoring predicted decreases in oppositionality from ages 7 to 10 for female, African American, and Caucasian groups. These findings are consistent with the literature describing parental monitoring as a form of behavioral control that is understood to be a protective factor for child externalizing behavior (Preacher et al., 2006). As such, the hypotheses regarding the main effects of regulatory parenting behaviors were confirmed.

The results of the current study did not support the hypothesis regarding direct effects for early relational parenting behaviors of maternal warmth and maternal intrusiveness among the full sample, although warmth was a marginally significant

predictor of changes in oppositional behavior for females, even after accounting for early child behavior. This indicates that positive aspects of mothers' relational parenting behaviors, such as warmth and sensitivity, are more influential in preventing female oppositionality. This could be accounted for by differences between male and female socialization, or it may also be related to the effects of same-sex parent-child dyads (Barber et al., 2005; McKee et al., 2008; Pettit et al., 2001). Furthermore, correlational differences for relational parenting behaviors were present between racial groups: warmth was associated with lower levels of early oppositional behavior among African American participants, but the same association was not present for Caucasian participants. This can be interpreted to reflect that during middle childhood, there are racial differences between how positive relational parenting behaviors are related to oppositional behavior. Ethnic minority parenting literature indicates that though minority parents may use more harsh discipline as compared to Caucasian parents, in the context of warmth and responsiveness, these typically maladaptive parenting behaviors are not as detrimental (Davidov & Grusec, 2006; Maccoby, 2003; Menaghan, 2003), and so warmth may be particularly important in preventing externalizing behaviors among this sample. Among Caucasian participants, it may be the case that warmth is not specifically associated with oppositionality, but rather with a broad range of behavior or emotional difficulties (Deater-Deckard, Ivy, & Petrill, 2006), and that behavioral control or parental monitoring is a more direct influence upon lower externalizing behavior problems (McKee et al., 2008).

In the current study, early maternal intrusiveness moderated the relation between parental monitoring and changes in oppositional behavior for males, such that high levels of intrusiveness predicted steep decreases in oppositional behavior as monitoring increased. Low levels of intrusiveness were associated with higher overall levels of oppositional behavior and a less steep decrease in these behaviors from ages 7 to 10. Although this finding is in contrast to the hypothesized association that high intrusiveness and high monitoring would together exert maladaptive effects, it is informative in suggesting that, for males, high regulatory behaviors, even in the presence of a highly intrusive mother, decrease oppositional behavior during the transition to adolescence. Overall, these findings support the research that suggests that high levels of behavioral control predict greater levels of adaptive functioning, e.g., Baumrind's authoritarian parenting style (Caron et al., 2006), and is a salient protective factor within the child's environment (Baumrind, 1968, 1991a; Baumrind et al., 2010).

There was also a marginally significant moderating effect of warmth among Caucasian participants. Further analyses revealed that among Caucasian participants, higher levels of monitoring in the presence of high warmth were associated with more steep decreases in oppositional behavior from ages 7 to 10. The combination of high warmth and high monitoring was associated with lower levels of oppositional behavior than the combination of high warmth and low monitoring, supporting the parenting style literature which indicates that authoritative parenting styles (e.g., high demandingness and high responsiveness) are most adaptive (Riggins-Caspers & Cadoret, 2001).

It is important to cast these results in a developmental framework that considers the task young people are faced with as they transition from childhood to early adolescence. Parental monitoring was assessed during the transition to adolescence, also known as early adolescence, which is regarded as occurring from ages 10 to 15 (Baumrind, 1966, 1968; Baumrind et al., 2010). Regulatory parenting behaviors such as monitoring are particularly important in the transition to adolescence, during which there is increased autonomy and independence, providing more opportunity for children to engage in maladaptive behaviors. Although it is understood that children develop autonomy as they transition to adolescence, without certain freedoms such as the ability to drive, there is a ceiling on the level of independence children may have from parents, i.e., a certain amount of disclosure between parent and child appears necessary in order for a child to participate in academic, extracurricular, and social environments. Thus, the variability in regulatory parent behaviors like monitoring may be limited during this time and it may be the case that the hypothesized moderating affects with monitoring and intrusiveness were not captured because of the limited range reported by the current sample. As noted by Dishion and McMahon (Baumrind, 1991a), the issue of parental monitoring is likely to vary with developmental status of the child and thus, measurement should be adjusted accordingly. In the current study, the measure of monitoring included items that may have been less salient to the middle childhood period, which likely contributed to parents' limited report of low levels of monitoring behavior. Also, the relational parenting behaviors coded at age 7 sought to capture early parenting behaviors that may influence early adolescent outcomes, although how these behaviors were

operationalized may have been mismatched with the developmental period in which oppositionality was examined. For example, intrusiveness was operationalized as assessing mostly physical actions and behaviors of the parent. It may not have captured more subtle intrusive actions, such as verbal statements, which may be a more relevant parenting behavior during this developmental period.

Although the literature provides evidence for the direct effect of maternal warmth on externalizing behaviors (1998), this finding was not replicated in the current study. It is possible that no main effects were evidenced in part because early oppositionality accounted for a large portion of the variance in the outcome, i.e., 10-year oppositionality. In the current study, changes in oppositional behavior from ages 7 to 10 were examined so that predictors would account for oppositional behavior above and beyond early levels of child behavior. Additional information may be derived from a cross-sectional design, assessing parenting behaviors and child outcomes at concurrent time points, as these concurrent parenting behaviors may be more influential than early, foundational parenting behaviors.

The current study sought to examine *specific* relational parenting behaviors (e.g., maternal warmth), although these could also be assessed more broadly (e.g., including responsiveness and sensitivity). Additionally, it may be the case that although relatively stable parenting behaviors, like warmth (e.g., Barber et al., 2005), remain influential throughout childhood, the impact of these effects may differ across developmental periods. For example, warmth may be associated with less oppositional or defiant

behavior in early childhood, and with less delinquency and risk-taking behavior during adolescence (e.g., MacDonald, 1992).

Additionally, levels of parenting behaviors may change across developmental periods, and this change may be more influential than stability in parenting behavior. For example, some longitudinal studies of emotional and behavioral problems have found that changes in relational parenting behaviors, rather than stable trajectories, were associated with the development of maladaptive adolescent behaviors (Forehand & Jones, 2002).

Regarding the direct effects of intrusiveness, limited research suggests that intrusiveness and overprotection may influence greater opposition or defiance from children (e.g., Feldman, 2010). Similar hypotheses are supported by the parenting styles literature and the negative effects of an authoritarian parent (Pomerantz & Eaton, 2000; Riggins-Caspers & Cadoret, 2001). Thus, it was expected that intrusiveness would significantly predict maladaptive child behavior, but no main effect was found in the current sample. The lack of findings may be explained by the externalizing nature of the current study. Although authoritarian parenting styles have been associated with externalizing behaviors (e.g., Baumrind et al., 2010) and include components of parental control, previous literature has associated psychological control with internalizing outcomes, as well (e.g., Heller, Baker, Henker, & Hinshaw, 1996; Prinzie, van der Sluis, de Haan, & Deković, 2010; Querido, Warner, & Eyberg, 2002; Thompson, Hollis, & Richards, 2003; Williams et al., 2009). Additionally, intrusiveness is one aspect of psychological control that was assessed in the current study. It may be the case that

broader operationalization and measurement of negative relational parenting behaviors could have accounted for greater variance in the changes in oppositionality. Negative verbal statements towards children are often characterized as hostility, a well-understood negative parenting behavior (see McKee, 2008). The question of whether intrusiveness is a similar behavior to hostility or whether these parenting behaviors have distinct effects remains to be explored. Studies with adolescents often use adolescent-report to assess parenting behaviors, such as intrusiveness or psychological control (e.g., Benson et al., 2008), but further study is needed to better operationalize these behaviors for observational coding across development. As previously mentioned with regard to warmth, these parenting behaviors may look different across development as well as have different salience for child behaviors. Thus, the effects of relational parenting behaviors may have been better captured had these been measured during the preschool age, as responsive parenting has been associated with later compliance during this period (Parpal & Maccoby, 1985).

Limitations and Future Directions

Certain limitations were present in the current study, including aforementioned measurement difficulties. The range of monitoring behaviors reported in the current sample was restricted due to the majority of parents rating their behaviors at high levels of monitoring. Thus, the sample did not as adequately capture low levels of monitoring, which may have affected the ability to discriminate between low and high levels of monitoring. Also, it should be noted that within the current sample, a large amount of variance was accounted for by the initial levels of oppositional behavior at age 7.

Specifically, early oppositional behavior accounted for 38 to 52% of the variance in changes in oppositionality across the multiple models examined. Thus, limited variance remained to be predicted by the variables of interest and the hypothesized interaction terms.

Additionally, appropriate measurement of monitoring behaviors has been a relevant discussion in recent literature. For example, Kerr and Stattin suggest that there are differences between parental knowledge and adolescent disclosure and that these may differentially predict behavioral outcomes (see Benson et al., 2008). Thus a measure to capture both aspects of this behavior may have produced different findings. In the current study, monitoring was assessed using a subscale from a measure intended to assess multiple facets of parenting behavior (Kerr & Stattin, 2000; Stattin & Kerr, 2000). All the items on the Poor Monitoring/Supervision subscale from the APQ were negatively valenced, thus the measure may have led to a particular way of describing monitoring (i.e., in terms of maladaptive parent behavior) and also may have affected maternal report. Future studies may employ more nuanced measurement of monitoring, e.g., child or adolescent report of behavioral control and assessing multiple dimensions such as parental knowledge and child disclosure.

Also important in future studies is considering the developmentally salient construct of growing autonomy and independence for early adolescents. Parental monitoring was not as variable as hypothesized during the phase of early adolescence examined in the current study, given the emerging developmental transition. It may be the case that at the particular developmental period assessed in this study, monitoring is

more related to activities such as completion of homework and friend selection, rather than behaviors generally assessed by parental monitoring scales, e.g., knowledge of child's evening whereabouts, knowledge of child's independent decisions, child's accountability for returning home at curfew. Thus, the longitudinal design of the current study could be extended to include an older sample and replicate similar models to assess whether monitoring exerts the hypothesized maladaptive effects in the presence of high intrusiveness among older adolescents.

Although racially diverse research assistants coded the relational parenting behaviors of warmth and intrusiveness at age 7, a limitation of the current study includes the lack of African American coders. Literature suggests that there may be an association between the race of the coder, the race of the participant, and the levels of parenting behavior observed. For example, in a study that compared the ratings of ethnically-matched versus ethnically dissimilar coders who were rating African American families, analyses revealed that African American coders rated mothers as less controlling and rated the overall interaction as less conflictual than did non-African American coders (Gonzales, Cauce, & Mason, 1996). Furthermore, ratings of African American coders were more consistent with the mothers' and adolescents' perceptions of their own behavior than were those ratings provided by non-African American coders (Gonzales et al., 1996). Future research can incorporate coders of the same race background as that of participants, if possible, so that training and reliability are conducted with cultural considerations.

Additionally, as previously mentioned, future studies could incorporate adolescent report of parental monitoring as well as adolescent self-report of oppositional behaviors. Research has found that discordance between parent and adolescent report of behavioral problems has been associated with conduct disorder symptoms and the quality of the parent-child relationship (APQ; Shelton et al., 1996), suggesting that there is merit in comparing the assessment of multiple reporters. Baumrind (Maurizi, Gershoff, & Aber, 2012) acknowledged the concept of a neglecting disengaged parenting style, in which a parent is low in demandingness and responsiveness and was generally indifferent towards the child. Regarding parent report of early adolescent oppositionality, it may be the case that neglecting parents are broadly unaware of their children's activities, behaviors, and feelings and thus would not be adequate reporters of the adolescent's behavior. Future research that includes concurrent parent and adolescent report would allow for the study of how highly correlated parent and child perceptions of both individuals' behaviors are and would allow for differential prediction of maladaptive outcomes, by reporter. It has also been suggested that parents may reduce their monitoring behaviors in response to high oppositionality (2005), thus, parental report of behavioral control may be associated with and affected by their responses to prior instances of oppositionality. Racz and McMahon (see Dishion & McMahon, 1998) similarly noted, in their review of parental monitoring and its relationship with child and adolescent conduct problems, that parents and children influence each other in a dynamic, bidirectional manner and these interactions are important to consider by assessing child and parent effects simultaneously.

As noted, positive relational parenting behaviors were operationalized as maternal warmth in the current study, but these may also be conceptualized more broadly to include parents' responsiveness and sensitivity (2011). Future research could include multiple dimensions of positive relational parenting behaviors to examine whether these are independent predictors of later oppositionality and whether one dimension is a more salient predictor. Similarly, observed intrusiveness, one component of psychological control, was measured in the current study as an aspect of negative relational parenting behaviors. But psychological control or hostility can also include derogatory verbal commands, inconsistent discipline, or lack of autonomy granting (Feldman, 2010; McKee et al., 2008; Pettit, Bates, & Dodge, 1997). Future studies may attempt to employ a wider range of coding methods in order to capture multiple dimensions of psychological control or even more specific behaviors related to intrusiveness. For example, frequency coding could be employed to assess for the number of verbal commands the parent directs towards the child, the number of child-directed activities or comments that the parent ignores or redirects, and the number of physically intrusive behaviors the parent engages in.

An additional area of further study in this domain would be to consider individual factors of both the parent and child. Factors that may be important to understanding child behavior as it is predicted by regulatory and relational parenting behaviors include emotion regulation skills. Emotion regulation has been posited as one mechanism for the association between warmth and lower externalizing behaviors (e.g., Barber et al., 2005; Benson et al., 2008; McKee et al., 2008). That is, children of warm, positive parents

develop better coping strategies and emotional control and thus exhibit fewer externalizing behavior problems. Further more, these children may be less likely to experience negative emotion or display aggressive, defiant behavior (e.g., Eisenberg et al., 2005). It may be the case that children who are unable to regulate their negative emotions, such as feeling sad or angry due to parental control, may retaliate with oppositional or defiant behavior. Thus, future studies that employ examination of differences in emotion regulation may help explain why high levels of warmth and monitoring did not lead to lower levels of oppositionality during early adolescence for the current sample. Furthermore, differences in emotion regulation by sex may help to explain why there was a marginally significant effect for warmth among females in the current sample but not among males; perhaps emotion regulation mediates the relation differently between sexes. Additionally, a further limitation of the current study was that the sample was limited to exploring same-sex dyad interactions for only mothers and daughters. Future studies could include similar models with the measurement of father behaviors in order to further assess the affects of sex on the hypothesized models.

Understanding how various parenting behaviors change over time may also be fundamental in identifying behaviors that are salient at different developmental transitions. For example, the current study examined early parenting behaviors at one time point with the hypothesis that this context would be relatively stable at age 10, when later parenting behaviors and child outcomes were measured. Future studies may directly assess for the stability of such parenting behaviors, e.g., measuring maternal warmth and intrusiveness across multiple time points. It may be the case that changes in stability are

predictive of child behavior, rather than just the level of behavior at a particular period of measurement. Longitudinal examination of parenting behavior stability would also allow for the prediction of child behavior trajectories, e.g., whether certain patterns of change in parenting behaviors predict particular problem behaviors among children and adolescents.

In conclusion, the current study noted important associations between early relational parenting and changes in oppositional behavior from ages 7 to 10, as well, as associations between concurrent regulatory parenting behaviors and early adolescent oppositionality. It should be noted, however, that the majority of oppositional behavior during the transition to adolescence was predicted by initial levels of oppositional behavior from early childhood. The primary hypothesis of interest—whether parenting behaviors would interact and produce an overprotective style that led to greater oppositionality—was not supported, but results from the current study establish important initial relations. The associations established by the current study can be used to expand our knowledge of how relational and regulatory parenting behaviors influence early adolescent oppositionality.

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APPENDIX A

ALABAMA PARENTING QUESTIONNAIRE

Alabama Parenting Questionnaire

Ratings:
1 = Never
2 = Almost Never
3 = Often
4 = Almost Always
5 = Always

Poor Monitoring/Supervision Subscale

6. Your child fails to leave a note or to let you know where he/she is going.
10. Your child stays out in the evening past the time he/she is supposed to be home.
17. Your child is out with friends you do not know.
19. Your child goes out without a set time to be home.
21. Your child is out after dark without an adult with him/her.
24. You get so busy that you forget where your child is and what he/she is doing.
28. You don't check that your child comes home from school when he/she is supposed to.
29. You don't tell your child where you are going.
30. Your child comes home from school more than an hour past the time you expect him/her.
32. Your child is at home without adult supervision.

APPENDIX B

BEHAVIORAL ASSESSMENT SYSTEM FOR CHILDREN

Behavioral Assessment System for Children, BASC (7-year)

Ratings:
1 = Never
2 = Sometimes
3 = Often
4 = Always

7 items to measure oppositionality/defiance

4.	Listens (reversed)
30.	Throws tantrums
49.	Argues with parents
54.	Gets easily frustrated
76.	Lies to get out of trouble
84.	Complains about rules
118.	Argues when denied own way

APPENDIX C

BEHAVIORAL ASSESSMENT SYSTEM FOR CHILDREN, SECOND EDITION

Behavioral Assessment System for Children, Second Edition, BASC-2 (10-year)

Ratings:
1 = Never
2 = Sometimes
3 = Often
4 = Always

11 items to measure oppositionality/defiance

7.	Easily annoyed
15.	Disobeys
40.	Argues with parents
41.	Listens to directions (reversed)
47.	Breaks rules
56.	Argues when denied own way
72.	Annoys others on purpose
88.	Seeks revenge
90.	Loses temper easily
125.	Breaks rules just to see what happens
142.	Stubborn

APPENDIX D

GLOBAL CODING OF MOTHER-CHILD INTERACTION

Global Coding of Mother-Child Interaction (7-year)

Parent Warmth

Warmth includes general warmth between the child and the parent and positive affect expressed by the parent through tone of voice and facial expressions. Focus on the parent's actions and displays of warmth, not the child's (avoid paying too much attention to the child's behavior). Included are displays of closeness, friendliness, encouragement, positive affect (smiling at the child, laughing with them), and interest in the task. Physical affection and quality of the conversation also is important. It is important to keep in mind that while you are rating the parent's behavior, you are rating the quality of the interaction. In other words, general laughter not specific to the interaction, focused on the task, should not be considered in this rating.

1) **None:** No warmth, parent expressed no positive emotion when communicating with child; parent's emotional expression was neutral or negative; parent ignores the child, not engaged with child and/or makes negative comments to the child
2) **A little:** Not warm, a few times parent expressed positive emotion but otherwise was affectively neutral or negative with the child; the parent does not initiate contact (verbal or physical) with the child
3) **Some:** Somewhat warm, parent expressed positive emotion almost as often as neutral or negative affect was expressed with the child
4) **A lot:** Warm, parent expressed positive emotion more often than not with the child; parent is engaged with the child for much of the time, general relationship is characterized by warmth

Parent Intrusiveness

Overall, how intrusive was the parent during the task? Intrusiveness includes: giving commands unnecessarily, physically manipulating/restricting child, preventing child from attempting task(s) by doing it for the child. Consider these behaviors intrusive regardless of the child's behavior.

1) **Not at all:** Not intrusive, although parent may have helped or directed the child when needed
2) **A little:** A few instances of intrusiveness

3) **Somewhat:** Parent was intrusive on several occasions
4) **Intrusive:** Consistently intrusive; parent's interaction style seemed to be characterized by intrusiveness

APPENDIX E

TABLES AND FIGURES

Table 1

Means and Standard Deviations of Primary Measures and Demographic Variables

Variable	Mean	SD	Min.	Max.	Variance	Kurtosis	Skewness
Hollingshead at age 7	45.10	11.93	9.00	66.00	142.23	-0.12	-0.55
Early Oppositionality	12.78	3.12	7.00	23.00	9.77	0.39	0.51
Maternal Warmth	5.48	1.18	2.00	8.00	1.39	-0.12	0.28
Maternal Intrusiveness	2.85	0.93	1.58	8.00	0.86	3.27	1.42
Parental Monitoring	4.72	0.28	3.50	5.00	0.08	1.86	-1.30
Oppositionality at age 10	18.46	4.45	11.00	36.00	19.83	1.58	0.97

Table 2

Correlation Coefficients for Independent and Dependent Scale Variables

Measure	1	2	3	4	5	6
1. Hollingshead Score at age 7	--					
2. Early Oppositionality	-.01	--				
3. Maternal Warmth	.22**	-.13*	--			
4. Maternal Intrusiveness	-.25**	-.02	-.27**	--		
5. Parental Monitoring	.03	-.28**	-.02	-.05	--	
6. Oppositionality at age 10	-.04	.68**	-.06	.02	-.31**	--

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

Table 3

Maternal Warmth and Parental Monitoring Regressed on Oppositionality at Age 10

Variable	β	R^2	ΔR^2
Step 1		.47**	
Early Oppositionality	.68**		
Maternal Intrusiveness	.03		
Step 2			.02**
Maternal Warmth	.03		
Parental Monitoring	-.13**		
Step 3			.01
Warmth X Monitoring	-.08		

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

Table 4

Maternal Intrusiveness and Parental Monitoring Regressed on Oppositionality at Age 10

Variable	β	R^2	ΔR^2
Step 1		.465**	
Early Oppositionality	.69**		
Maternal Warmth	.03		
Step 2			.016**
Maternal Intrusiveness	.03		
Parental Monitoring	-.13**		
Step 3			.003
Intrusiveness X Monitoring	-.06		

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

Table 5

Means and Standard Deviations of Primary Measures, by Sex

	Males (N = 133)						
	Mean	Min.	Max.	Std. Dev.	Var.	Kurtosis	Skewness
Hollingshead Score at age 7	45.81	14.00	66.00	11.29	127.49	0.37	-0.57
Early Oppositionality	13.22	7.00	23.00	3.04	9.24	0.75	0.56
Maternal Warmth	5.62	2.00	8.00	1.15	1.33	0.14	0.27
Maternal Intrusiveness	2.87	1.58	8.00	0.96	0.93	5.23	1.67
Parental Monitoring	4.69	3.50	5.00	0.27	0.07	3.03	-1.46
Oppositionality at age 10	18.90	11.00	36.00	4.29	18.41	3.01	1.17
	Females (N = 163)						
	Mean	Min.	Max.	Std. Dev.	Var.	Kurtosis	Skewness
Hollingshead Score at age 7	44.54	9.00	66.00	12.41	154.05	-0.40	-0.52
Early Oppositionality	12.42	7.00	23.00	3.16	9.96	0.21	0.52
Maternal Warmth	5.37	3.00	8.00	1.19	1.42	-0.26	0.32
Maternal Intrusiveness	2.84	1.76	6.00	0.90	0.81	1.26	1.18
Parental Monitoring	4.74	3.70	5.00	0.28	0.08	1.16	-1.24
Oppositionality at age 10	18.09	11.00	33.00	4.56	20.82	0.74	0.89

Table 6

Summary of ANOVA for Sex and Race Groups

	Differences by Sex		
	df	F	*p*-value
Hollingshead Score at age 7	1	0.80	0.373
Early Oppositionality	1	4.89	0.028
Maternal Warmth	1	3.32	0.069
Maternal Intrusiveness	1	0.10	0.749
Parental Monitoring	1	2.26	0.134
Oppositionality at age 10	1	2.40	0.122

	Differences by Race		
	df	F	*p*-value
Hollingshead Score at age 7	2	19.03	< 0.001
Early Oppositionality	2	10.37	< 0.001
Maternal Warmth	2	3.14	0.045
Maternal Intrusiveness	2	11.30	< 0.001
Parental Monitoring	2	1.82	0.164
Oppositionality at age 10	2	9.58	< 0.001

Table 7

Correlation Coefficients for Independent and Dependent Scale Variables, by Sex

Measure	1	2	3	4	5	6
1. Hollingshead at Age 7	--	-.02	.20*	-.25**	.08	.03
2. Early Oppositionality	-.02	--	-.19*	-.07	-.21*	.63**
3. Maternal Warmth	.23**	-.12	--	-.22**	.02	-.20*
4. Maternal Intrusiveness	-.25**	.01	-.31**	--	-.07	-.07
5. Parental Monitoring	.01	-.33**	-.03	-.03	--	-.20*
6. Oppositionality at Age 10	-.09	.71**	.02	.02	-.39**	--

Note. Correlations for males are provided above the diagonal and females are below the diagonal. *$p < .05$, **$p < .01$.

Table 8

Maternal Warmth and Parental Monitoring Regressed on Male Oppositionality at Age 10

Variable	β	R^2	ΔR^2
Step 1		.41**	
Race	.09		
Early Oppositionality	.63**		
Maternal Intrusiveness	-.01		
Step 2			.01
Maternal Warmth	-.07		
Parental Monitoring	-.08		
Step 3			.01
Warmth X Monitoring	-.11		

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

Table 9

Maternal Warmth and Parental Monitoring Regressed on Female Oppositionality at Age 10

Variable	β	R^2	ΔR^2
Step 1		.507**	
Race	-.04		
Early Oppositionality	.71**		
Maternal Intrusiveness	.02		
Step 2			.036**
Maternal Warmth	.11†		
Parental Monitoring	-.16**		
Step 3			.003
Warmth X Monitoring	-.05		

*Note. *p < .05, **p < .01, †p < .06*

Table 10

Maternal Intrusiveness and Parental Monitoring Regressed on Male Oppositionality at Age 10

Variable	β	R^2	ΔR^2
Step 1		.42**	
Race	.08		
Early Oppositionality	.62**		
Maternal Warmth	-.07		
Step 2			.01
Maternal Intrusiveness	-.01		
Parental Monitoring	-.08		
Step 3			.02*
Intrusiveness X Monitoring	-.14*		

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

Table 11

Maternal Intrusiveness and Parental Monitoring Regressed on Female Oppositionality at Age 10

Variable	β	R^2	ΔR^2
Step 1		.52**	
Race	-.03		
Early Oppositionality	.72**		
Maternal Warmth	.11†		
Step 2			.03**
Maternal Intrusiveness	.05		
Parental Monitoring	-.16**		
Step 3			< .001
Intrusiveness X Monitoring	.01		

*Note. *p < .05, **p < .01, †p < .06*

Table 12

Means and Standard Deviations of Primary Measures, by Race

	Caucasians (N = 199)						
	Mean	Min.	Max.	Std. Dev.	Var.	Kurtosis	Skewness
Hollingshead Score at age 7	47.98	15.00	66.00	10.78	116.11	0.29	-0.69
Early Oppositionality	13.07	7.00	23.00	2.92	8.51	0.70	0.62
Maternal Warmth	5.60	3.00	8.00	1.18	1.39	-0.40	0.31
Maternal Intrusiveness	2.68	1.58	6.00	0.78	0.61	2.01	1.30
Parental Monitoring	4.71	3.70	5.00	0.28	0.08	1.25	-1.16
Oppositionality at age 10	18.77	11.00	33.00	3.93	15.44	1.30	0.81

	African American (N = 83)						
	Mean	Min.	Max.	Std. Dev.	Var.	Kurtosis	Skewness
Hollingshead Score at age 7	39.26	9.00	63.00	11.83	140.04	-0.39	-0.31
Early Oppositionality	11.69	7.00	21.00	3.20	10.22	-0.29	0.46
Maternal Warmth	5.24	3.00	8.00	1.07	1.14	0.59	0.59
Maternal Intrusiveness	3.19	1.76	6.00	0.98	0.97	-0.29	0.56
Parental Monitoring	4.72	3.50	5.00	0.29	0.08	3.31	-1.55
Oppositionality at age 10	17.09	11.00	31.00	4.60	21.11	0.89	1.01

Table 13

Correlation Coefficients for Independent and Dependent Scale Variables, by Race

Measure	1	2	3	4	5	6
1. Hollingshead Score at age 7	--	-.05	.14†	-.10	.05	-.05
2. Early Oppositionality	-.09	--	-.09	-.01	-.34**	.62**
3. Maternal Warmth	.26*	-.24*	--	-.19**	-.06	-.02
4. Maternal Intrusiveness	-.16	.01	-.24*	--	-.02	-.02
5. Parental Monitoring	.10	-.34**	.13	-.19	--	-.34**
6. Oppositionality at age 10	-.10	.72**	-.10	.08	-.42**	--

Note. Correlations for Caucasian participants are provided above the diagonal and African American participants are below the diagonal. *$p < .05$, **$p < .01$, †$p < .06$.

Table 14

Maternal Warmth and Parental Monitoring Regressed on Oppositionality at Age 10, among Caucasian Participants

Variable	β	R^2	ΔR^2
Step 1		.384**	
Sex	.02		
Hollingshead at Age 7	-.02		
Early Oppositionality	.62**		
Maternal Intrusiveness	-.03		
Step 2			.027**
Maternal Warmth	.03		
Parental Monitoring	-.17**		
Step 3			.011†
Warmth X Monitoring	-.11†		

*Note. *p < .05, **p < .01, †p < .06*

Table 15

Maternal Warmth and Parental Monitoring Regressed on Oppositionality at Age 10, among African American Participants

Variable	β	R^2	ΔR^2
Step 1		.516**	
Sex	-.03		
Hollingshead at Age 7	-.02		
Early Oppositionality	.71**		
Maternal Intrusiveness	.07		
Step 2			.040*
Maternal Warmth	.12		
Parental Monitoring	-.18*		
Step 3			.004
Warmth X Monitoring	-.08		

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

Table 16

Maternal Intrusiveness and Parental Monitoring Regressed on Oppositionality at Age 10, among Caucasian Participants

Variable	β	R^2	ΔR^2
Step 1		.386**	
Sex	.02		
Hollingshead at Age 7	-.02		
Early Oppositionality	.62**		
Maternal Warmth	.05		
Step 2			.025*
Maternal Intrusiveness	-.03		
Parental Monitoring	-.17**		
Step 3			.001
Intrusiveness X Monitoring	.03		

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

Table 17

Maternal Intrusiveness and Parental Monitoring Regressed on Oppositionality at Age 10, among African American Participants

Variable	β	R^2	ΔR^2
Step 1		.520**	
Sex	-.03		
Hollingshead at Age 7	-.06		
Early Oppositionality	.73**		
Maternal Warmth	.10		
Step 2			.036†
Maternal Intrusiveness	.06		
Parental Monitoring	-.18*		
Step 3			.009
Intrusiveness X Monitoring	-.11		

*Note. *p < .05, **p < .01, †p < .06*

Figure 1. Interaction of Maternal Intrusiveness and Parental Monitoring Predicting Oppositional Behavior among Males

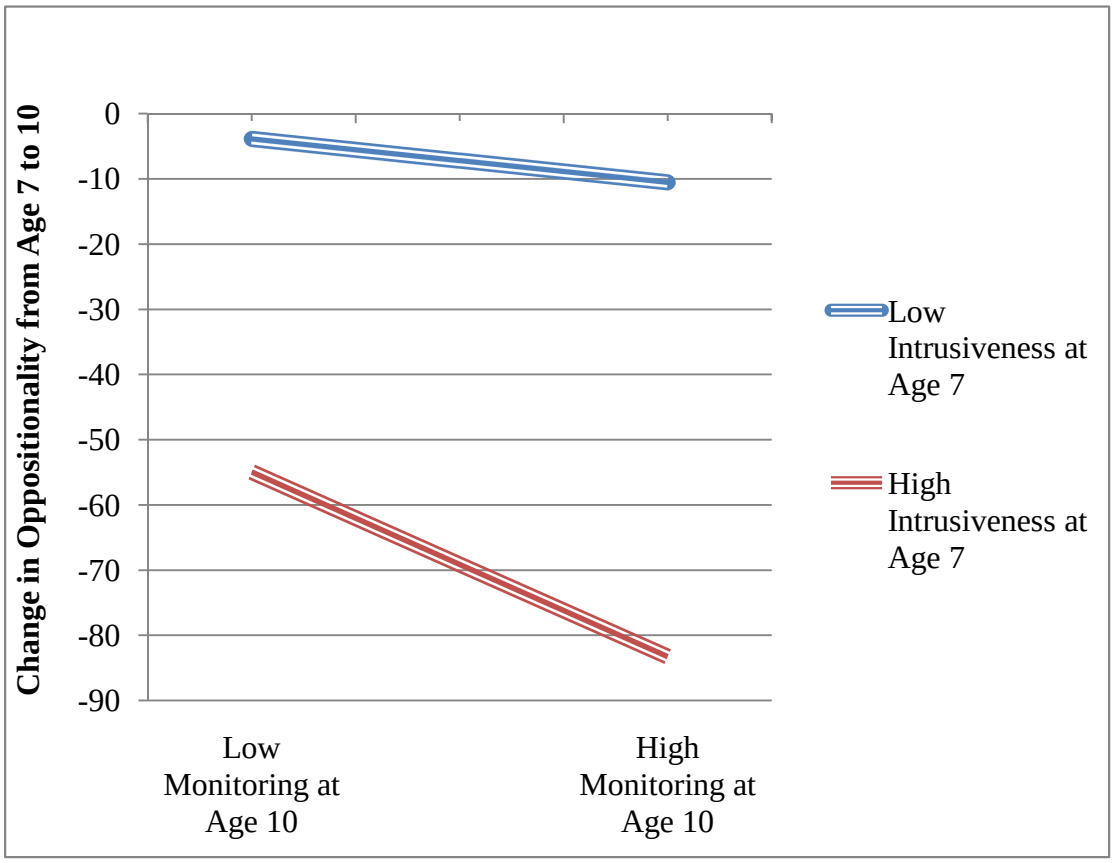

Figure 2. Interaction of Maternal Warmth and Parental Monitoring Predicting Oppositional Behavior among Caucasian Participants