EFFECTS OF FAMILY ROUTINES AND FAMILY STRESS ON

CHILD COMPETENCIES

A Dissertation

by

CRYSTAL RENEÉ HILL

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2006

Major Subject: School Psychology

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Approved by:

Chair of Committee,	Jan N. Hughes
Committee Members,	Michael J. Ash
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ABSTRACT

Effects of Family Routines and Family Stress on Child Competencies.

(August 2006)

Crystal Reneé Hill, B.A., Francis Marion University;

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The current study had two purposes. The first purpose was to examine the association between family rules and routines and first grade children's teacher-rated and peer-rated behavioral competencies (e.g., emotional symptoms, conduct problems, peer problems, hyperactivity, and prosocial behavior) after controlling for both family stressors (i.e., single parent home, mobility, socioeconomic status, property ownership) and child ethnicity (African American, Caucasian, Hispanic). The second purpose was to determine if child regulatory control abilities mediates the effects of family rules and routines and children's behavioral competencies.

The parents of 215 ethnically diverse children (38%, Caucasian, 22% African American, 33% Hispanic, 7% Other) were interviewed in their homes with a modified and shortened version of Family Routines Inventory (FRI; Jensen, James, Boyce, & Hartnett, 1983). Teachers completed the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), and peers completed a modified version of the Class Play (Masten, Morison & Pelligrini, 1985). Scores from the SDQ were standardized and combined with the standardized scores obtained from the peer nominations to create composites of

the behavioral competencies. Additionally, teachers completed a modified version of the California Child Q-set (CCQ) (Block & Block, 1980) as a measure of these children's regulatory control abilities.

African American parents' ratings of their family's rules and routines were higher than those of Hispanic and Caucasian parents' ratings. Additionally, family stressors were positively associated with higher teacher and peer ratings of conduct problems and lower ratings of prosocial behavior. Neither ethnicity nor family rules and routines predicted child competencies. A statistically significant curvilinear relationship was found between family rules and routines and conduct problems such that children of parents reporting the highest and lowest levels of family rules and routines have more conduct problems. No associations were found between family rules and routines and child competencies or children's regulatory control abilities. Limitations of the study are discussed in terms of inadequate measurement of family rules and routines, a defensive response set, self-selection on the part of the parents to participate in the interview, and a sample that is not representative of the community of parents and children in the participating schools.

DEDICATION

For my parents, Harold and Nancy Hill

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I would first like to thank Dr. Jan Hughes, my dissertation advisor, for the opportunity to collaborate with her in research. To the members of my dissertation committee, Dr. Michael J. Ash, Dr. Robert W. Heffer, and Dr. Bruce Thompson, thank you for taking the time out of your busy schedules to answer my questions and guide me through this daunting process. Finally, I would like to extend my sincerest appreciation to the "Achieve Team" for all their hard work and dedication on the project. Without all of these people, this product would not have been possible. It is a great honor to have known and worked with all of you.

I would also like to acknowledge my husband. David, your willingness to follow me and let me pursue my dreams was invaluable. I know it was not easy leaving your family and friends, and putting your own dreams on hold so that I could pursue mine. I want you to know that your sacrifice will always be appreciated.

Finally, I would like to extend my deepest gratitude to my family and all of my friends for all their support and constant encouragement. Without you, my dreams may not have been fully realized. Mom and Dad, I thank you for rearing me with the motivation to help others and also the desire to make the world a better place. I also thank you for taking the time to instill the values of both education and faith, and knowing on which value to rely in any given situation. In my opinion, you are great parents to be emulated. I love and admire you both.

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INTRODUCTION AND LITERATURE REVIEW

There is compelling evidence that a child's early home environment is related to the child's externalizing behaviors at school entrance (National Institute of Child Health and Human Development Early Child Care Research Network (NICHD), 2003). The aspect of a child's home environment that is most consistently related to externalizing behaviors is harsh and inconsistent parenting (Pettit, Bates, & Dodge, 1997). In studies in the United States, this relationship has been found across ethnicities and among all socioeconomic levels (Deater-Deckard, 2000; Deater-Deckard, Dodge, Bates, & Pettit, 1998; Dodge, Pettit, & Bates, 1994; NICHD, 2003; Pettit, Bates, & Dodge, 1997). Although this aspect of the home environment has been studied extensively, other aspects of the home environment that may impact children's behavioral competencies at school entrance are less well understood. Of particular interest to this study is the degree to which the home provides a structured and predictable environment.

Family Rules and Routines and Child Adjustment

Although fewer studies have examined the role of family rules and routines on children's externalizing problems at school entrance (Becker-Klein, 2003; Fiese & Marjinsky, 1999), several studies have found that children from homes that have a moderate level of structure and routines adjust better in the early school years (Becker-Klein, 2003; Britto, Fuligni, & Brooks-Gunn, 2002). Additionally, better child health (Boyce et al., 1977; Fiese & Wamboldt, 2003a; Fiese & Wamboldt, 2003b; Fiese, Wamboldt, & Anbar, 2005) and overall higher levels of child regulatory control (Fiese,

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This dissertation follows the style of *School Psychology Quarterly.*

Tomcho, Douglas, Josephs, Poltrock, & Baker, 2002) have been found in children whose families have established daily routines.

Externalizing Problems and Overall Child Adjustment

Several studies have examined the role of family rules and routines on children's externalizing problems at school entrance. Using data from the Family Narrative Consortium, Fiese and Marjinsky (1999) hypothesized that more congruence (as an indicator of family stability) and more coherent family narratives (as an indicator of family organization) would be associated with fewer behavior problems in children. Their sample consisted of 50 primarily Caucasian, middle-class to upper class, two-parent families with children ranging from ages five to seven. Indeed, children in families in which family narratives were less coherent had more behavior problems. In addition, in families where there was little congruence between the husband and wife's narratives, children had more behavior problems.

Becker-Klein (2003) also examined the effects of family rules and routines (as measured by the Family Routines Inventory) on children's externalizing behavior longitudinally from kindergarten to third grade. Using a sample of children taken from the National Head Start/Public School Demonstration Project, Becker-Klein found that unpredictable family routines significantly predicted both lower levels of cooperation and higher levels of antisocial behaviors. Both of these studies indicate that family rules and routines are associated with child externalizing problems in early childhood.

A moderate level of structure and routines helps children adjust better in the early school years according to the research conducted by Britto et al. (2002). Using data from

the Commonwealth Fund Survey of Families with Young Children, the authors examined the frequency with which parents of young children engaged in shared book reading, daily routines (bed, nap, and meal time), and nurturing activities such as hugging and cuddling. From this data they concluded that only about one half of parents with children aged one year or older engaged in shared book reading, and maintained daily routines, but those that did have children who later experienced school readiness and school success. Dubas and Gerris (2002) also have shown this effect. Their work, while examining the types of routine activity in families over time, found that when families engaged in more shared activities, they experienced less conflict 5 years later.

Child Health

The earliest known study of the effects of family routines on child health was conducted by Boyce et al. (1977). Boyce et al. hypothesized that the predictability of daily routines would determine the pattern of respiratory illness in 58 children that ranged from 1 to 11 years of age (mean = 4.3 years). Indeed, they found that in families where more routines were present there were fewer respiratory illnesses and those that occurred were shorter in duration.

Further work by Fiese, Wamboldt, and colleagues (2000, 2003a, 2003b, 2005) continues to indicate that there is an association between family routines and child health. In their studies on the management of children's asthma, they found that family routines helped to minimize the burden of asthma management. Their research also shows that family routines appear to follow a developmental course. That is, in when children are first diagnosed with an illness, family routines are often disorganized and

family rules are often inflexible. However, over time as families become more familiar with and accustomed to the child's illness, the family routines become more organized and the implementation of rules becomes more flexible. In addition, it appears that family routines might protect family members from stresses associated with the chronic illness.

Major Shortcomings in Current Research on Family Rules and Routines

Although studies have shown that the implementation of structure in the home in the form of family rules and routines is associated with fewer externalizing problems, several limitations of the research on family rules and routines makes it difficult to reach definitive conclusions regarding their role in promoting children's competencies. Challenges that need to be dealt with in this literature are inconsistent definitions, inadequate measures, and a disregard for cultural differences in family interactions. In addition, inadequate attention has been focused on identifying the mechanisms by which family rules and routines affect children's behavioral development.

Inconsistent Definitions of Family Rules and Routines

A major difficulty in integrating the current literature on family rules and routines is that researchers have defined family rules and routines in various ways. In addition, distinguishing between family routines and family rituals has proven difficult. Fiese et al. (2002), attempts to make this distinction: "Routines typically involve instrumental communication conveying information that 'this is what needs to be done'. Routines involve a momentary time commitment and once the act is completed, there is little, if any, afterthought. Routines are repeated over time and recognized by continuity

in behavior (p. 382)." Jensen, James, Boyce, and Hartnett (1983) defined routines as "observable, repetitive behaviors which involve two or more family members and which occur with predictable regularity in the day-to-day and week-to-week life of the family." Fiese and Wamboldt (2000) describe routines as "the observable behaviors involved in bringing the family together as a group such as the assignment of roles and the regularity of the routine (p. 406)." In sum, the aspects that all of the above definitions of family rules and routines have in common are that families provide clear expectations for family members' behaviors and predictability in children's lives. Using definitions such as these, researchers have pondered whether routines serve a protective role for children (Brody & Flor, 1997; Elder & Capsi, 1988; Slater & Power, 1987; Taylor, 1996). The definition of family rules and routines that will be used in this study is the structuring of children's time so that there is predictability and are clear expectations for children's behavior.

Insufficient Measures of Family Rules and Routines

Since the early work of Bossard and Boll (1950), researchers have attempted to quantify family rules and routines. However, the majority of the early literature is qualitative in nature. The quantitative instruments employed to study family rules and routines are not well developed and are subject to poor internal consistency and poor predictive validity (Bossard & Boll, 1950; Wolin, Bennett, & Jacobs, 1988; Wolin, Bennett, Noonan, & Teitelbaum, 1980). Among the methods employed to assess family rules and routines are questionnaires, interviews, and observation.

Wolin, Bennett, and their colleagues (1980; 1988) developed an interview measure of family rituals and family routines. They pioneered the use of interviews to help identify the specific aspects of the family ritual that appeared to guard married children of alcoholics from becoming alcoholics themselves. Fiese and Kline (1993) have adapted parts of this measure into a 56-item, forced choice questionnaire called the Family Ritual Questionnaire (FRQ). This questionnaire focuses on six family ritual settings (e.g., dinner, weekend, vacation, annual, special, religious) and seven family ritual dimensions (e.g., occur, role, routine, attend, affect, symbol continue), but does not specifically focus on the development of rules and the consistency in their application.

Another method that has been used to assess family rules and routines is the family narrative (Fiese & Sameroff, 1999). This method asks an individual to talk about his/her life experiences and is similar to asking someone to describe an event like they would if writing an autobiography. Although this method allows the researcher to examine family interaction patterns, marital satisfaction, and child adjustment, it places more emphasis on the adaptation of the individual and the meaning an individual places on family events rather than on quantifying the presence of routines or rituals. Although each method has been shown to have adequate reliability and validity, these methods were not used due to the fact that they focused primarily on distinctive dinner and holiday routines where the emphasis is on meaning attached to the ritual or routine, not on the presence of daily routines such as chores, television viewing, and homework on which this research is focused.

The most commonly used measure in the literature is the Family Routines Inventory (FRI; Jensen et al., 1983). This measure is the earliest known attempt in creating a standardized instrument for measuring specific family rituals, rules, and routines for pre-school and school-age children. The authors define family rules and routines by saying "Family routines are observable, repetitive behaviors which involve two ore more family members and which occur with predictable regularity in the day-to-day and week-to-week life of the family (p. 201)." The FRI uses this definition to identify 28 routines divided into categories such as work day routines [i.e., "Parents have sometime each day for just talking with the children", "Parents have certain things they do every morning while getting ready to start the day", "Working parent has a regular play time with the children after coming home from work", "Working parent takes care of the children sometime almost every day", "Parents and children play together sometime each day", "Non-working parent and children do something together outside the home almost every day (e.g., shopping, walking, etc.), "Family has a 'quiet time' each evening when everyone talks or plays quietly"], weekend and leisure time (i.e., "Family goes some place special together each week, "Family has a certain 'family time' each week when they do things together at home"), children's routines (i.e., "Parents read or tell stories to the children almost every day, "Each child has some time each day for playing alone", "Children take part in regular activities after school", "Young children go to play-school the same days each week, "Children do their homework at the same time each day or night during the week"), parents' routines (i.e., "Parents have a certain hobby or sport they do together regularly"), bedtime [i.e. "Children have special

things they do or ask for each night at bedtime (i.e., a story, a good-night kiss, a drink of water)" "Children go to bed at the same time almost every night"], meals (i.e., "Family eats at the same time each night", "At least some of the family eats breakfast together almost every morning", "Whole family eats dinner together almost every night"), extended family (i.e., "At least one parent talks to his or her parents regularly", "Family regularly visits with the relatives"), leaving and homecoming (i.e., "Family checks in or out with each other when someone leaves or comes home", "Working parents come home from work at the same time each day", "Family has certain things they almost always do to greet the working parents at the end of the day"), disciplinary routines (i.e., "Parents have certain things they almost always do each time the children get out of line"), and chores (i.e., "Children do regular household chores") (p. 204). These routines were placed in a questionnaire format. The inventory was then scored according to three different scoring options: a raw score, a weighted score, or a frequency score. The frequency score was considered the optimal scoring method. The FRI demonstrated adequate temporal stability and construct validity, convergent validity, discriminant validity, and predictive validity. While this instrument has evidence of reliability and validity, the fact that it is administered as a questionnaire may present certain problems. With questionnaire formats, coding is established apriori and provides individuals completing the questionnaire no chance to clarify their answers. In an interview, individuals who do respond to questions, "I don't know" can be further queried. By contrast, in a questionnaire format this information may have been lost by ignoring the question as a whole (Dillman, 2000). By using open-ended questions, an interview

method allows the researcher to uncover information and details that may provide a more complete picture of family interaction patterns. For example, one question on the FRI asks parents to indicate on a scale from always to never how often "The whole family eats dinner together almost every night" (their wording). However, if this information is presented in an interview as "How often do you eat together?" the parent may then have the opportunity to clarify question by asking "With or without the television on?" or even say "Every night as we watch television together." To the researcher who is interested in studying the routine of dinnertime as a way of studying family togetherness and communications patterns, the information provided in the interview is critical to understanding the parent's response.

Even with this major advantage, to date interview methods developed to help quantify family rules and routines have been less well developed. Those who have tried to quantify family rules and routines using an interview format have had difficulties with poor internal consistency and poor predictive validity (Fiese & Spangola, 2005, Fiese & Wamboldt, 2003a, 2003b).

Cultural Differences in Family Interactions

Unfortunately, most of the current literature on family rules and routines has made little attention to cultural issues. Most of the literature published on family rules and routines has focused primarily on middle class European Americans. However, few studies have examined the effects of ethnicity, socioeconomic status, and neighborhood on family rules and routines.

Research indicates that the association between parenting behaviors and child conduct problems differs among ethnic groups. Deater-Deckard, Dodge, Bates, and Pettit (1996) found that the use of physical discipline by parents was related to higher teacher-rated and peer-rated externalizing scores, but only for European American children. This relationship was not found for African American children. Building upon their previous research, Deater-Deckard et al. (1998) found that the prediction of risk for externalizing behavior problems was moderated by ethnic group status. This study suggests the importance of the role of ethnicity in moderating associations between parenting practices and child outcomes.

Differences in Family Rules and Routines by Ethnicity. Although studies suggest that family rules and routines are positively associated with indices of adjustment, it has not been documented that parents of differing ethnic or cultural backgrounds differ in the type or amount of family rules and routines they provide their children. Of the two studies that examined the effects of family rules and routines on childhood externalizing behavior, neither examined the effects of ethnicity as a moderator (Becker-Klein, 2003; Fiese & Marjinsky, 1999). It has also been suggested that discipline tactics (Deater-Deckard & Dodge, 1997), parenting practices (Hurd, Moore, & Rogers, 1995; Shumow, Vandell, Posner, 1998), and parenting style (Knight, Virdin, & Roosa, 1994; O'Reilly, Tokuno, & Ebata, 1986; Querido, Warner, & Eyeberg, 2002) are different for families of different ethnic backgrounds. To further highlight the need to examine ethnicity and culture when examining family rules and routines, it should be noted that in a study of urban, low-income African American families,

routines were associated with academic self-concept and school engagement (positive association), but were not associated with depression and externalizing behaviors (Seaton & Taylor, 2003). However, Fiese and Marjinsky (1999) indicated that family routine use was associated with externalizing behaviors for their primarily Caucasian control group.

Differences in Family Rules and Routines by SES and Neighborhood. In research, the socioeconomic status of a child has long served as a proxy for poverty. However, poverty is broadly defined as the environmental circumstances that are responsible for the negative effects of low SES (Evans, 2004). Researchers have found that low SES, and thus poverty, is associated with a myriad of childhood problems, including higher rates of both externalizing problems (Ackerman, Kogos, Youngstrom, Schoff, & Izard, 1999; Criss, Pettit, Bates, Dodge, & Lapp, 2002) and internalizing behavior problems (Ackerman, Brown, & Izard, 2004; McLeod, & Shanahan, 1993) as well as lower self-worth (Evans, 2003), cognitive competence (Duncan, Brooks-Gunn, & Klebanov, 1994), and academic competence (Ackerman et al., 2004).

In addition to SES, there may be differences in the amount of family rules and routines in a family due to neighborhood type. These differences in amount of family rules and routines may be due to neighborhood instability. In fact, in neighborhoods where there is more instability, parents may choose to engage in more monitoring of their children and to have more family rules and routines as a way to reduce the amount of perceived threat that surrounds them and their children in the community.

Plybon and Kliewer (2001) tested the association of neighborhood types (i.e.,

low poverty – low crime, high poverty-moderate crime, moderate poverty-high crime) and externalizing behavior problems with a sample of predominately African-American children. The study examined the extent to which family rules and routines, as measured by 22 items taken from the Family Routines Inventory (FRI; Jensen et al., 1983), moderated these associations. Although the interaction of neighborhood risk and family routines was not statistically significant, those children who were in the high poverty-moderate crime cluster did have more externalizing behaviors. Additionally, parents in the high poverty-moderate crime who reported having more family rules and routines had children who had fewer externalizing problems.

In a longitudinal sample of early adolescents (from age 11 to 13), Beyers, Bates, Pettit, and Dodge (2003) demonstrated an association between neighborhood structure, parenting processes, and the development of externalizing behavior problems. They concluded that less parental monitoring was associated with more externalizing behavior problems at age 11. They further concluded that early adolescents who spent more unsupervised time out in the community and whose parents had less positive involvement with them also had greater levels of externalizing behaviors. Finally, in neighborhoods with more residential instability, more parental monitoring was present.

A final study by Sparks, Craven, and Worth (1994) also supports the need to study the association between family SES and the family rules and routines that are implemented by the parents within the home environment. This study was undertaken by a District Health Authority to aid in the prevention of accidental deaths in children under the age of 15. The researchers completed in-depth interviews with a sample of parents

from a high and a low childhood accident rate neighborhood. However, the study suggested that while parents in both areas developed rules, routines, and practices to keep their children safe, in families of lower SES there was less consistency in the implementation of family rules and routines that had been developed.

Mechanisms of Effects

A final problem with the way in which the literature has characterized family rules and routines, is the lack of attention to the processes than explain the connection between routines and child competencies. Indeed, there is little literature that elucidates the mechanisms by which family routines influence children's externalizing behaviors. Although Fiese et al. (2002) suggested that routines might impact externalizing behaviors via their influence on children's regulatory ability; no research has been conducted to confirm this suggestion. However, studies have suggested a positive association between parenting behaviors such as maternal warmth and responsiveness and the development of children's regulatory abilities (Eisenberg et al., 2003; Kremen & Block, 1998). Additionally, research has suggested that children who are at risk for both externalizing and internalizing behavior problems have difficulties with regulatory control (Juffer, Stams, & van Ijzendoorn 2004; Kremen & Block, 1998). Specifically, children with overcontrolling parents show predominantly internalizing behavior problems. Conversely, children with undercontrolling parents show high rates of externalizing behavior problems. Based on these findings, it is not unreasonable to suggest that the link between parenting practices such as the implementation of family

rules and routines and children's behavioral competencies are mediated through children's regulatory control abilities.

A system is said to be "self-regulating" or to have regulatory control when it is able to bring itself into compliance with a standard (Graziano & Tobin, 2000). The lack of regulatory control has been associated with externalizing behavior problems in preschoolers, particularly with anger and impulsivity (Eisenberg et al., 2001). Furthermore, the lack of attentional regulation has been associated with internalizing symptoms in preschoolers, particularly sadness (Eisenberg et al., 2001). In a group of kindergarten children, regulatory control was negatively associated with externalizing behavior problems and positively associated with positive social behaviors (Nelson, Martin, Hodge, Havill, & Kamphaus, 1999).

Regulatory control has also been shown to buffer children from the negative effects of parental hostility (Katz & Gottman, 1995). In fact, regulatory control is crucial to children's ability to interact and to form relationships with others (Parke, 1994; Saarni, 1990). Therefore, it is possible that children who live in families where there is a high level of routine, structure, and monitoring develop higher levels of regulatory control that allows these children to display fewer externalizing behavior problems, relative to children from households without structure and routine.

Ego control is an aspect of regulatory control and refers an individual's threshold for a behavioral and/or cognitive expression of an impulse. Ego control is a continuous dimension ranging from ego-undercontrol (i.e., lower threshold, seeks immediate gratification) to ego-overcontrol (i.e., higher threshold, inhibits or delays gratification).

Extremes in both directions can lead to negative outcomes. Ego-resiliency is an independent but linked construct that refers to an individual's ability to shift from moment to moment their impulses to adapt to environmental constraints and/or possibilities or to achieve one's goals.

Ego resiliency has been linked to parenting practices. Kremen and Block (1998) found that parenting characterized as affectively positive and child-oriented was related both to child ego resiliency and positive behavioral competencies. However, they did not test whether ego resiliency mediated the association between positive parenting and behavioral competencies, nor did they specifically address parents' use of routines and monitoring.

Purpose and Significance of This Study

The purpose of the current study is to examine the association between family rules and routines and first grade children's behavioral competencies. Family routines are expected to serve a protective role in families facing adversity due to low socio-economic status or due to other stressors. This hypothesis is based upon the idea that in the face of adversity and poverty, routines may provide for stability in the home environment, thus allowing parents to be more responsive in their parenting regardless of adverse parenting conditions.

This study expands current research on the role of family rules and routines on children's behavioral competencies in three ways. First, it uses an interview measure based on Boyce et al. (1977). Second, it examines multiple aspects of behavioral competencies, including internalizing and externalizing behaviors, prosocial behaviors,

and peer relations. Third, it examines these relationships within a tri-ethnic sample of children. Additionally, I test theoretically relevant moderators and mediators of the hypothesized association between rules and routines and child behavioral competencies. Specifically, I test the hypothesized mediating role of child regulatory control and the hypothesized moderating effect of family adversity on the association between rules and routines and child behavioral competencies.

Research Hypotheses

Consistent with existing literature on family rules and routines, the following hypotheses were generated:

1. After controlling for the influence of family stressors (i.e., socioeconomic factors, single parent home) children's competencies will differ based upon the amount of family rules and routines that are implemented in their home.

2. Family routines will be more predictive of externalizing behaviors for low SES children and for children whose parents face more parenting stressors than for higher SES children and children whose parents face fewer parenting stressors.

3. Children's teacher-rated regulatory control will mediate the association between family routines and children's externalizing problems.

In addition to testing these three hypotheses, the main and interactive effect of ethnicity will be investigated.

METHOD

Participants

Participants in this study are first grade children participating in a longitudinal study of low achieving students' academic, social, and behavioral adjustment. The participants in this study were recruited across two sequential cohorts of first grade children in the fall of 2001 and the fall of 2002. These children attended one of three participating school districts in Southeastern Texas. Eligibility for participation in the longitudinal study was based on a child scoring below the school district median score on a state approved, district-administered measure of literacy. Due to differences across cohorts in procedures for selecting parents to interview, recruitment is described separately for each cohort.

For cohort 1, of the 1035 children who scored below the district median, 234 (23%) parents declined permission for their child to participate, 352 (34%) consents were not returned, and 449 participants (43%, 48% female) consented to their child's participation. Efforts were made to contact parents who provided consent for their child's participation by telephone (when available), e-mail (when available), and by letter to schedule parent interviews. Of the 449 interviews attempted, 64 could not be completed due to the child having moved, and one interview could not be completed because the child died. Another 180 parents could not be reached despite attempts by telephone, e-mail (if available), and by mail, and 48 parents were reached but declined to be interviewed. Therefore, a total of 156 interviews were completed. The ethnic

breakdown for the sample for the parent interviews for cohort 1 was 66 (42%) Caucasian, 31 (20%) African American, 48 (31%) Hispanic, and 11 (7%) other.

For cohort 2, of the 573 children who scored below the district median, 87 (15%) parents declined to participate, 151 (26%) consents were not returned, and 335 participants (58%, 47% female) consented. Due to manpower constraints, only a sample of study participants who were located in the two districts that required less interviewer travel could be interviewed. A purposive random sampling strategy was used to achieve proportional ethnic composition that was comparable to the sample of parents who were eligible to participate and gave consent for the larger study. Due to the fact that African Americans and Hispanics appeared to be underrepresented in the total number of interviews based on the 1st cohort, an over sampling procedure was used. Specifically, 111 parents (42 African American, 48 Hispanic, and 21 Caucasian) were randomly selected to be interviewed during the summer of 2003. Of the 111 interviews attempted, 17 could not be completed due to moved status, 23 could not be reached despite attempts by telephone, e-mail (if available), and by mail, and 8 declined to be interviewed. A total of 63 interviews were completed for cohort 2. The ethnic breakdown for the sample for the parent interviews for cohort 2 was 17 (27%) Caucasians, 14 (22%) African Americans, and 32 (51%) Hispanics.

Across cohorts, a total of 219 parents of first grade children participated in the interview portion of this study. Of the 219 completed interviews, complete data for this study were available for 216 of these children. The ethnic breakdown for the combined sample was 81 (38%) Caucasian, 47 (22%) African American, 72 (33%) Hispanic, and 17 (7%) others. These ethnic percentages are not statistically different from the percentages of the ethnic composition of the original sample of the 449 parents (see Table 1). 34% of the parents of the children in the sample for the interviews completed a high school education or less, 31% of the parents completed technical/vocational school or at least some college, 15% of the parents completed a bachelor's degree, and 15% of the parents had completed a graduate degree. 62% of the children in the sample are considered economically disadvantaged, and 39% of the children in the sample are considered Limited English Proficient (LEP), Bilingual, or speak English as a Second Language (ESL) based on school records. Finally, the average Universal Nonverbal Intelligence Full Scale IQ score for children whose parents were interviewed (93.25) did not differ from children whose parents were not interviewed.

Table 1. Select Participant Characteristics

Categorical Variables	Cohort 1				Cohort 2				Total Sample			
	Total Sample (N=449)		Interview (N=156)		Total Sample (N=335)		Interview (N=63)		Total Sample (N=784)		Interview (N=216)	
	N	%	n	%	N	%	n	%	n	%	n	%
Males	234	52%	84	54%	178	53%	33	52%	412	53%	114	53%
Females	215	48%	72	46%	157	47%	30	48%	372	47%	102	47%
African-American	105	23%	31	20%	77	23%	14	22%	182	23%	47	22%
Caucasian	145	32%	66	42%	122	36%	17	27%	267	34%	73	34%
Hispanic	168	37%	48	31%	124	37%	32	51%	292	37%	79	37%
Other	31	7%	11	7%	12	4%	0	0%	43	5%	17	7%
Bilingual, Limited English Proficient (LEP), or English as a Second Language (ESL)	115	26%	26	17%	70	21%	21	33%	185	24%	47	22%
Economic Disadvantage	263	59%	83	55%	221	66%	47	75%	484	62%	130	60%
Single Parent Home	258	58%	25	16%	179	40%	13	21%	437	56%	37	17%
Rent Property	182	41%	64	42%	131	39%	22	35%	313	40%	86	40%
Moved Schools	54	12%	12	7%	117	35%	8	13%	171	22%	20	9%

Continuous Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	6.59	.43	6.60	.39	6.54	.34	6.54	.34	6.57	.40	6.58	.38
UNIT Score	91.92	14.79	93.82	15.79	94.29	14.30	91.84	16.37	92.91	14.62	93.25	15.94
Years of Parental Education	13.65	3.39	14.13	3.28	13.47	3.23	12.70	4.03	13.57	3.13	13.71	3.57
Highest Employment Level	5.08	2.72	5.27	2.70	4.89	2.84	4.70	3.17	5.00	2.77	5.13	2.82

Procedures

Teacher questionnaires were given to teachers with a business reply envelope between March and May of children's first grade year. Teachers were paid $25 for completing and mailing back the packet. Classmates' perceptions of the child's behavior were obtained via individual interviews conducted at school by a member of the research team between February and May of the children's first grade year. Parent interviews were conducted with parents in their homes during the summer after their child's first grade year. Parents were paid $25 for completing an interview.

Measures

Strength and Difficulties Questionnaire (SDQ)

The Strengths and Difficulties Questionnaire (Goodman, 1997) is a 25-item questionnaire that was originally created from modifying the Rutter Parent Questionnaire (Rutter, 1967; Rutter, Tizard, & Whitmore, 1970) by including extra items on children's strengths. Twelve of the items cover strengths and twelve of the items cover children's problem behaviors. The item, "Gets along better with adults than with other children", is considered neutral. Each of the 25 items can be marked 0 for "not true", 1 for "somewhat true", or 2 for "certainly true". All items are reproduced in Table 2. The five items in italics are reversed scored.

The original questionnaire consists of five scales, each scale consisting of five items: hyperactivity, emotional symptoms, conduct problems, peer problems, and prosocial. The scores for hyperactivity, emotional symptoms, conduct problems, and peer problems are summed to generate a Total Difficulties score. However, the prosocial score is not incorporated into the difficulties score due to the fact that the absence of prosocial

behaviors is seen as conceptually different from the presence of psychological difficulties.

A previous confirmatory factor analysis (Hill & Hughes, in press) conducted with 696 teacher reports from the larger sample of 784 children, indicates that the factor structure identified by Goodman (1997) is an adequate fit for the teacher version of the questionnaire (χ^2(262) =1076.95, p=<.001; TLI = .87, CFI=.89; RMSEA=.07). Confirmatory factor analyses also indicated that this factor structure was invariant for both gender and ethnicity. Table 2 reproduces the items with their pattern and structure coefficients. The five scales with internal consistencies reported for this sample are: hyperactivity (α=.89), emotional symptoms (α=.74), conduct problems (α=.84), peer problems (α=.64), and prosocial behavior (α=.84). The scores for hyperactivity, emotional symptoms, conduct problems, and peer problems can be summed together to generate a Total Difficulties score (α=.88).

Table 2. Pattern and Structure Coefficient for the Predicted Five SDQ Factors for

Teachers

Predicted Factor	Questionnaire Item	Coefficients				
		1	2	3	4	5
Emotional Symptoms						
3	Often complains of headaches, stomach-aches, or sickness	**.38**	.12	.11	.17	-.09
8	Many worries or often seems worried	**.70**	.22	.19	.31	-.16
13	Often unhappy, downhearted or tearful	**.67**	.21	.19	.30	-.16
16	Nervous or clingy in new situations, easily loses confidence	**.59**	.18	.17	.26	-.14
24	Many fears, easily scared	**.68**	.21	.19	.30	-.16
Conduct Problems						
5	Often loses temper	.20	**.66**	.45	.45	-.53
7	*Generally well behaved, usually does what adults request*	-.25	**-.80**	-.54	-.55	.63
12	Often fights with other children or bullies them	.25	**.81**	.55	.56	-.64
18	Often lies or cheats	.22	**.70**	.48	.48	-.56
22	Steals from home, school, or elsewhere	.18	**.58**	.39	.40	-.46
Hyperactivity						
2	Restless, overactive, cannot stay still for long	.25	.61	**.89**	.47	-.56
10	Constantly fidgeting or squirming	.24	-.59	**.87**	.46	-.55
15	Easily distracted, concentration wanders	.21	-.52	**.75**	.40	-.48
21	*Thinks things out before acting*	-.19	-.47	**-.68**	-.36	.43
25	*Good attention span, sees work through to the end*	-.20	-.49	**-.71**	-.38	.45
Peer Problems						
6	Rather solitary, prefers to play alone	.14	.21	.16	**.31**	-.23
11	*Has at least one good friend*	-.31	-.48	-.37	**-.70**	.53
14	*Generally liked by other children*	-.38	-.59	-.46	**-.86**	.65
19	Picked on or bullied by other children	.19	.29	.22	**.42**	-.32
23	Gets along better with adults than with other children	.07	.11	.09	**.17**	-.13
Prosocial Behavior						
1	Considerate of other people's feelings	-.19	-.64	-.51	-.61	**.81**
4	Shares readily with other children, for example toys, treats, pencils	-.17	-.59	-.47	-.56	**.74**
9	Helpful if someone is hurt, upset, or feeling ill	-.17	-.57	-.46	-.54	**.72**
17	Kind to younger children	-.15	-.51	-.41	-.49	**.64**
20	Often offers to help others (parents, teacher, other children)	-.15	-.50	-.40	-.48	**.63**

Note: Bolded values indicate entries that are both pattern and structure coefficients (i.e., the pattern coefficients equal the respective structure coefficients). All nonbolded values are structure coefficients for which the corresponding pattern coefficients have been constrained to be zero.

Sociometric Assessment

Parent permission for participation in the sociometric assessments was sought for all children in classes containing at least one child participating in the longitudinal study. Of these 2684 children, parental permission for sociometric participation was obtained

for 1943 children (72%). Peer evaluations of study children's behavioral characteristics were obtained using a modified version of the Class Play (Masten, Morison & Pelligrini, 1985). A research assistant individually interviewed children at school. Children were asked to nominate as few or as many classmates as they wished who could best play each of the following parts in a class play: conduct problems ("Some kids get into trouble a lot."), peer problems ("Some kids start fights, say mean things, or hit others."), hyperactivity ("Some kids do strange things and make a lot of noise. They bother people who are trying to work."), prosocial behavior ("Some kids help others, play fair, and share.") and emotional symptoms ("Some kids cry a lot and look sad."). Children were also asked to name the children whom they "liked the most" and whom they "liked the least". Unlimited nominations were used for each nomination question.

Terry (1999) indicated that reliable and valid sociometric data could be collected using the unlimited nomination approach as long as at least 40% of children in a classroom participate. Therefore, sociometric scores were completed only for the 219 children who were in classrooms where a minimum of 40% of children participated. The mean rate of classroom participation in the sociometric administrations was .63 (SD= .13, range .40 to .95).

Parental Monitoring and Family Structure

The Parental Monitoring and Family Structure scale was created by modifying the Family Routines Inventory (Jensen, James, Boyce, & Hartnett, 1983) from a questionnaire to an interview format. The interview was conducted during a visit with the family in their home. When interviewers called to set up the appointment, they requested that the mother participate in the interview, when available. However, if a

mother was not available the guardian was asked to participate. In cases where both parents were present for the interview, and there was disagreement, the information the mother provided was coded. Of the 219 interviews completed, 198 (90%) mothers, 14 (7%) fathers, 4 (2%) grandmothers, 3 (1%) other guardians (i.e., grandfather, aunt, foster parent) provided information.

In the Parental Monitoring and Family Structure portion of the interview, interviewers asked parents to describe rules and routines that were present during the school year and on a day-to-day basis. Parents were asked about television viewing, bedtime, homework, school mornings, between supper and bedtime, mealtimes, and chores. Parents were given two separate prompts "Families have different routines and rules during the school year. Do you have rules at home about any of the following: Television viewing, bedtime, homework or reading?" Parents responded to these questions and interviews were recorded. The parents indicated during these interviews whether the family had specific rules, the consequence for not following the rules, how much cooperation the parents received from the child, and how consistently the rule was enforced. The second prompt that was given said, "Families also differ in terms of their day-to-day routines. Tell me about: school mornings, betweens upper and bedtime, mealtimes, and chores." The interviewer then attempted to obtain details that would allow rating of the level of consistency in routines.

The entire interview was then transcribed in order to facilitate scoring by two graduate assistants. Eight scorable items related to routines and monitoring were obtained from the interviews. The first item was the number of minutes per week the child watched television. The next 3 items inquired about television, bedtime, and

homework. Parents were given the following prompt: "Families have different routines and rules during the school year. Do you have rules at home about any of the following?" and then asked about television, bedtime, and homework routines. Each of these three activities were scored on 3-point Likert type scale asking about the level of parental monitoring (0 = Little or no monitoring, 1 = Moderate monitoring, or 2 = High Monitoring). After this, parents were given the prompt, "Families also differ in terms of their day-to-day routines. Tell me about…" and then asked about school mornings, mealtimes, the time between supper and bedtime, and chores. Two items about morning routine and bedtime routine were scored to assess the level of structure in the home (0 = Little or no structure, 1 = Moderate Structure, 3 = High Structure). The next item was scored on a 5-point Likert type scale and corresponded to the number of meals the parents indicated the entire family ate together during the week (0 = Less than once a week, 1 = once a week, 2 = two to four times per week, 3 = five to seven times per week, and 5 = over seven times per week). The next item asked about chores and was scored dichotomously (0 = No, 1 = Yes). Interrater-reliability for 45 interviews was assessed using the kappa coefficient. The average kappa coefficient across items was equal to .89 (range .75 to 1.0).

Before a factor analysis was completed on these eight items, three items (e.g., "How many minutes per week does the child watch TV?" "How often do you eat meals together?", "Does the child have specific chores?") were recoded so that they were on the same scale as the other five items. The conversion of these three items was based upon natural breaks in the distribution of responses. The first item "How many minutes per week does the child watch TV?" had a range from 0 to 2100. The cutting points that were

used were less than 123 minutes (0=low television use), which accounted for 9% of the distribution; 124 minutes to 263 minutes, which accounted for 38% of the distribution (1=moderate television use); and greater than 263 minutes, which accounted for the remaining 53% of the distribution (2=high television use). The second item that addressed the frequency of eating meals together originally had a range from 0 to 5. The cutting points that were used for this variable were less than 1 time a week (0=few meals) that accounted for 26% of the distribution, 2 to 4 meals per week (1=some meals), and greater 4 meals per week (2=many meals). The final variable that was recoded was the dichotomous variable "Does the child have specific chores?" It was recoded 0 for "no" and 2 for "yes".

A principal components exploratory factor analysis with varimax rotation was completed. Two factors emerged that explained 46% of the variance. The first factor explained 33% of the variance and the second factor explained an additional 13%. The rotated component matrix is presented below in Table 3.

Table 3. Parental Monitoring and Family Structure Rotated Component Matrix

Item	1	2
How many minutes per week does the child watch TV?	-.173	**.812**
Level of monitoring during TV use	**.659**	.274
Level of parental monitoring at bedtime	**.763**	-.022
Level of parental monitoring during homework	**.687**	.064
Level of morning structure	**.708**	.041
Level of bedtime structure	**.794**	-.112
Meal times frequency eating together	.026	**.305**
Does the child have specific chores?	.132	**.462**

Next, internal consistency analyses were conducted on these eight items on the two different factors. The first factor contained five items with all factor loadings above .66. The five items combined to form one factor with an alpha of .77 and was labeled

Parental Monitoring and Family Structure. When the three items that comprised the second factor were subjected to an internal consistency analysis, the alpha was equal to .05. Therefore, only the one factor labeled Parental Monitoring and Family Structure was used for these analyses.

Ego Control

A modified version of the California Child Q-set (CCQ) (Block & Block, 1980) was utilized to examine ego control and ego resiliency. The modifications involved the use of a rating scale vs. the use of Q-sort methodology, and a reduction in the number of items from 100 items to the 24 items most consistently identified by researchers as assessing ego control and ego resiliency (Block & Block, 1980; Eisenberg, et al., 2004; Hughey & Weisz, 1997; Kremen & Block, 1998).

For the present study, primary school teachers who knew the child for a minimum of six months were asked to complete the ego-control (e.g., Has rapid shift in mood; is emotionally labile) and ego-resiliency (e.g., Tends to go to pieces under stress; becomes rattled an disorganized) subscales of the California Child Q-sort (CCQ) (Block, & Block, 1980). For the CCQ, teachers were given a number of characteristics that may or may not describe the child. Teachers were asked to indicate on a 1 (strongly disagreed) to 5 (strongly agree) Likert-type scale the extent to which they agreed with each statement regarding each child.

The 24 items were subjected to a confirmatory factor analysis on 339 child reports from the larger sample of 784 children. A second order factor model suggested that a general factor of ego-control plus specific components related to positive prosocial, antisocial, ego resiliency and emotionally reactive could be created ($\chi^2(101) = 226.02$,

p=<.001; CFI=.96; RMSEA=.06). All constructs with their corresponding items are reproduced in Table 4. Internal consistency reliabilities were Positive Prosocial (α= .93), Negative Prosocial (α= .86), Ego Resiliency (α= .86) and Emotional Reactivity (α= .81). The overall internal consistency reliability for this all 24 items on this measure was α= .84. Thus, for this study, scores from all 24-items were summed to create a measure of ego-control.

Table 4. Confirmatory Factor Analysis Results for the Ego Control Scale

Factor		Questionnaire Item	1	2	3	4
Positive Prosocial						
	1	Considerate and thoughtful	**.93**	.79	.61	.61
	2	Gets along well with other children	**.91**	.77	.60	.60
	3	Concern for moral issues	**.81**	.69	.54	.54
	4	Empathetic	**.86**	.73	.57	.56
Negative Prosocial						
	5	Physical or verbal aggression	.68	**.82**	.39	.62
	6	Transient interpersonal relationships	.64	**.76**	.37	.59
	7	Tries to take advantage of others	.71	**.83**	.41	.65
	8	Suspicious or distrustful	.64	**.75**	.37	.58
Ego Resiliency						
	9	Resourceful in initiating activities	.46	.34	**.79**	.39
	10	Curious, eager to learn, open	.56	.42	**.85**	.48
	11	Self-reliant, confident	.54	.40	**.82**	.46
	21	Persistent; does not give up easily	.50	.37	**.76**	.43
Ego Brittleness						
	14	Becomes rigidly repetitive	.43	.51	.37	**.65**
	15	Falls to pieces under stress	.45	.53	.38	**.68**
	16	Emotionally inappropriate behavior	.56	.66	.48	**.85**
	17	Rapid mood shifts, emotionally labile	.54	.64	.47	**.82**
	20	Unable to delay gratification	.27	.32	.23	**.50**

Note: Bolded values indicate entries that are both pattern and structure coefficients (i.e., the pattern coefficients equal the respective structure coefficients). All nonbolded values are structure coefficients for which the corresponding pattern coefficients have been constrained to be zero.

Family Status

Using a sample of 505 parent responses that came from the larger sample of 784 children, structural equation modeling with MPLUS tested the factor structure of a theoretical model that was divided into two constructs: adversity and socioeconomic status. The adversity construct consisted of the variables of economic disadvantage, single parent home, and property status. The socioeconomic construct consisted of parent job title and parent educational level. The model converged and all estimates were within bounds. Model fit was evaluated with multiple indicators of model fit. Hu and Bentler (1999) suggested that comparative fit index (CFI, Bentler, 1990) and Tucker-Lewis Index (TLI) values above .95 and residual mean square (RMSEA, Browne & Cudek, 1993) values less than .08 represent acceptable fit. The indices indicate that the model has an acceptable fit, χ^2/df = .978/5, p = .53; CFI = 1.00; RMSEA < .001. An examination of modification indices did not suggest changes in any factor loadings. Thus, there is support for the theoretical two-construct model of family status. Table 5 reports the pattern and structure coefficients for this variable.

Table 5. Confirmatory Factor Analysis Results for the Family Status Scale

Questionnaire Item	Coefficients	
	1	2
Family Adversity		
Economic Disadvantage (Yes or No)	**.55**	.21
Single Parent Home (Yes or No)	**.95**	.32
Own Property Status (Yes or No)	**.47**	.11
Family SES		
Parent Job Title	.22	**.98**
Parent Educational Level	.42	**.44**

Note: Bolded values indicate entries that are both pattern and structure coefficients (i.e., the pattern coefficients equal the respective structure coefficients). All nonbolded values are structure coefficients for which the corresponding pattern coefficients have been constrained to be zero.

Family Stress Index. Family adversity and family SES were examined to determine if they were independent constructs. As anticipated, family adversity was closely related to family SES (r=-.37) and thus after standardizing the family SES and family adversity scores, a family stress composite was created.

Child Competencies Composites

All of the following composites were created based on standardized mean item score on each scale.

Emotional Symptoms Composite. The two measures of emotional symptoms in the school setting were teacher report on the SDQ and peer-rated emotional symptoms. Bivariate correlations revealed that no reliable composite could be created based on these two indicators (r=.19). Therefore, in all analyses, the teacher ratings and peer ratings of emotional symptoms were analyzed separately.

Hyperactivity Composite . The two measures of hyperactivity in the school setting were teacher report on the SDQ and peer-rated hyperactivity. Bivariate correlations revealed that a composite based on these two indicators was reliable (r=46.).

Conduct Problems Composite. The two measures of conduct problems in the school setting were teacher report on the SDQ and peer-rated conduct problems. Bivariate correlations revealed that a composite based on these two indicators was reliable (r=.59).

Peer Problems Composite. The two measures of peer problems in the school setting were teacher report on the SDQ and peer-rated nominations of least liked. Bivariate correlations revealed that a composite based on these two indicators was reliable (r=.45).

Prosocial Composite. The two measures of prosocial behavior in the school setting were teacher report on the SDQ and peer-rated prosocial behavior. Bivariate correlations revealed that a composite based on these two indicators was reliable (r=.43).

Data Analysis

Both an analysis of variance (ANOVA) and hierarchical linear regression were used in this study. A one-way ANOVA was used to examine the hypothesis concerning ethnic group differences in parental reports of parental monitoring and family structure (PMFS). Posthoc analyses were used to determine if there were significant differences among the three ethnic groups. A hierarchical linear regression was used to examine the hypothesis concerning the interaction effects of family stressors and PMFS, as well as ethnicity and PMFS, on child competencies (Aiken & West, 1991).

RESULTS

Five major hypotheses were investigated. First, I tested the mean differences of parental monitoring and family structure (PMFS) by child ethnicity. Second, I tested the hypothesized relationship between PMFS and the child competencies scores. Third, the hypothesized relationship between family stress and child competencies was explored. Fourth, analyses were conducted to investigate the two hypothesized interactions between PMFS and family stress and between child ethnicity and PMFS in predicting child competencies. In addition, the main and interactive effect of ethnicity on parental monitoring and family structure was examined. Finally, I examined whether children's teacher-rated ego control would mediate the association between family routines and children's competencies.

Preliminary Analyses

Stevens (2002) suggested that in the linear regression model, it is assumed that the errors are independent and follow a normal distribution with a constant variance. Violations in these assumptions can be checked by creating a residual plot of the standardized residuals versus the predicted values. These plots appear in Appendix A. According to these plots, the assumptions of the linear regression model are met, and thus a linear regression model can be used.

Data were examined for outliers. No scores were obtained that fell outside three standard deviations. All predictor variables were transformed into standardized Z scores as well.

Descriptive statistics were also computed for all variables in the analyses and are reported in Table 6. Values of skewness and kurtosis were in the acceptable range for planned analyses (Stevens, 2002).

Finally, bivariate correlations were computed. Table 7 presents the bivariate correlations for study variables.

Table 6. Descriptive Statistics for Variables

	Range		Mean	S. E.	Skewness	Kurtosis
	Minimum	**Maximum**	**Mean**	**S. E.**	**Skewness**	**Kurtosis**
Family Stress Index	-1.83	1.83	-0.10	0.05	0.10	-.057
Parental Monitoring	0.00	10.00	5.77	0.19	-0.24	-0.81
Teacher Ratings						
Emotional Symptoms	0.00	0.40	0.06	0.01	1.85	2.21
Conduct Problems	0.20	1.00	0.36	0.02	1.47	1.46
Hyperactivity	0.25	1.40	0.85	0.02	0.33	-0.91
Peer Problems	0.40	1.00	0.58	0.01	0.61	-0.95
Prosocial Behavior	0.00	1.00	0.51	0.03	-0.02	-1.48
Ego Control	1.59	5.00	3.63	0.80	-0.42	-0.62
Peer Ratings						
Emotional Symptoms	-1.30	2.99	-0.13	0.06	1.73	3.11
Conduct Problems	-1.12	2.78	0.34	0.07	1.22	0.45
Hyperactivity	-1.22	2.75	0.05	0.07	1.10	0.24
Peer Problems	-1.61	2.77	0.00	0.07	0.88	0.22
Prosocial Behavior	-1.55	2.09	-0.10	0.06	0.47	-0.55

Table 7. Bivariate Correlations between Variables

	1	2	3	4	5	6	7	8	9
1. Family Stress Index	1.00	-.09	-.01	-.06	**.17**	.13	.10	**-.14**	**-.15**
2. Parental Monitoring		1.00	-.03	-.09	-.11	-.07	-.04	.01	.01
3. Teacher Emotional Symptoms			1.00	**.17**	.14	**.19**	**.33**	**-.15**	**-.29**
4. Peer Emotional Symptoms				1.00	**.27**	**.28**	**.23**	**-.20**	**-.27**
5. Conduct Problems					1.00	**.70**	**.47**	**-.54**	**-.68**
6. Hyperactivity						1.00	**.50**	**-.60**	**-.67**
7. Peer Problems							1.00	**-.68**	**-.56**
8. Prosocial Behavior								1.00	**.66**
9. Ego Control									1.00

Note: Bolded values are statistically significant at the $p < .01$ level.

Hypothesis 1: Mean Differences in Parental Monitoring and Family Structure by

Child Ethnicity

An analysis of variance (ANOVA) with posthoc contrasts of child ethnicity were conducted to determine if the mean ratings of PMFS differed by child ethnicity. Parents who had classified their children as Asian or Other were left out of this analysis due to the small numbers in these two categories (n=9 and n=6 respectively). Results of the ANOVA indicated statistically significant effects for ethnicity (F=4.10; *p*=.02; eta squared=.04). Thus, parents of children from various ethic groups reported differing amounts of PMFS. Posthoc analyses indicate that parents who have children who are African-American report more PMFS than Hispanics (Mean Difference = 1.44; p = .02). However, there were no statistically significant differences in the means of PMFS reported for African-Americans and Caucasians (Mean Difference = 1.04; p=.12) or Caucasians and Hispanics (Mean Difference = 0.41; p=.66). Figure 1 is a box and whisker plot that shows graphically the median differences in ethnicity for PMFS as reported by parents, but does not parallel the ANOVA analysis.
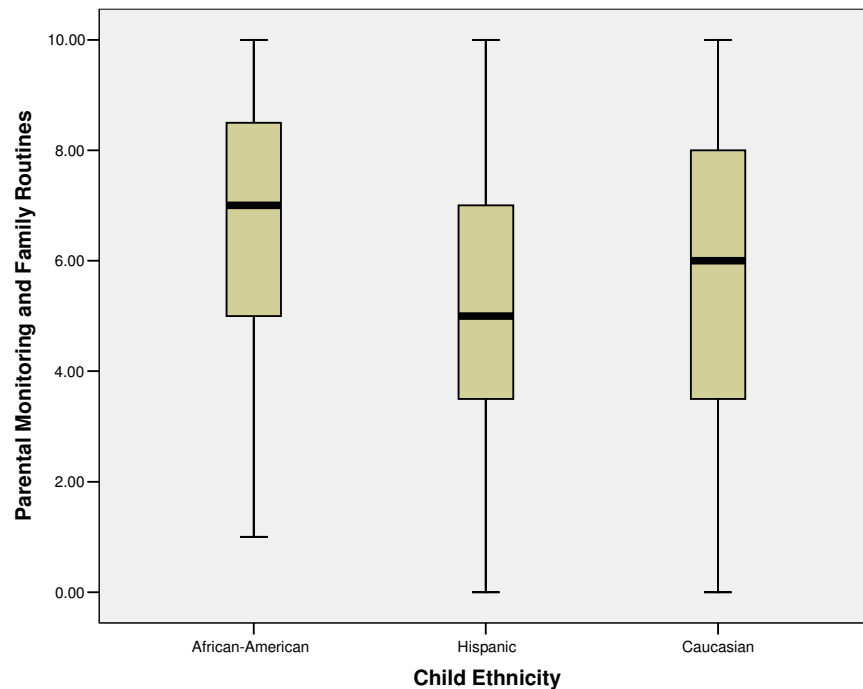
Figure 1. Comparison of Ratings of Parental Monitoring and Family Routines by Ethnicity

Hypothesis 2: Relationship between Parental Monitoring and Family Structure and Child Competencies

The second hypothesis was that parental monitoring and family structure (PMFS) would be associated with each of the five child competencies. Bivariate correlations were conducted to examine the association between the parental monitoring and family structure, family stressors and the child competencies (Table 7). Unexpectedly, all of the bivariate correlations between the child competencies and PMFS were small in magnitude and none were statistically significant.

Hypothesis 3: Relationship between Family Stressors and Child Competencies

The third major hypothesis was that family stress would be related to each of the child competencies. Table 7 reports the bivariate correlations between family stress and the child competencies. Three of the bivariate correlations between the child competencies and family stress index, while in the expected direction, were small in magnitude, but statistically significant. The correlation between conduct problems and family stress indicates that more family stressors are indicative of more conduct problems (r = .17). The correlation between prosocial behavior and family stress (r = -.14) indicates that higher family stress is associated with reports of less prosocial behavior. The correlation between ego control and family stress (r = -.15) indicates that higher family stress is associated with reports of less ego control.

Hypothesis 4: Moderation

To examine whether parental monitoring and family structure and ethnicity as well as PMFS and family stress interacted to predict behavior, hierarchical regressions were conducted for each of the child competencies. Cohen and Cohen (1983) indicated that hierarchical regression models should be used when there is a theoretically based hypothesis for how variance is apportioned. A series of hierarchical multiple regression analyses were conducted to test the hypothesized interaction of PMFS and adversity. Each regression analysis tested the main and interactive effects of PMFS and family stress, the main effect of child ethnicity, and the interactive effect of PMFS and child ethnicity, on each of five child competencies (e.g., emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behavior). In each analysis, child ethnicity, PMFS, and family stress were entered as a block in step 1. In step 2, the

interaction (computed as the product of the centered PMFS and stress scores, and the product of the centered PMFS score and child ethnicity) was entered.

Emotional Symptoms

The results of the regression analysis on the teacher-rated emotional symptoms variable were not statistically significant, (R^2=.01; F=0.63; p=.60). The results of the regression analysis on the peer-rated emotional symptoms variable were not statistically significant (R^2=.01; F=0.60; p=.61). None of the independent variables made a statistically significant contribution to teacher-or peer-rated emotional symptoms.

Conduct Problems

For conduct problems, the first step was statistically significant (R^2=.03, F=3.47; p=.02). Only the family stress variable was statistically significant (p<.01). The addition of the interaction term at step 2 did not account for a statistically significant increase in variance in conduct problems (R^2=.03, F=0.76; p=.47).

Hyperactivity

The results of the regression analysis on the hyperactivity behavioral composite were not statistically significant, (R^2=.01, F=1.70; p=.17). However, the family stress variable was statistically significant at step 1 (p<.01). The addition of the interaction term at step 2 did not account for a statistically significant increase in variance in hyperactivity (R^2=.03, F=0.76; p=.47).

Peer Problems

The results of the regression analysis on the peer problems behavioral composite were not statistically significant, (R^2=.01, F=0.90; p=.44). None of the independent

variables made a statistically significant contribution to teacher- or peer-rated emotional symptoms.

Prosocial Behavior

For prosocial behavior, the first step was statistically significant (R^2=.04, F=2.70; *p*=.04). Only the family stress variable was statistically significant (*p*=.05). The addition of the interaction term at step 2 did not account for a statistically significant increase in variance in prosocial behavior (R^2=.04, F=0.78; *p*=.46).

Hypothesis 5: Mediation

It had originally been hypothesized that ego control would mediate the relationship between each of the child competencies and parental monitoring and family structure. Baron and Kenny (1996) indicated that in order for mediation to be present the independent variable must be shown to affect the dependent variable. As can be seen in Table 8, PMFS was not associated with any of the child competencies. Therefore, a necessary condition of mediation was not met and further analyses were not conducted.

Supplementary Analyses

Curvilinear Relationships

To determine if there was a curvilinear relationship between parental monitoring and family structure and the child competencies after controlling for family stress and child ethnicity, a series of linear regressions was computed. There does not appear to be a curvilinear relationship between PMFS and emotional symptoms, peer problems, hyperactivity, or prosocial behavior. However, there does appear to be statistically significant curvilinearity in the relationship between PMFS and conduct problems

(R^2=.05; F = 2.69; *p* =.03, Figure 2). This relationship indicates that children of parents

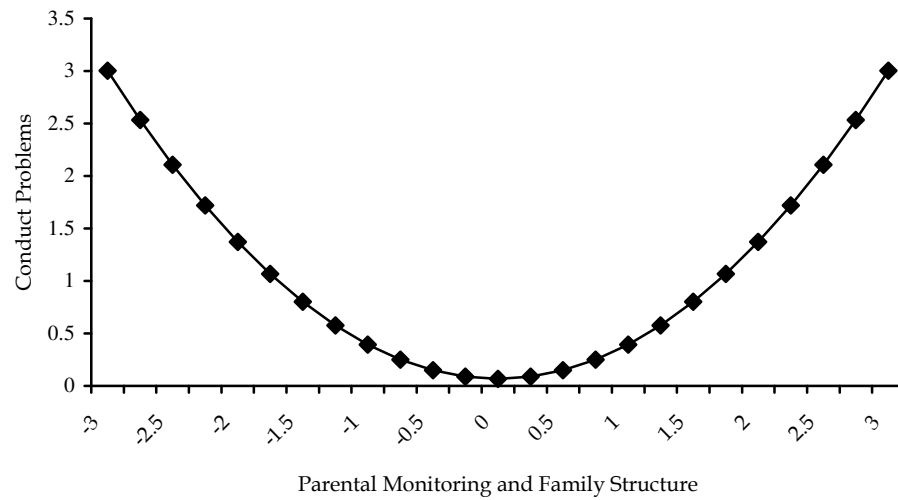reporting highest and lowest amounts of monitoring have more conduct problems.

Figure 2. Curvilinear Relationship between Parental Monitoring and Family

Structure and Conduct Problems

SUMMARY AND CONCLUSIONS

The purpose of this study was to determine the association among family rules and routines (PMFS) and child externalizing behaviors. Differences in the amount of PMFS reported by parents of children of differing ethnicities were expected. After controlling for child ethnicity, also expected was a positive association between rules and routines and externalizing problems, and that this association would be stronger in the presence of high levels of family stress. Finally, it was expected that the effect would be indirect, via the effect of family rules and routines on children's ego control.

Differences were found in the amount of PMFS reported by parents of children of differing ethnicities. Specifically, it was found that African-American parents reported more PMFS than did Hispanics and Caucasians. There were no differences in the amount of PMFS reported by Hispanic parents and Caucasian parents, nor were there differences in the amount of PMFS reported by African American parents and Caucasian parents. One cannot determine if the higher reporting of monitoring and routines for African American parents reflects actual practice or a positive reporting bias among African American children's parents. The latter interpretation is given some credence based on results from another study from this same longitudinal study as the study from which the data for the current study was drawn. Specifically, Wong (2005) found that African American parents reported more involvement in their child's home-based learning than did Caucasian or Hispanic parents. Additionally, African American parents' perceptions of their child's home-based learning were different from their child's teacher's perceptions of their participation in home-based learning activities. This difference was not present for Caucasian or Hispanic parents. Furthermore, in an experimental study by

Zakriski and Coie (1996), African-American children had a greater tendency than did non-African American children to interpret self-directed feedback in a way that was self-enhancing. Unfortunately, the design of the current study does not allow us to determine the accuracy of parent report.

There was very little support for the other hypothesized relationships. Specifically, PMFS was not associated with any of the five child competencies. As expected, there was a main effect for family stress on three child competencies (i.e., conduct problems, prosocial behavior, and ego control). Children whose families confront more stressors are rated by teachers and peers as having lower child competencies. These findings partially replicate previous findings that children's externalizing behaviors are positively associated with family adversity measures and income level (Ackerman, Brown, and Izard's, 2004; Ackerman et al., 1999; Criss, Pettit, Bates, Dodge, & Lapps, 2002).

The finding that PMFS was not associated with any of the five child competencies may be due to two reasons: a poor measure of PMFS or a positive response bias. First, because the three items that addressed family routines (dinnertime and chores) did not adhere together well, they were omitted from the measure. Four of the five remaining items assess monitoring. While parental monitoring has been shown to be related to externalizing behaviors at middle childhood, it has not been shown to be related to externalizing behaviors at this young age (Melika, 2004). Other research has suggested that parents provide more positive responses of their school- and home-based involvement than do their children or teachers (Reynolds, 1992). Additionally, parents' responses are less predictive than teacher-ratings, especially for externalizing problems

(Power et al., 1998; Rothbaum, 1986). Seifer, Sameroff, Dickstein, Schiller, and Hayden (2004) suggest that while mothers' report of other children has a high level of agreement with external observers, the correspondence between external observers and mothers' reports of their own infant's behavior is poor. They conclude that "mothers proved to be inaccurate raters of their own infants' behavior, with some indications of an underlying bias" (p. 337). Unfortunately, the design of this study does not allow us to determine the accuracy of parent report.

There was a curvilinear relationship between PMFS and conduct problems. Children whose parents reported the least and the greatest monitoring were rated by teachers and peers as having more conduct problems. The effects of low levels of monitoring on conduct problems are easily explained. Much of the parenting literature indicates that parents who do not engage in monitoring their children well tend to have children with more conduct problems and more peer problems (Beyers, Bates, Petit & Dodge, 2003). However, the perceived detrimental effects of high levels of parental monitoring are more difficult to explain. It is believed that this relationship may due to the reciprocity that exists in the parent-child relationship (Burt, McGue, Krueger, & Iacono, 2005; Lengua & Kovacs, 2005; Patterson, 2002). Perhaps children who have more conduct problems elicit greater levels of parental monitoring. Perhaps children whose parents report the highest levels of monitoring are responding in a defensive manner that may reflect a lack of trust between home and school.

Limitations and Future Directions

The results of this study must be considered in light of study limitations. First, as stated earlier the measure used to assess family rules and routines has limitations.

Second, the small magnitude of associations between child competencies and family stressors may be due to the fact that the study sample is not representative of parents and children in the schools from which these children were recruited. Recall that the original longitudinal sample was restricted to students scoring below the district median score on a state-approved, district-administered measure of first grade literacy. Therefore, results may not generalize to students above average in achievement levels. Additionally, the interview sample is not representative of our larger study population. Indeed, our interview sample consisted of only 17% of single parents. This contrasts sharply to our total sample of which 56% came from a single parent home. Thus, parents may have self-selected themselves to participate in the family interview. This "self-selection" itself may be indicative of the fact that parents who have less structure in their homes were unable to participate in the interview process. This fact may have contributed to a lack of heterogeneity in the independent variable, parental monitoring and family structure, which is most important to the stated hypotheses. Finally, as mentioned earlier, parents could be responding to our interview with a positive response bias. Future studies should examine multiple sources of data, or even observations of parent-child interactions in gaining information on family rules and routines as well as parental monitoring and family structure.

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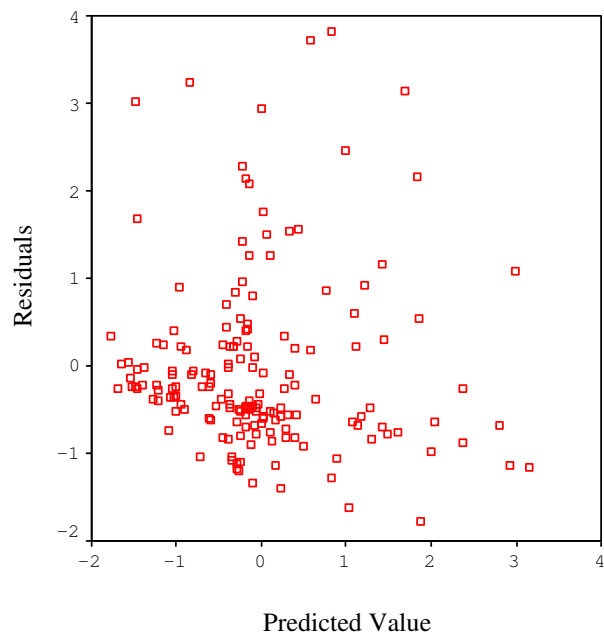
56

APPENDIX A

Figure 3. Residual plots of standardized residuals vs. predicted values for teacher-rated Emotional Symptoms
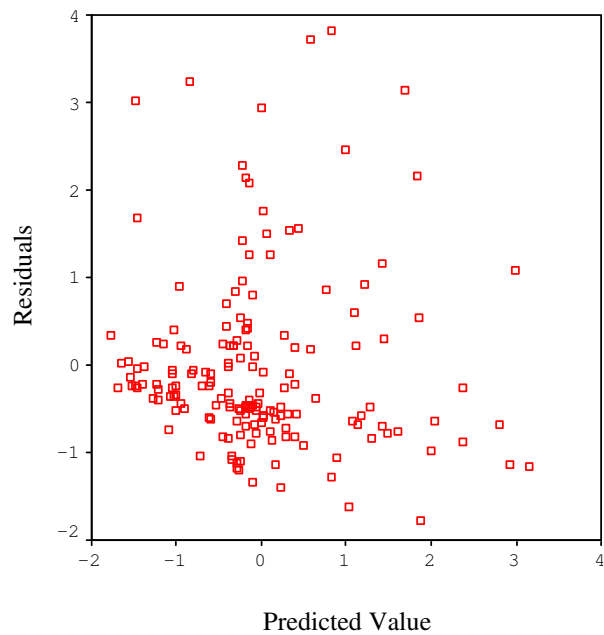

Figure 4. Residual plots of standardized residuals vs. predicted values for peer-rated Emotional Symptoms
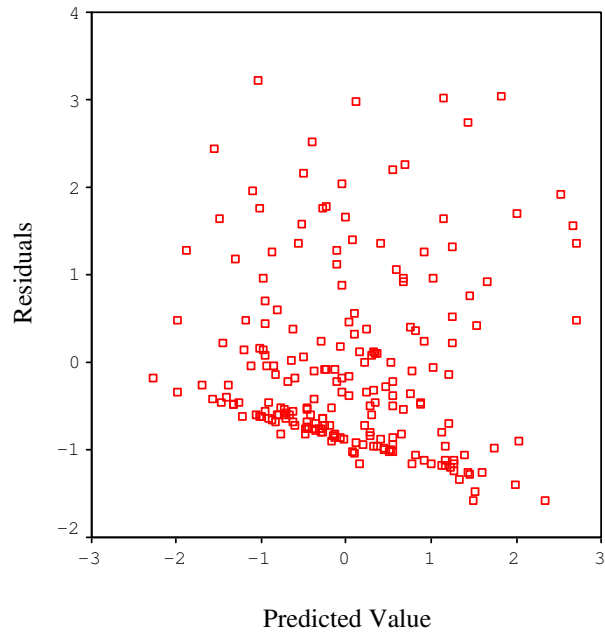
Figure 5. Residual plots of standardized residuals vs. predicted values for Conduct Problems composite
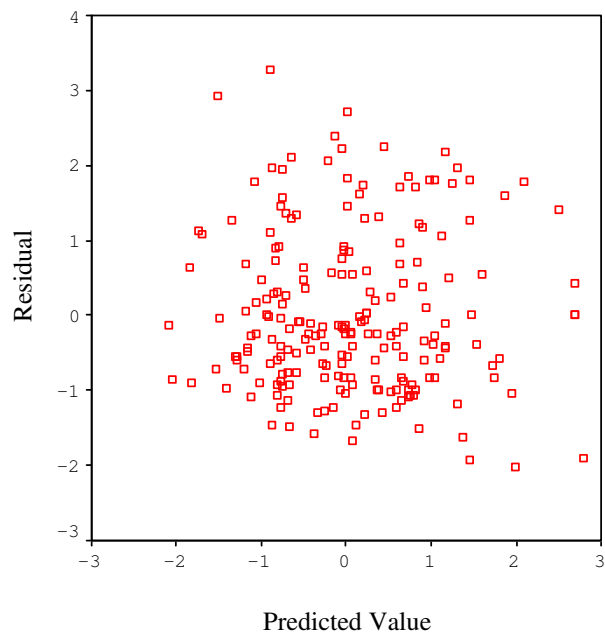

Figure 6. Residual plots of standardized residuals vs. predicted values for Hyperactivity Composite
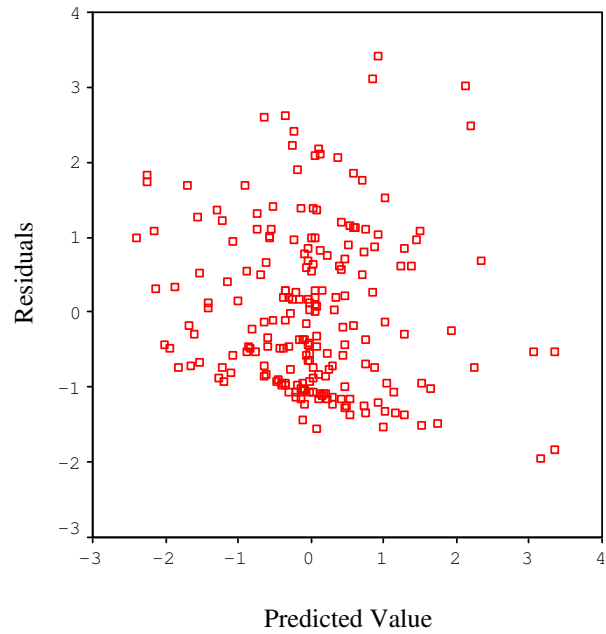
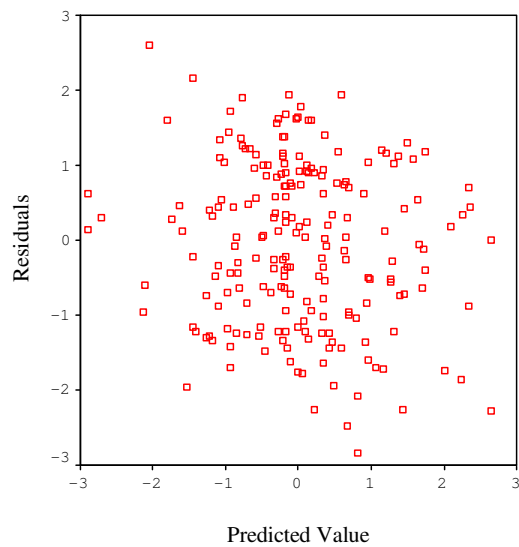**Figure 7. Residual plots of standardized vs. predicted values for Peer Problems**

Composite

Figure 8. Residual plots of standardized vs. predicted values for Prosocial Behavior

Composite

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