

THESIS

PRESCHOOL BEHAVIOR PROBLEMS: ANTECEDENT FACTORS OF FAMILY
STRUCTURE, FAMILY CHANGE, AND PARENTING BEHAVIORS

Submitted by

Marc C. Rizzo

Department of Human Development and Family Studies

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Master's Committee:

Advisor: Erika S. Lunkenheimer

David L. MacPhee

Lee A. Rosén

ABSTRACT

PRESCHOOL BEHAVIOR PROBLEMS: ANTECEDENT FACTORS OF FAMILY STRUCTURE, FAMILY CHANGE, AND PARENTING BEHAVIORS

Research indicates that there are meaningful relationships between family-based variables, parent-based variables, and child behavioral problems, specifically externalizing and internalizing patterns. This research indicates that family structure, family change, and certain parenting practices are all important in relation to child behavior problems. This study aims to help clarify how these various environmental constituents may contribute to child behavior problems by studying the role that family structure, family change, and maladaptive parenting have with one another. Participants in this study include 100 families in the local community with children ages 3 to 4 years old, and data were collected at two time points. Using 2x2 ANOVAs and bivariate correlations, there are significant main and interaction effects in child externalizing and internalizing behavior problems by family type, and a negative correlation between mother laxness and partner laxness with child behavior problems. Linear regressions with bootstrapping show that traditional families with both high and low change and lax maternal parenting are predictive of child behavior problems. A discussion regarding the role of internal and external factors such as, community, timing, sample-related issues, and differences in behavioral and parenting raters is included, along with limitations of the current study and future directions.

DEDICATION

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Chapter 1: Introduction

A large body of research has focused on the specific role that family may have on children's behavior problems. More specifically, research has emphasized how certain variables including the family environment and parent-child relationships are important factors to consider when studying child behavioral problems (Bayer et al., 2012; Wen, 2008). Importantly, studies have explored the relationship that exists between each of these variables, both individually and various combinations of each, and how they are related to child behavior. However, to date, there has been no research that has looked into how family structure, family change, and maladaptive parenting together play a role in child behavioral development. Although a significant amount of research has examined how each of these variables individually relate to child behavior, and some research has even looked at how a few of these variable relate together to child behavior, it is important to continue looking at interrelationships between factors that are related to child behavior. Exploring the relationship among these variables is important due to continuing changes in family demographic norms, and thus having research that supports these changed norms (Bumpass & Kelly Raley, 1995; Farrell, VandeVusse, & Ocobock, 2012; Graefe & Lichter, 1999). This research can clarify the complexity of various environmental constituents on child behavior problems, which may, with future research, affect how we intervene and prevent these problems for children and families.

Theoretical Conceptualization and Justification of the Proposed Study

Life-course theory. Several theoretical models have supported the notion that family-based factors, such as structure and change, could have significant implications for individual and family well-being. One of these theories is known as the life-course theory for families (Bengtson & Allen, 1993). Life-course theory emphasizes the history of the family or individual

and examines how previous events can lead individuals or families to certain outcomes (White & Klein, 2008). This theory was originally applied to the development of individuals (Hogan, 1978), but was later adapted to also include a family version of the theory (Bengtson & Allen, 1993). Both versions of the theory are important to the study because it emphasizes and validates the importance of the particular variables of interest in the proposed study.

This particular perspective emerged from an emphasis on understanding the role of how life events relate to the individual over time (White & Klein, 2008). If applied directly to this study, children's behavioral well-being would be the measure of an individual's development while events such as specific family structure, family change, and maladaptive parenting are the experienced events of the child. Hogan (1978) emphasized that there is a normative sequence of events that is reinforced socially and becomes an underlying social norm for individuals to follow. Although the sequence can certainly change across time, the author concluded that any interruption of this socially reinforced sequence can lead to further disruption throughout that individual's life (Hogan, 1978). An adaptation to theory work is necessary given that children, especially younger children, do not have as much self-agency in their development and are mostly dependent on their families to follow the normative life-course.

Bengtson and Allen (1993) demonstrated through the synthesis of various empirical family studies that the life-course theory can be applied to families as a whole and its individual members. Specifically, the life-course theory provides explanations for changes at both the individual and family level by emphasizing "contextual, processual, and dynamic" factors of both the family and society across time (Bengtson & Allen, 1993, p. 469). In this particular study, I am interested in applying this theory to justify how certain preceding circumstances and events like original family structure and family change can set a normative or nonnormative

“course” to certain developmental outcomes at the familial level, through maladaptive parenting practice, and at the individual level, in the development of internalizing and externalizing problems in children.

The transactional model. One common, and continually growing, area of the human development and family studies field is the idea of development occurring in a systemic manner. Although other theories may imply a linear progression in human development, such as the life-course theory (Hogan, 1978), family systems frameworks emphasize interactional and developmental patterns in a system that are not determined solely by an individual or single outside event. One theory following this systemic perspective is the transactional model (Sameroff, 2009). In this theoretical model, it is believed that any individual development is the result of dynamic interactions between a person and the environment, specifically the continuous, bidirectional, and interdependent effects of both entities (Sameroff, 2009).

One particular area of emphasis for Sameroff’s transactional model is in the application to the parent-child dyad. Children and parents bring their own characteristics and behaviors to their relationship, but as each entity interacts with one another across time, each of these entities undergoes change (Sameroff, 2009). Although the parent-child dyad has its own distinctive transactional model, it is believed that parenting itself is a part of many transactional relationships (Sameroff, 2009). Regarding the present study, the transactional model makes it clear that family factors such as change are likely to interrelate with parenting practices (e.g., Martinez & Forgatch, 2002). Moving across time, both of these variables, parenting and family demographics, are likely to transact with one another, causing significant development. In following the theory, it is important to consider both family structure and family change together in the conceptual model, rather than separately, because both variables together illustrate how the

role of family is dynamic rather than static across time. In understanding the developmental transactions at any level (i.e., family, parenting, and children), it is important to look at multiple entities in multiple contexts and how these relate with one another in a transactional manner (Sameroff, 2009).

Family-Based Factors and Child Behavior Problems

Family structure and child behavioral problems. The increase in the prevalence of children being raised in a “nontraditional” family (Carlson & Corcoran, 2001) has led to more research exploring this relationship between family structure and child development (Wen, 2008). Some researchers have defined family structure as a degree of cohesion between family members (e.g., Kerig, 1995), and others have framed family structure by the composition of the family such as two-parent or single-parent families (e.g., Hilton & Devall, 1998). For the purposes of the proposed study, family structure will be defined as the physical composition and social definition of the family, including married, single-parent, and stepfamilies, among others.

Some research has found an association between behavioral well-being and certain family types. For example, one study found that continuous two-parent families (i.e., families with parents who stay together throughout the child’s upbringing) have children who score the lowest in behavioral problems (Carlson & Corcoran, 2001). Other two-parent households, such as stepparents, had lower behavioral problems with their children than single-parent families, and homosexual parents have no impact on behavioral problems (Averett, Nalavany, & Ryan, 2009; Wen, 2008). Single-parent families are more likely to have a child with high externalizing behavior issues when compared to married families (Hilton & Devall, 1998). On the other hand, studies have also shown that family structure is not the cause of all child development problems (Cherlin, 1999), thus suggesting that other factors need to be examined. Some of these other

variables to consider may include parent-child conflict, siblings, parent education, mental health of caregivers, and income level (Carlson & Corcoran, 2001; Wen, 2008). Thus, by considering different variables in the relationship between structure and child outcomes, the relationship between the two becomes more complex, which highlights the need to gain further understanding of how family structure and child outcomes are related and that these two variables should not be studied in isolation.

Family change and child behavioral problems. Research indicates that families that are more distressed and face more adversity are more likely to have children with more behavior problems (Campbell, 1995). The term “family change” includes a wide variety of events that can occur within and/or outside the family, as well as the number, frequency, severity, and time span of these events. Although family structure is important, some researchers have even suggested that the family’s stability may be more important than its structure or status (Najman et al., 1997).

Of all the topics regarding family change as related to child behavior, marital stability and divorce are some of the more common topics to be researched in the field. Recent studies indicate that couple separation, or divorce, has a significant relationship with behavioral and conduct problems in youth (Allison & Furstenberg, 1989; Harland, Reijneveld, Brugman, Verloove-Vanhorick, & Verhulst, 2002; Lansford et al., 2006; Wu, Hou, & Schimmele, 2008). Overall, these studies have found that youth who experience a divorce or separation of their parents are more likely to struggle with behavior problems, but are unclear that this increase in behavior problems is from the process of the couple separation or from the change in family structure.

Other family change topics include new marital partners or the creation of stepfamilies, job loss, and significant losses/death in the family (Harland et al., 2002; Najman et al., 1997; Thompson et al., 1998). These studies have found that such family changes tend to be related to significant changes in child well-being. One major limitation with most of this research is that many of these studies only examined how one specific event may relate to child behavior problems, yet many families do not just face one change. Although some research has examined multiple family change factors (e.g., Harland et al., 2002), further research is needed to understand the cumulative role of family change in relation to child behavior problems. In following Sameroff's (2009) transactional model, studying the cumulative role of family change is more important than just one major family change because with each new family change more is added to the continuous dyadic interaction between child behavior and family environment.

In addition to the wide variety of types of family change, there are also different ways that researchers quantify family changes. Different studies have objectively measured family changes in different ways. For example, some studies will ask questions about family change through a self-made questionnaire on general family demographics with simple yes/no responses by the participant (e.g., Sourander, 2001) and others will measure family change with a structured, and possibly research-based, questionnaire on family changes (e.g., Teja, 1995). So in addition to there being multiple types of family change to explore, future research also needs to be aware of the different ways family change can be studied or measured.

Taken together, it may seem that this reviewed research suggests that family change is more important than family structure. However, when comparing child behaviors from the separation of married couples to child behaviors from the separation of cohabitating couples, children of divorced married couples were more likely to develop behavioral problems than the

children of separated cohabitating couples (Wu et al., 2008). This finding makes a case for future research to explore the relationship between family structure and change, and how this relationship is linked with child behavioral problems given the difference between certain family structures and a particular family change in the previously cited study.

After an extensive review of the literature, there does not seem to be much work that specifically attempts to measure the additive relationship of family structure and family change in relation to child behavioral problems. One of the reasons for this may involve the lack of differentiation between the definitions of family structure and family change. Although some time has been spent reviewing, clarifying, and separating these two theoretical constructs, some researchers (e.g., Heifetz, Connolly, Pepler, & Craig, 2010) still confabulate terminology for family change variables, like divorce, with terminology used for family structure variables thus combining two constructs that should be differentiated. Married-parent family structures, without accounting for family change, offers children certain advantages over children in cohabitating family structures (Wen, 2008). This suggests that when family changes or stressors occur in childhood, like divorce or unemployment, have both shown to have a relationship with child behavior problems (Harland et al., 2002; Lansford et al., 2006; Sourander, 2001), children from certain family structures may handle the event or change better than other children.

Following this line of logic, it makes sense to wonder if certain family structures are related to better child outcomes, including behavioral ones, in the context of less family change. Wu et al., (2008) mentioned that prechange family structure is an important factor to explore when measuring child outcomes after a change in the family. In addition, a more recent study found that family changes in structure predicted more child behavior problems in married

families compared to unmarried ones, and any family changes in structure in early childhood are more predictive of behavior problems than such changes that occur during later childhood (Ryan & Claessens, 2012).

Family Structure and Family Change with Parenting Practices

When looking specifically into the role of family structure and its relationship to parenting practices, researchers find that two-parent families are more likely to demonstrate effective parenting, compared to other family structures, with effective parenting being defined in terms of higher levels of parental monitoring and better relationship quality with youth (Amato, 2005; Mays, 2012). Besides comparing rearing practices between single- and two-parent families, comparisons between married and unmarried parents showed no difference when measuring both positive engagement and aggressive behavior toward children (Gibson-Davis, 2008). When looking at the importance of family structure in relationship to parenting toward children, the composition of the family is more important in parenting behavior than socially defined structure.

Couple instability and family changes, both type and quantity of changes, are related to parenting quality, including lower degrees of closeness with children, harsh parenting, and higher parenting stress (Beck, Cooper, McLanahan, & Brooks-Gunn, 2010; Cooper, McLanahan, Meadows, & Brooks-Gunn, 2009; Martinez & Forgatch, 2002). However, a more recent and more detailed exploration of this relationship found that family changes account for minimal variance in parent monitoring and relationship quality with youth (Mays, 2012). Knowing that family structure, family change, and parenting variables have the potential to be related to one another is important to keep in mind as researchers explore child behavioral development because these variables are often included in child developmental research.

Maladaptive Parenting Practices and Child Behavior Problems

Lax parenting is the degree to which parents do not follow through with family rules or expectations of their children or do not provide consequences for disobedience or misbehavior (Arnold, O'Leary, Wolff, & Acker, 1993). When looking specifically at the behaviors of children, research has indicated that there is not only a positive relationship between behavioral problems and permissive/lax parenting, but permissive parenting predicts later child behavior problems (Evans, Shipton, & Keenan, 2006; Querido, Warner, & Eyberg, 2002). For example, one recent study found that preschool-age children showed more internalizing behavior problems with parents who were considered more permissive (Williams et al., 2009). Furthermore, other research has found lax parenting styles to be linked with higher levels of externalizing problems in boys and internalizing behavior in girls (Kim, Arnold, Fisher, & Zeljo, 2005). However, other researchers have come to the conclusion in their work that the actual permissiveness of parents is not related to any child behavior problems (Rinaldi & Howe, 2011). Given the contrasting results of recent research, it seems necessary to further examine parental laxness and permissiveness as related to child behavioral outcomes.

Other parenting factors are also important to examine in relation to child behavior problems. Parental overreactivity has been best defined as “responding in an emotionally overcharged, harsh manner” (Freeman & DeCoursey, 2007; p.170). Overreactivity by parents has been linked to higher levels of externalizing behavioral problems in young children (Miller-Lewis et al., 2006). Authoritarian parenting could be seen as a form of overreactive parenting due its high levels of demandingness and control with low levels of responsiveness to the child (Baumrind, 1971). This authoritarian parenting style by fathers has been associated with more externalizing and internalizing behavioral issues in children (Rinaldi & Howe, 2011). In other

studies, overreactivity and harsh parental discipline has been linked to child adjustment problems, which included overreactivity predicting child internalizing and externalizing behavioral problems (Bayer et al., 2012; Evans et al., 2006; Kim et al., 2005). However, this overreactivity was also shown to be a mediating variable for mothers with physical health problems, suggesting that overreactivity may be related to the formation of child behavioral problems (Evans et al., 2006). More specifically, this study does offer empirical evidence that parenting practice has a relationship with maladaptive behavioral development only with other variables taken into consideration and not in isolation.

Family structure, maladaptive parenting practice, and child behavior problems.

When looking at these variables of interest together, some research has found that more problematic behaviors in children are present in family structures other than the two-parent structure, with factors such as parental support and control being important to consider in this relationship (Thomson, Hanson, & McLanahan, 1994). However, another study with African-American families revealed that the quality of parenting towards children did not change by family structure (Simons, Chen, Simons, Brody, & Cutrona, 2006). This same research did discuss how family structure may play some specific role regarding youth outcomes given that children in single-parent households did show higher levels of conduct problems. Although the research in this topic is somewhat mixed, these studies have begun to explore how family structure, parenting, and child behavior problems all relate to each other.

Family change, maladaptive parenting, and child behavior problems. A review of the literature by Campbell (1995) found that both maladaptive parenting and family adversity are predictive of behavior problems in children. Furthermore, Campbell (1995) noted that parental support of children may be an important moderating variable to consider between family changes

and child behavior problems. A more recent review of the literature (Lansford, 2009) concluded that parenting is instead an important mediator in the linkage between family changes (i.e., divorce) and overall child adjustment problems. Furthermore, another recent study examined the relationships between family change, parenting practices, and child outcomes (Martinez & Forgatch, 2002) and found that more family transitions were related to less effective parenting, which in turn was associated with more child externalizing problems. From their results, the authors supported the idea that parenting practices may mediate relationships between family change and externalizing behavior problems in children (Martinez & Forgatch, 2002).

The Current Study

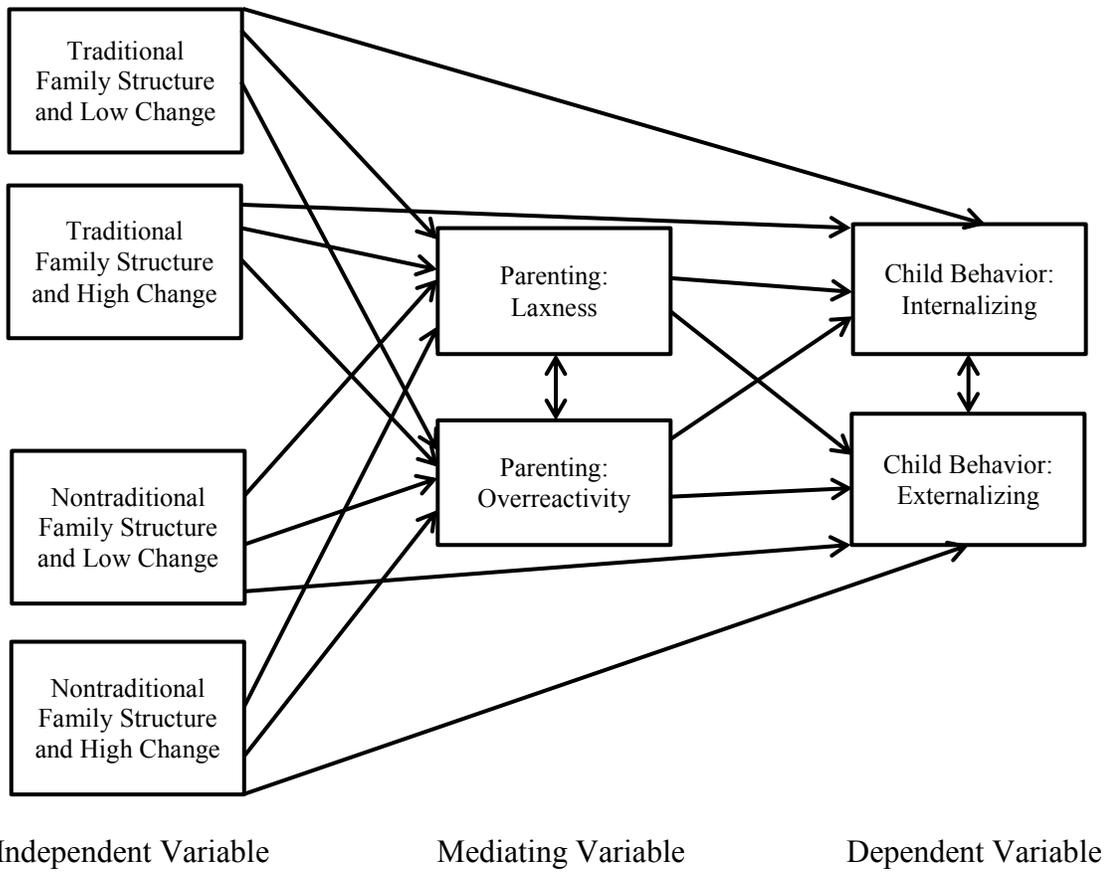
The reviewed research indicates that certain family variables of particular importance to child behavior problems are family structure, family change, and maladaptive parenting practices. Despite the observed connection between each of these independent variables with child behavioral problems, there has not been any research that has explored how these specific variables all relate to one another to contribute to child externalizing and internalizing behavioral problems. However, because these variables all occur within the context of the family, to study them in isolation seems insufficient in trying to further understanding the role that family can have in supporting children's healthy development. This necessitates the exploration of child behavioral development through a multivariable research design (Schoppe et al., 2001). Although Schoppe et al. (2001) did not use as comprehensive family variables as are proposed in the current study, the researchers did find that the degree of externalizing behavioral problems differed when examining their variables of interest together, rather than separately.

Although empirical research has not yet explored the exact relationship between family structure, family change, and maladaptive parenting and how it relates to child behavioral

problems, it does not mean that researchers have not asked this question. In fact, a prominent figure in this field, Paul Amato, posited that stable, two-parent marriages are the least likely to have children with social and emotional struggles (Amato, 2005). This article also identified effective parenting as one of the “observed differences” in these two-parent, stable families (Amato, 2005). This suggests that mediational relationships may account for the relationships between family structure, family change, parenting, and child behavior problems. Thus, the proposed study aims to further increase the understanding of these key relationships by building on already established research between these variables by testing a more comprehensive mediational model of the variables.

Based upon this review of the literature, the proposed study will attempt to answer the following question: “Does both family structure and significant family change have a relationship with child internalizing and externalizing behavior problems, with maladaptive parenting acting as a mediating variable between these variables?” This gap in the literature is important to address because it will continue to clarify for researchers the complexity of various environmental constituents on the development child behavior problems, which may, with future research, affect how we intervene and prevent these debilitating issues for children. To answer this research question, a short-term longitudinal design is used, which is needed to begin making inferences for prediction and begin exploring mediational chains between variables of interest. In addition, scores from multiple reporters of both parenting and child behavior problems are used to ensure reliable inferences in answering the research question. Finally, due to sample-related difficulties, family structure and change were combined to make four comparison groups to adequately study the research question (see plan of analysis section). Based on the research question and previous studies, the following hypotheses are tested:

- 1) Both variables of interest, family type (combination of family structure and change) and maladaptive parenting practices (laxness and overreactivity), have a relationship with child behavioral problems and each other. More specifically, families with traditional structures and low levels of change have less internalizing and externalizing behavioral problems compared to families with high levels of change and nontraditional family structures (see Figure 1).
- 2) There are differences between family type in both parenting laxness and overreactivity. Particularly, nontraditional family structures and families with high change have higher levels of laxness and overreactivity compared to families with traditional structures and low change (see Figure 1).
- 3) Both parenting laxness and overreactivity are positively correlated with internalizing and externalizing child behavior problems (see Figure 1).
- 4) Finally, both parenting laxness and overreactivity partially mediate, individually, the relationship between child internalizing and externalizing behavior problems with all combinations of family structure and change (see Figure 1).



*All pathways in the model are hypothesized to be statistically significant

Figure 1 - *Proposed Model*

Chapter 2: Method

Participants

Participants were 100 families who were part of a longitudinal pilot study exploring parent-child interaction patterns. The children in the sample were 54% female, with the vast majority of these families being nonHispanic White. Other ethnicities represented in the sample were 10% Hispanic or Latino, 8% biracial, 3% Asian, and 3% other. At Time 1, the average age of the children being studied was 41 months old ($SD = 3$ months), and at Time 2 that average increased to 45 months ($SD = 3$ months). The average family income was around \$65,000 and the majority of the sample was considered well-educated (college graduate). Related to family structure, 79% of the sample was married, 7% were cohabiting, 7% were single, 5% were separated or divorced, and 1% in a stepfamily. Methods of recruitment for this study involved posting flyers in local daycares, preschools, and businesses, as well as email listserves and newsletter publications. All agencies and businesses gave written permission to the research team before any form of advertisement was conducted. Exclusion criteria for the sample included any child that had a developmental disorder or if either the parents or the children had a heart condition. These criteria were put in place because of the possibility of interference with accurate physiological data. This sample is considered to be representative of the particular Western college town in which the study was conducted.

Measures

Family structure. Determining the family structure variable involves differentiating between certain family structures at Time 1. Family structure is operationalized from the self-reporting of three demographic characteristics asked about the family at intake. These three questions related to the current marital status of the parent, if the parent in the intake is

biologically related to the child, and if the parent in the intake is married to the other biological parent of the child. In this study, nuclear or “traditional” families, in which the biological parents of the children are married to each other, is compared to “nontraditional” family structures that includes single parents, cohabitating parents, separated parents, adopting parents, guardians, divorced parents, and remarried/stepfamilies. This specific analysis of the family structure variable is validated because the sample population represents how a number of children still grow up in nuclear or “traditional” families (Wu et al., 2008), but that there are also a growing number of children being raised in nonnuclear family settings (Graefe & Lichter, 1999).

Family change. Family changes were measured with the Life Events Survey, an adaptation of the Life Experiences Survey (Sarason, Johnson, & Siegel, 1978). This self-report measure included 27 questions that asked parents if a certain event occurred in the past two years within their family, to which the caregivers replied with a “yes” or “no” response; the final score is a summation of the number of “yes” responses. Although some of these questions do ask about marital status changes of the caregivers, which is a common area of study in family change, this questionnaire also asks about other significant family changes. For example, some questions ask about long-term medical problems, changes of who is living in the home, and loss of job/unemployment. The Cronbach’s alpha coefficient for this test is $\alpha = .69$, suggesting that this measure has marginal reliability.

Maladaptive parenting practice. To measure parenting practices, this study used the Parenting Scale (Arnold et al., 1993). This self-report questionnaire asks parents 30 questions regarding their typical disciplinary strategies toward their children’s misbehavior. Parents are asked to rate the frequency of occurrence of each of these parenting strategies on a seven-point Likert scale. The Parenting Scale includes three subscales: hostility, overreactivity, and laxness.

An example of a hostility question is, *When my child misbehaves ... I raise my voice or yell (1) OR I speak to my child calmly (7)*. An example of a laxness question is, *When I want my child to stop doing something... I firmly tell my child to stop (1) OR I coax or beg my child to stop (7)*. An example of an overreactivity question includes, *When my child does something I do not like...I do something about it every time it happens (1) OR I often let it go (7)*. Cronbach's alpha for each scale of interest included: $\alpha = .75$ for laxness and $\alpha = .72$ for overreactivity, suggesting moderate test reliability. The hostility subscale was not used in this study. Scores for both the laxness and overreactivity subscales are derived from taking the average of every item in each subscale. Multiple studies have confirmed the Parenting Scale's ability to accurately assess parenting practices and characteristics, and is an informative tool to operationally define parenting (Arnold et al., 1993; Freeman & DeCoursey, 2007; Rhoades & O'Leary, 2007).

Internalizing and externalizing child behaviors. Both internalizing and externalizing behavioral problems in children were separately assessed. Both internalizing and externalizing behavioral problems are evaluated using the mother's report on the Child Behavior Checklist (CBCL/1.5-5; Achenbach & Rescorla, 2000). This measure separates internalizing and externalizing into broadband scales. The CBCL consists of 99 items; each question is rated on a three point scale from 2 (*very true or often true of the child*) to 0 (*not true of the child*). When scoring the CBCL, for both internalizing and externalizing broadband scales, raw scores were derived from the summation of each subscale score within each broadband scale (four subscales for internalizing and two for externalizing). Thus, for internalizing the range of possible scores is 0 to 72, and for externalizing the range of possible scores is 0 to 48. Externalizing behavior problems are best conceptualized as "acting-out" behaviors such as physically aggressive behavior, whereas internalizing behaviors related to internal struggles such as anxiety and

depression (Barnett, Miller-Perrin, & Perrin, 2005). In measuring reliability for the CBCL, Cronbach's alpha values were used for both broadband scales. For the externalizing scale, $\alpha = .93$, and for the internalizing scale, $\alpha = .77$, thus demonstrating moderate to high reliability for both broadband scales. Separate studies have continued to demonstrate how the CBCL is one of the more valid, and among one of the most widely used, measures for studying child behavioral patterns (Doll, Furlong, & Wood, 1998; Rescorla, 2005).

Procedures

In the study, caregivers came into the laboratory at Time 1 for a two-hour laboratory visit. In this session, caregivers filled out a variety of questionnaires, which included assessing the child's behavioral adjustment, measuring the amount of life events the family has encountered in the past two years, reporting their specific parenting practices, and determining the demographic classification of the family. While the caregiver was completing these questionnaires in the corner of the room, the child was completing behavioral tasks with the experimenter. Once parents finished the questionnaires, mothers and children completed four dyadic behavior tasks. Each of these took around 6 minutes to complete. Families in this first session were paid \$50 for coming to the laboratory session and completing the questionnaires. During the second session, caregivers completed an additional questionnaire on the child's behavioral adjustment. As compensation for these questionnaires at Time 2, anyone who completed the questionnaires received a \$20 gift card to local stores. For the purposes of this study, analyses were based on the following questionnaires: the demographic questionnaire, Life-Events Survey, and Parenting Survey at Time 1 and CBCL/CTRF ratings from Mom, Partner, and Teacher.

Plan of Analysis

To better answer the research question and test the hypotheses, the family structure and change variables must be combined and categorized into groups to be compared against one another. Therefore, family structure and change are organized into four comparison groups called family type: Traditional families with low levels of change, Traditional families with high levels of change, Nontraditional families with low levels of change, and Nontraditional families with high levels of change. The distribution of the family change variable is somewhat skewed and the family structure variable is unevenly divided between traditional and nontraditional households, so creating these categorical groups addresses this methodological problem by improving this uneven distribution between groups. Given that family change is a continuous variable, placing families in either a low change or high change group involved using a median split for the Life-Events Survey. Families were considered to have low change if they had four or fewer changes in the past two years. Families with high change had five or more changes in the past two years, based on the median split.

It is also important to mention that longitudinal data were used. Specifically, the independent variables and mediating variables were measured at Time 1 and the dependent variables were measured at Time 2. Finally, for the parenting and child behavior variables, there are data available from multiple reporters. Examining these relationships from multiple reporters is important in order to make reliable inferences about the hypothesized results. For the parenting laxness and overactivity variables, there are data from both the mother and the mother's partner. For internalizing and externalizing behavior problems, there are scores available from the mother, partner, and teacher. For this study, all raters' scores for both parenting and child behavior will be examined.

For the first, second, and third hypotheses, there are two different analytical methods that need to be employed. In examining the relationship between family type with both internalizing and externalizing behaviors as well as parent's overreactivity and laxness, a series of 2x2 ANOVAs, with appropriate post hoc tests if necessary, is needed in order to test mean differences between the four family types in parenting laxness and overreactivity as well as internalizing and externalizing behavior problems. Next, a Pearson bivariate correlation will be used to test the association between parenting laxness and overreactivity with internalizing and externalizing behaviors.

A series of linear regressions are used to test the fourth hypothesis, specifically by testing mediation and prediction. Since the family type variable is a categorical variable, this variable is dummy coded, and each dummy coded variable is simultaneously included in each model to compare mediation and predictive effects between the different family groups. Dummy coding this variable involves taking each family type group and assigning each family a "0" or "1." Each family is assigned a "1" in only one of these family type groups and the rest "0" to signify which family type that family belongs to. In these dummy coded regressions, traditional families with low change is the established reference group. Dummy coding creates a link between regression and ANOVA statistical analysis because the regression is able to predict the group means from each individually dummy coded group (Kinnear & Gray, 2008). To ensure a stronger mediational analysis, each mediating variable will be assessed individually. Dummy coding the family categorical variable allows for the mediation hypothesis to be adequately tested with a linear regression.

Given the fact that some study's variables have smaller amount of available scores and are skewed in their distributions or cell sizes, bootstrapping is used for each regression analysis

to properly test the fourth hypothesis. This is a nonparametric approach that can test relationships between variables in a variety of ways, including mediational models, without assuming normal distributions within the sample. Bootstrapping can help make a sample more representative of the population through resampling methods (Chernick, 2008; Hayes, 2009; MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008). In addition, this type of procedure can be used to adequately test for mediation, or indirect effects, with smaller sample sizes (Preacher & Hayes, 2004). Given the descriptive nature of this sample for the study, traditional mediational analysis and criteria (Baron & Kenny, 1986) are not appropriate to use to test the hypothesis. By applying bootstrapping in the linear regressions, hypotheses four can be tested more accurately despite having a smaller sample and nonnormally distributed variables of interest.

Chapter 3: Results

Descriptive Statistics

A complete description of the sample for the study is listed in Table 1 which includes each variable's mean, standard deviation, number of participants, the standard error of the mean, skewness, and kurtosis. For the family structure variable, frequencies for both the overall sample size and sample size by each group are the only numbers provided given that this variable is a categorical variable. Frequencies for these new family type groups are also included in Table 1.

For the parenting variables, both laxness and overactivity for the partner has 14 participant scores missing from the 100-family sample because these were likely single-parent families. For the child behavior problems variables, each variable has some participant scores missing because of not having a partner or teacher available during this data collection period. At Time 2, nine families were lost to attrition. There were not any significant differences for these nine families on number of family changes, ethnicity, race, caregiver depressive symptoms, caregiver financial stress, child age, gross annual household income, and caregiver occupation. However, significant mean differences were found for these nine families on socio-economic status (SES), $t(98) = -2.65, p < .01$. Overall, this means that these nine missing families had a lower SES compared to families that remained in the study, but no differences on any other variables of interest. At Time 2, 25 partner ratings and 24 teacher ratings of child behavior problems were also missing in addition to the nine families that were lost to general attrition.

Table 1 - *Descriptive Statistics for Sample by Variables of Interest*

Variable	<i>N</i>	<i>M (SD)</i>	<i>SE</i>	Skew/Kurtosis
Family Structure (Time 1)	100	--	--	--
Traditional Family	78	--	--	--
Nontraditional Family	22	--	--	--
Family Change (Time 1)	100	4.98 (3.09)	.309	.98/2.21
Family Type(Change and Structure)	100	--	--	--
Trad. Family w/ Low Change	40	--	--	--
Nontrad. Family w/ Low Change	6	--	--	--
Trad. Family w/ High Change	38	--	--	--
Nontrad. Family w/ High Change	16	--	--	--
Parenting (Time 1)				
Laxness (Mother)	100	2.38 (.87)	.087	.73/1.05
Laxness (Partner)	86	2.42 (.85)	.092	.54/.33
Overreactivity (Mother)	100	2.69 (.90)	.090	.63/.24
Overreactivity (Partner)	86	2.77 (.87)	.094	.31/.09
Child Behavior Problems (Time 2)				
Internalizing (Mother-Report)	91	5.07 (4.21)	.441	.88/.63
Externalizing (Mother-Report)	91	7.91 (7.34)	.770	1.23/1.21
Internalizing (Partner-Report)	66	6.56 (4.55)	.560	.89/.15
Externalizing (Partner-Report)	66	10.94 (6.85)	.844	.40/-.37
Internalizing (Teacher-Report)	67	6.91 (7.28)	.890	1.58/2.31
Externalizing (Teacher-Report)	67	8.01 (8.97)	1.10	1.50/2.17

Family Type and Child Behavior Problems

A series of 2x2 ANOVAs were conducted to test the first hypothesis for this study that traditional family structures and families with low levels of change have fewer internalizing and externalizing behavioral problems compared to nontraditional family structure and high change configurations. In this ANOVA, the independent variable was family type and the dependent variables included all of the child behavior problems variables. The ANOVAs revealed significant main effects of family change for partner-reported externalizing behavior problems, $F(1,62) = 5.65, p = .02, \text{partial } \eta^2 \text{ squared} = .08$ (see Figure 2). In addition, there is a significant interaction effect between family structure and family change for partner-reported externalizing behavior problems, $F(1,62) = 4.61, p = .04, \text{partial } \eta^2 = .07$ (see Figure 2). Results also showed a significant interaction effect for teacher-reported internalizing child behavior problems, $F(1,63) = 4.88, p = .03, \text{partial } \eta^2 = .07$ (see Figure 3).

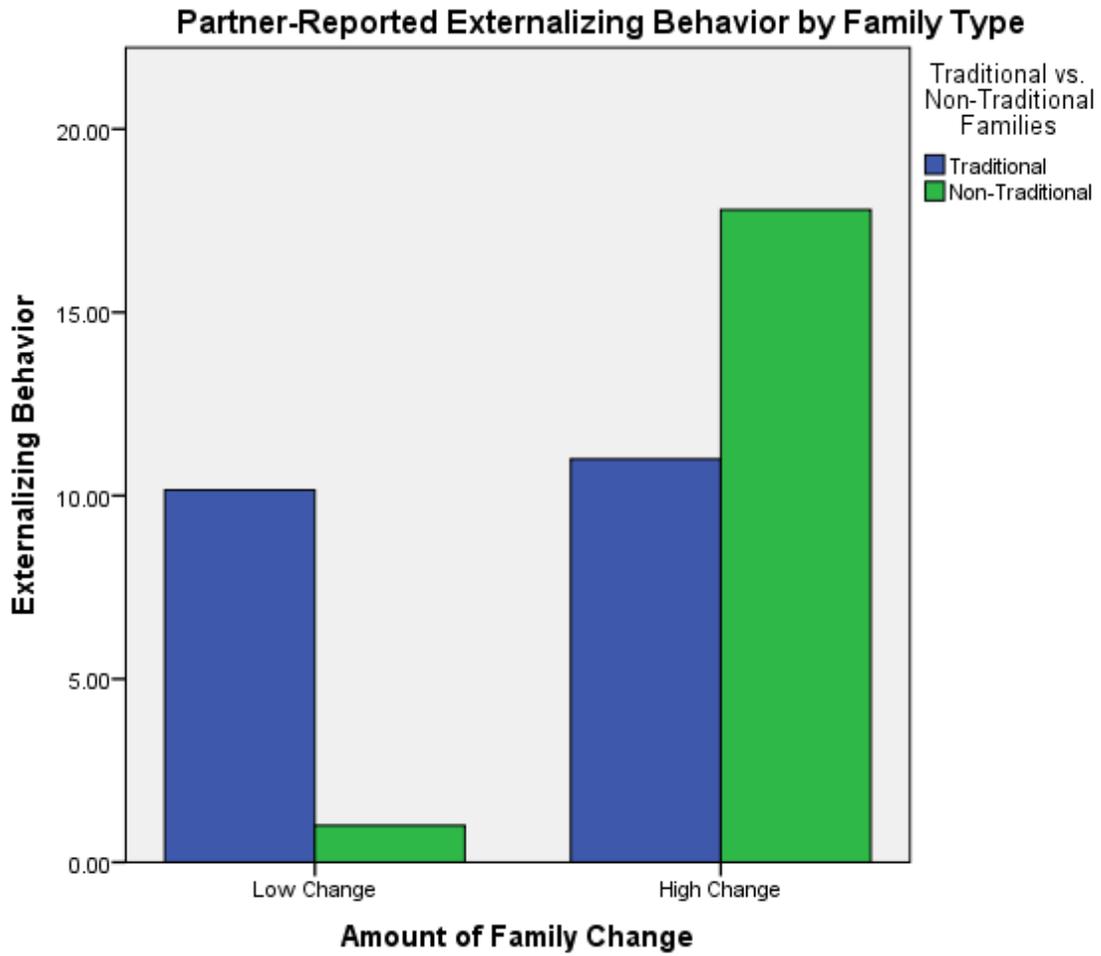


Figure 2 - Differences between Family Types on Partner-Report Child Externalizing Problems

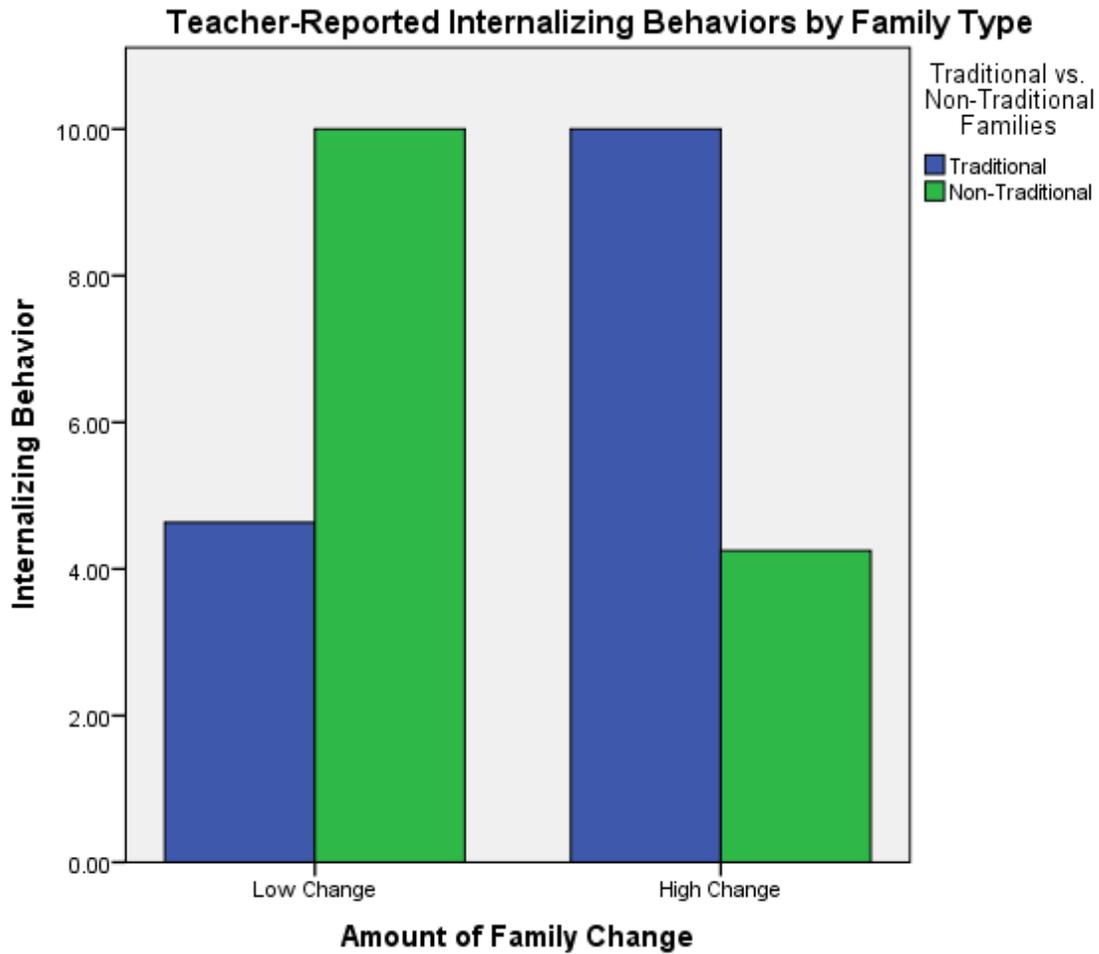


Figure 3 - Differences between Family Types on Teacher-Report Child Internalizing Problems

Results partially supported the first hypothesis that children from traditional families or families with low change have lower levels of internalizing and externalizing behavior problems compared to nontraditional families and high-change families. Results partially support the hypothesis given that there is some observations for lower behavior problems with lower levels of change in families and some interactive effects between family structure and change.

Family Type and Parenting Practices.

A series of 2x2 ANOVAs were conducted in order to test the second hypothesis that there are mean differences between family types with both parenting laxness and overreactivity. For this ANOVA, the independent variable was family type and the dependent variables include each of the parenting variables of interest. The ANOVAs indicate that there were not any significant main or interaction effects in parenting laxness or overreactivity by family type for either mother's or partner's ratings of parenting. Thus, the second hypothesis that there are mean differences in parenting laxness and overreactivity by family type is not supported.

Parenting and Child Behavior Problems.

A Pearson bivariate correlation was used to explore the third hypothesis that higher levels of parenting laxness and overreactivity are associated with higher internalizing and externalizing child behavior problems. For these Pearson correlations, the predictor variables include each of the four parenting variables and the dependent variables are each of the child behavior problems scores as reported by both caregivers and teachers. Table 2 shows these correlations between the variables of interest. In particular, there is a significant negative correlation between mother's lax parenting and teacher-reported internalizing child behavior problems. Furthermore, there is a negative association between partner's lax parenting and teacher-reported externalizing behavior problems. The hypothesis that both parenting laxness and overreactivity have a positive correlation with child internalizing and externalizing behavior problems is not supported given there are only two significant correlations between parenting practices and child behavior problems, and both are negative associations between the variables.

Table 2 - Bivariate Correlations (*r*) between Parenting and Child Behavior Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Laxness - Mom	--									
2. Overreact. - Mom	.39**	--								
3. Laxness – Part.	.31**	.22*	--							
4. Overreact. – Part.	.20	.18	.42**	--						
5. Intern. – Mother	-.05	.05	.10	-.03	--					
6. Extern. – Mother	.08	.10	.08	.02	.65**	--				
7. Intern. – Partner	.01	.07	.19	.06	.46**	.11	--			
8. Extern. – Partner	.06	.05	.02	.08	.43**	.52**	.65**	--		
9. Intern. – Teach.	-.29*	-.16	-.12	.16	.14	.05	.27	.24	--	
10. Extern. – Teach.	-.06	-.08	-.28*	.08	-.004	.21	.15	.29	.56**	--

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

Family Type, Parenting, and Child Behavior Problems.

A linear regression in combination with bootstrapping was used in order to examine the fourth hypothesis that both parenting laxness and overreactivity mediate the relation between both child internalizing and externalizing with each type of family structure and change combination. However, because there was no significant relationship between the independent variables and mediating variables, testing for mediation is not plausible. This eliminates the possibility to examine the fourth hypothesis. Therefore, only post hoc analyses were conducted based on the previous results. In these post hoc tests, predictive relationships are explored for the following relationships: family type with teacher-reported internalizing behavior problems and mother lax parenting with teacher-reported internalizing behavior problems. These particular

relationships are being explored given the significant findings from each these variables in the previous inferential analyses. Each of these regressions are one-step linear regressions that include the dummy coded family type variable and the parenting variable as predictors, and the child behavior scores as the criterion variable (see Figure 4). For the bootstrapping part of the analyses, the number of resamplings used was 5000 through a simple resampling procedure; a 95% confidence interval was used. For this analysis, nontraditional families with low change and nontraditional families with high change were merged into a nontraditional family type (see Figures 4). This was done because of the sample size for these two groups which could influence the power of the analyses, and it is justified given the lack of significant mean difference between these two groups in both parenting and child behavior problems.

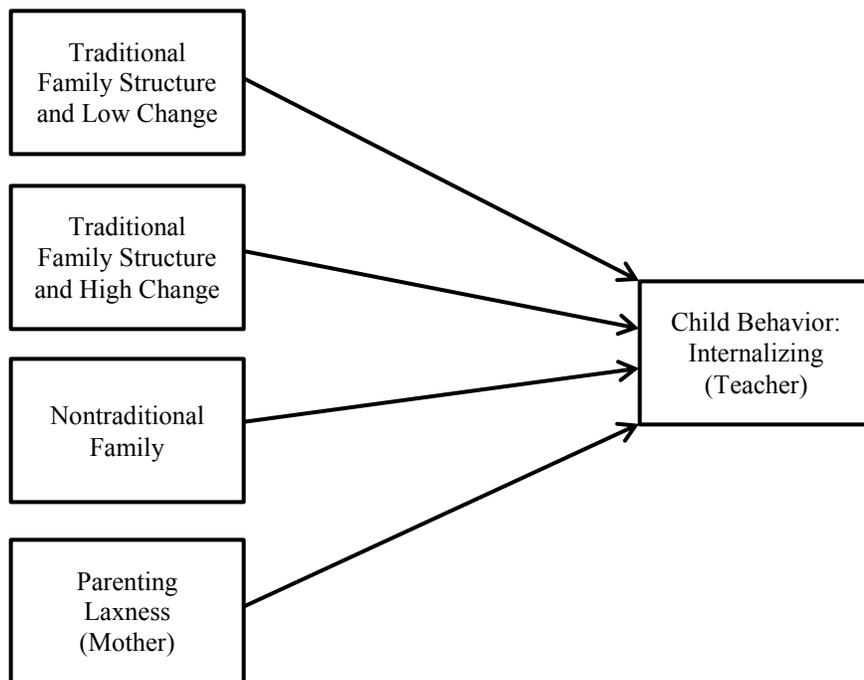


Figure 4 - Revised Model for Linear Regression

In the regression analysis (see Figure 4), results revealed that traditional families with low change predicted teacher-reported child internalizing problems, $B = 10.32, p < .001, SE = 2.42$, when accounting for other family types. Furthermore, traditional families with high change also predicted teacher-reported internalizing problems, $\beta = .372, p < .01$, when accounting for other family types. Next, mother's lax parenting significantly predicted teacher-reported internalizing problems, $\beta = -.303, p = .01$. The amount of variance accounted for by this set of variables is 17% (*Adjusted R*² = .17). Each of these findings demonstrated significance both with and without bootstrapping applied to the regression. All other relationships examined in the regressions were nonsignificant and remained nonsignificant after bootstrapping was applied.

Chapter 4: Discussion

The current study was created to examine the potential interrelationships between specific family factors, such as family structure and number of changes in the family with parenting, and how these potential relationships relate to the development of child behavior problems. In addition, this study also examined whether certain parenting variables mediate a relationship between these family factors and child behavior problems. Based on theoretical mechanisms and previous research, it was expected that overreactive and lax parenting would be related to more child internalizing and externalizing problems, and families with higher change and nontraditional structures would also have children with higher internalizing and externalizing behavior. Finally, it was predicted that both overreactive and lax parenting would mediate the relationship between family and children's behavior for any family structure or change combination.

Consistent with previous research, the results indicated that certain family types have children with significantly higher child internalizing and externalizing behavior problems. In particular, there was some evidence of significant interaction effects of both family change and family structure in relation to the development of child internalizing and externalizing behavior problems. There also appeared to be some evidence for the independent role that family change has with the development of child behavior problems. This finding is consistent with a variety previous articles published on the topic in which family structure and family change are important to consider conjointly, rather than separate, when establishing the family's relationship with child behavioral problems (Ryan & Claessens, 2012; Wu et al., 2008). Finally, when

accounting for other family types, both traditional families with high change and traditional families with low change are significant predictors of teacher-reported child internalizing problems.

These specific results showed a lack of consistency between each rater of behavior problems. This could be explained for a couple reasons. First, smaller sample sizes, particularly from the non-traditional family groups, may explain the lack of consistent results across raters. A larger, more diverse, sample size for these groups could lead to more consistent results across raters of child behavior problems. Next, family SES or family income could also explain the lack of consistent differences in behavior ratings by different family types. Some research has recognized the importance of family SES or income when establishing a relationship between family type and child well-being (Carlson & Corcoran, 2001; Wen, 2008). Recent studies show that two-parent families have higher levels of family income and education compared to other family structures (Wen, 2008). Some of this research has even found that when family income is controlled for family structure became a weak and nonsignificant predictor of behavior problems (Carlson & Corcoran, 2001). In this study's sample, most of the families had a caregiver with at least a college education and higher levels of income. Therefore, our sample characteristics, particularly higher family income and SES, could influence the consistent prevalence of family type differences in child behavior problems. Finally, the differences in significance between raters could be reflective of a teacher's ability to be more perceptive of internalizing problems compared to potentially untrained/unaware caregivers of underlying psychopathology. This may also lead to caregivers being more perceptive of externalizing problems over internalizing ones.

The specific direction of differences in child behavior problems by family type also varied by both the specific rater of child behavior problems and the specific type of behavior being examined. For the significant findings regarding externalizing problems as rated by partner

(see Figure 2), the results showed that both traditional and non-traditional families have increases in externalizing problems as they encounter more change. However, nontraditional families had lower externalizing problems than traditional families in the context of lower change, but had higher externalizing problems than traditional families in the context of higher change. When looking at internalizing problems as rated by the teacher (see Figure 3), the results showed that traditional families have lower child internalizing problems with low amounts of change and higher internalizing problems with more change. Whereas, nontraditional families had higher internalizing problems with lower amounts of change, and lower amounts of internalizing problems with high change. Furthermore, with low change, nontraditional families had higher internalizing problems than traditional families and vice-versa in the context of high change.

The directionality of family type differences in child behavior problems are not entirely consistent with previous literature on this topic, and these differences in direction could be explained in a variety of ways. For the findings shown in Figure 2, these findings may reflect that children from more traditional families are more resilient than non-traditional families to changes in the family due to more available resources internal to the family, like social capital and SES (Wen, 2008). For the finding reflected in Figure 3, this particular finding may be best explained by the life course theory for individuals and families (Bengtson & Allen, 1993). In other words, children from non-traditional families may expect, or perceive it as normative, to face more adversity/stressors. So when this internal normative understanding is disturbed, the child may demonstrate more internalized behavior problems as a response to this internal disturbance and vice-versa for children from traditional families. Overall, these findings only

partially support the study's first hypothesis due to the discrepancy of results between raters of child behavior problems and the specific directionality of these findings between different behavior types and raters.

Next, the results indicated that there were no main or interactive effects in parenting quality by family type. This finding suggests that regardless of family composition or adversity faced by the family, parenting quality does not differ. This finding is contrary to previous studies and reviews on this topic (Beck, Cooper, McLanahan, & Brooks-Gunn, 2010; Cooper, McLanahan, Meadows, & Brooks-Gunn, 2009; Martinez & Forgatch, 2002; Mays, 2012). However, none of these research studies specifically used the Parenting Survey as a way to assess parenting quality. This may mean that the relationship between family type and parenting quality may vary greatly by how parenting quality is measured and what exact parenting constructs are being examined. In addition, there is some other research that has shown that parental quality does not differ between those families who have faced a divorce and those families that have remained married (Strohschein, 2007) which may begin to allude to parenting not having a relationship with family types. Given that there were no significant observed differences in parenting laxness or overreactivity by family type, the second hypothesis of this study is not supported.

This particular finding also eliminated the possibility of parenting to serve as a mediator between family type and child behavior problems. Given that there is not established link between the proposed independent variable (family type) and the proposed mediator variable (parenting laxness/overreactivity) the fourth hypothesis of this study is not supported. One review article concluded that "the ways parents support young children as they cope with difficult developmental transitions...may facilitate adaptive coping with adversity or exacerbate

symptomatic behavior” (Campbell, 1995, p. 142). Campbell included family-related changes in the category of difficult developmental transitions, suggesting that parenting may moderate adverse family circumstance’s relationship with child behavior problems. Therefore, it may be that parenting laxness and overreactivity moderate, rather than mediate, the relationship between family type with child internalizing and externalizing behavior problems. The transactional model (Sameroff, 2009) may also support this speculation given the emphasis it places on parenting being a part of several transactional systems beyond just the parent-child dyad. Transactional exchanges between the parent with both family factors and child development may result in parenting altering the nature of the relationship between family type and child behavior problems.

Furthermore, in examining the relationships between both parenting laxness and overreactivity with child internalizing and externalizing problems, mother’s lax parenting was related and predictive of child internalizing problems, and partner’s lax parenting was related to child externalizing behavior problems. These effects were only observed when the teacher reported the child’s behavior problems, and the direction of these effects was negative. More specifically, there is an inverse relationship of mother’s lax parenting with internalizing behavior problems and partner’s lax parenting with externalizing behavior problems. These findings are contrary to what was expected based on previous research and reviews. This may be best explained by the sample being more of a normative, or even advantaged, sample. In this sample, the mean score for mother’s lax parenting is 2.38 and partner lax parenting is 2.42. In a recent study (Freeman & DeCoursey, 2007), the mean of the Parenting Survey (Laxness) in a community-based sample was 2.61 and in a clinically referred sample was 3.06. These two mean scores in the Freeman & DeCoursey, 2007 article were significantly different from one

another, and the means in this study's sample are lower than both the community and clinically referred norms in Freeman & DeCoursey, 2007 study. In other words, laxness may be better represented as nonanxious or relaxed parenting in this sample rather than inattentive or even disengaged parenting. Parents perceiving lax parenting as the former and not the latter could likely change the nature or the direction of this associational relationship between lax parenting and child behavioral problems. Overall, these particular results do not support the study's third hypothesis given that lax parenting has an inverse relationship with child behavior problems and overreactivity having no relationship to child behavior problems.

Beyond internal factors of the study itself that could explain the mostly null findings, there are also a couple external reasons that could explain these null results. First, based off Sameroff's transactional model (Sameroff, 2009), the local community or neighborhood that the sample exists within could have an important relationship with child behavior problems, parenting, or family. One study stated that researchers need to look beyond the individual and family when studying child behavior problems and include other aspects like the community or neighborhood in which the child lives (Caughy, Nettles, & O'Campo, 2008). It could be that community, or neighborhood, factors serve as a buffer between various family, parenting, and child behavior relationships. Recent research has demonstrated that neighborhood and community qualities including socio-economic status, public services, safety, social support, and cohesion have a relationship with either parenting quality or youth behavior problems (e.g., Byrnes & Miller, 2012; Caughy et al., 2008; Mrug & Windle, 2009; Pinderhughes & Hurley, 2008; Pinderhughes, Nix, Foster, & Jones, 2001; Winslow & Shaw, 2007). All these studies convey a conclusion that emphasizes consideration of the context outside the immediate family when studying behavior problems. Given the fact that the sample is mostly derived from the

same community, it seems reasonable to suspect that lack of support for the hypotheses involves an additional role that the community or neighborhood could have with family, parenting, and child behavior that was unable to be accounted for in the current study.

Another explanation for the weaker support of the hypotheses, particularly how family and parenting separately relate to child behavior, could be related to the period between the two time points in the study and child age during stressors or changes. For example, one research article claimed that the development of behavioral problems was more likely to emerge when divorce or parent employment issues occurred more recently rather than more distant in the past (Harland et al., 2002). In addition, others have found the age of the child during a stressor or change is also important in the development of behavior problems (Lansford et al., 2006). The Life Events Survey used in the current study only asks parents to denote events that have happened in the last two years; thus, it provides no information about the exact timing of the event. Therefore, there is no way to control for time as related to family change and behavior problems in this study. This could likely influence the ratings of child behavior problems in the sample.

Limitations

There are several limitations that must be acknowledged by the reader. First, as mentioned previously, the sample for this research design was rather limited mainly in distribution (i.e., skewness and restricted range). Furthermore, the number of participants in each family group of interest was uneven and some of these groups were too small to include in some of the analyses. Although the child behavior scores are representative of a normative sample, the distribution of scores for both the parenting variables and child behavior problems was not entirely representative of a normally distributed variable. These can lead to problems in overall

power of the study. Even after adjustments were made to address some of these concerns, by bootstrapping the data, there were still some problems present in the statistical analyses. For instance, some sample sizes for the various 2x2 ANOVAs were quite small preventing proper post hoc tests to be completed for some analyses. In addition, bootstrapping some of these smaller sample sizes made it difficult to complete 5000 resamplings of the data. That being said, certain aspects of the results should be interpreted with caution. Having larger cell/sample sizes and more normally distributed variables would also allow the study to use stronger and more parametric statistical analysis by not using dummy coding for the family type variable or bootstrapping the data.

In again referencing Table 1, there is a small amount of attrition over the two time points, and the number of available scores for both the parenting and child behavior scores varies by the rater. When examining attrition bias with these families, the families who dropped out had lower levels of SES. This dropout can lead to issues with both the ability to make the strongest inferences from the data, mainly because of power, and having an accurate representation of family behavior.

For the parenting variables, data were only presented on parenting laxness and overreactivity that was reported by the parents themselves. These data were collected through the use of self-report surveys. However, this form of data collection can be problematic because of a potential for a self-serving bias in the caregivers' reports.

Many of the analyses for the hypotheses of the study involve looking at multiple scores from the same raters over time, in particular mother and partner ratings. Although this did not lead to many significant findings, these particular findings could also reflect problems with shared method variance. Shared method variance refers to variance in the data because of

problematic measurement methods, such as having the same rater for both predictor and criterion variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Shared method variance can affect the validity of the results (Podsakoff et al., 2003).

Finally, mediation was to be tested at two points, in which the independent variable and mediating variables were measured at Time 1 and the dependent variable was measured at Time 2. In order to make the strongest predictions and conclusions surrounding mediation models and the fourth hypothesis, there should be three time points minimum where the independent variable is at the earliest time point, the mediating variable coming next, and the dependent variable being at the final time point (Cole & Maxwell, 2003). Having three time points, at a minimum, is important when testing mediation models since the goal is to examine indirect causal pathways in comparison direct causal pathways which would require at least three time points to do so.

Future Directions

This study did provide additional knowledge in understanding the role of various antecedents for child behavior problems. However, future research is necessary in order to further map the complex etiology of these behaviors. Primarily, future research should replicate this study, but do so with a larger and more diverse sample. This research attempted to establish mediational pathways between well-known variables within the family that have been linked to child behavioral problems in previous research. A larger, more diverse sample replicating this research will allow us to make stronger interpretations about the data, and thus stronger conclusions for a variety of reasons. For example, an improved sample would mean that more common mediational tests (Baron & Kenny, 1986) could be applied to the data, and each

variable of interest could remain continuous or categorical rather than dummy coded and compared to each other. An improved sample would be more representative of the general population.

Next, future research should explore if the hypothesized mediating variable is instead a moderating variable between family factors and child behavioral problems. All families are likely face some form of change or have a “nonfavorable” family structure that could likely predict some behavior problems, but may not develop those problems based off the way parents respond to changes or their specific family structure. Third, for this research, only two parenting constructs were examined in relation to family factors and child behavior problems and were self-reported. Parenting laxness and overreactivity do not entirely represent overall parenting quality. Further research should explore how other parenting behaviors potentially relate, even mediate or moderate, any relationship between family factors and child behavior problems. Parenting quality should also be measured observationally in addition to self-reported for future research. Fourth, this research should be redone with a longer period between time points and/or multiple time points. Having this improvement could allow us to pinpoint and better define a pathway for the development of child behavior problems in relation to both parenting and family factors. Finally, future research on this topic should find a way to incorporate the role that community or neighborhood factors relate to family factors, parenting variables, and child behavior problems.

Conclusions

This study took an in-depth examination at certain variables of interest that have previously been shown to have a strong relationship with child behavioral problems and tried to create a model to better understand the relationships between these variables. Although this study

had a combination of results that both confirmed and contrasted what was hypothesized, it does not necessarily negate the importance and influence these family and parenting variables may have on child behavior problems. These results may demonstrate a change in how families and parenting have related to child behavior problems in the past. It also could emphasize how child behavior problems and antecedents of these problems all exist within a complex system that goes beyond just the immediate family itself. In order to further answer this study's research questions, future research must include a stronger sample to replicate this study, and inclusion of additional aspects of this complex system regarding the development of child behavioral problems.

References

- Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA preschool forms & profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.
- Allison, P. D., & Furstenberg, F. F. (1989). How marital dissolution affects children: Variations by age and sex. *Developmental Psychology, 25*, 540-549. doi: 10.1037/0012-1649.25.4.540
- Amato, P. R. (2005). The impact of family formation change on the cognitive, social, and emotional well-being of the next generation. *The Future of Children, 15*, 75-96. doi: 10.1353/foc.2005.0012
- Arnold, D. S., O'Leary, S. G., Wolff, L. S., & Acker, M. M. (1993). The parenting scale: A measure of dysfunctional parenting in discipline situations. *Psychological Assessment, 5*, 137-144. doi: 10.1037/1040-3590.5.2.137
- Averett, P., Nalavany, B., & Ryan, S. (2009). An evaluation of gay/lesbian and heterosexual adoption. *Adoption Quarterly, 12*, 129-151. doi: 10.1080/10926750903313278
- Barnett, O., Miller-Perrin, C. L., & Perrin, R. D. (2005). *Family violence across the lifespan: An introduction* (2nd ed.). Thousand Oaks: Sage Publications.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182. doi: 10.1037/0022-3514.51.6.1173
- Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology, 4*, 1-103. doi: 10.1037/h0030372
- Bayer, J. K., Ukoumunne, O. C., Mathers, M., Wake, M., Abdi, N., & Hiscock, H. (2012). Development of children's internalising and externalising problems from infancy to five years of age. *Australian and New Zealand Journal of Psychiatry, 46*, 659-668. doi: 10.1177/0004867412450076
- Beck, A. N., Cooper, C. E., McLanahan, S., & Brooks-Gunn, J. (2010). Partnership transitions and maternal parenting. *Journal of Marriage and Family, 72*, 219-233. doi: 10.1111/j.1741-3737.2010.00695.x
- Bengtson, V. L., & Allen, K. R. (1993). The life course perspective applied to families over time. In P. G. Boss, W. J. Doherty, R. LaRossa, W. R. Schumm & S. K. Steinmetz (Eds.), *Sourcebook of family theories and methods: A contextual approach*. (pp. 469-504). New York, NY US: Plenum Press.
- Bumpass, L. L., & Kelly Raley, R. (1995). Redefining single-parent families: Cohabitation and changing family reality. [Article]. *Demography, 32*, 97-109.

- Byrnes, H. F., & Miller, B. A. (2012). The relationship between neighborhood characteristics and effective parenting behaviors: The role of social support. *Journal of Family Issues*, *33*, 1658-1687. doi: 10.1177/0192513x12437693
- Campbell, S. B. (1995). Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Psychiatry*, *36*, 113-149. doi: 10.1111/j.1469-7610.1995.tb01657.x
- Carlson, M. J., & Corcoran, M. E. (2001). Family structure and children's behavioral and cognitive outcomes. *Journal of Marriage & the Family*, *63*, 779-792. doi: 10.1111/j.1741-3737.2001.00779.x
- Caughy, M. O. B., Nettles, S. M., & O'Campo, P. J. (2008). The effect of residential neighborhood on child behavior problems in first grade. *American Journal of Community Psychology*, *42*, 39-50. doi: 10.1007/s10464-008-9185-9
- Cherlin, A. J. (1999). Going to extremes: Family structure, children's well-being, and social science. *Demography* *36*, 421-428.
- Chernick, M. R. (2008). *Bootstrap methods: A guide for practitioners and researchers* (2nd ed.). New Jersey: John Wiley & Sons.
- Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology*, *112*, 558-577.
- Cooper, C. E., McLanahan, S. S., Meadows, S. O., & Brooks-Gunn, J. (2009). Family structure transitions and maternal parenting stress. *Journal of Marriage and Family*, *71*, 558-574. doi: 10.1111/j.1741-3737.2009.00619.x
- Doll, B., Furlong, M. J., & Wood, M. (1998). Mental measurements yearbook. from EBSCO Publishing <http://lib.colostate.edu/databases/permlink.php?id=218>
- Evans, S., Shipton, E. A., & Keenan, T. (2006). The relationship between maternal chronic pain and child adjustment: The role of parenting as a mediator. *The Journal of Pain*, *7*, 236-243. doi: 10.1016/j.jpain.2005.10.010
- Farrell, B., VandeVusse, A., & Ocobock, A. (2012). Family change and the state of family sociology. [Article]. *Current Sociology*, *60*, 283-301. doi: 10.1177/0011392111425599
- Freeman, K. A., & DeCoursey, W. (2007). Further analysis of the discriminate validity of the parenting scale. *Journal of Psychopathology and Behavioral Assessment*, *29*, 169-176. doi: 10.1007/s10862-006-9040-y

- Gibson-Davis, C. M. (2008). Family structure effects on maternal and paternal parenting in low-income families. *Journal of Marriage and Family*, *70*, 452-465. doi: 10.1111/j.1741-3737.2008.00493.x
- Graefe, D. R., & Lichter, D. T. (1999). Life course transitions of american children: Parental cohabitation, marriage, and single motherhood. [Article]. *Demography*, *36*, 205-217.
- Harland, P., Reijneveld, S. A., Brugman, E., Verloove-Vanhorick, S. P., & Verhulst, F. C. (2002). Family factors and life events as risk factors for behavioral and emotional problems in children. *European Child & Adolescent Psychiatry*, *11*, 176-184. doi: 10.1007/s00787-002-0277-z
- Hayes, A. F. (2009). Beyond baron and kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76*, 408-420. doi: 10.1080/03637750903310360
- Heifetz, M., Connolly, J., Pepler, D., & Craig, W. (2010). Family divorce and romantic relationships in early adolescence. *Journal of Divorce & Remarriage*, *51*, 366-378. doi: 10.1080/10502551003652157
- Hilton, J. M., & Devall, E. L. (1998). Comparison of parenting and children's behavior in single-mother, single-father, and intact families. *Journal of Divorce & Remarriage*, *29*, 23-54. doi: 10.1300/J087v29n03_02
- Hogan, D. P. (1978). The variable order of events in the life course. *American Sociological Review*, *43*, 573-586. doi: 10.2307/2094780
- Kerig, P. K. (1995). Triangles in the family circle: Effects of family structure on marriage, parenting, and child adjustment. *Journal of Family Psychology*, *9*, 28-43. doi: 10.1037/0893-3200.9.1.28
- Kim, H.-J., Arnold, D. H., Fisher, P. H., & Zeljo, A. (2005). Parenting and preschoolers' symptoms as a function of child gender and sex. *Child & Family Behavior Therapy*, *27*, 23-41. doi: 10.1300/J019v27n02_03
- Kinney, P. R. & Gray, C. D. (2008). *SPSS 15 made simple* (1st ed.). Hove and New York: Psychology Press.
- Lansford, J. E. (2009). Parental divorce and children's adjustment. *Perspectives on Psychological Science*, *4*, 140-152. doi: 10.1111/j.1745-6924.2009.01114.x
- Lansford, J. E., Malone, P. S., Castellino, D. R., Dodge, K. A., Pettit, G. S., & Bates, J. E. (2006). Trajectories of internalizing, externalizing, and grades for children who have and have not experienced their parents' divorce or separation. *Journal of Family Psychology*, *20*, 292-301. doi: 10.1037/0893-3200.20.2.292

- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, *39*, 99-128. doi: 10.1207/s15327906mbr3901_4
- Martinez, C. R., Jr., & Forgatch, M. S. (2002). Adjusting to change: Linking family structure transitions with parenting and boys' adjustment. *Journal of Family Psychology*, *16*, 107-117. doi: 10.1037/0893-3200.16.2.107
- Mays, S. A. (2012). *The influence of family structure and transitions on parenting, income, residential mobility, and substance initiation in early adolescence: A comparison of caucasian and african american youth*. 72, ProQuest Information & Learning, US. Retrieved from <http://0-search.ebscohost.com/catalog.library.colostate.edu/login.aspx?direct=true&AuthType=cookie,ip,url,cpid&custid=s4640792&db=psych&AN=2012-99020-152&site=ehost-live> Available from EBSCOhost psych database.
- Miller-Lewis, L. R., Baghurst, P. A., Sawyer, M. G., Prior, M. R., Clark, J. J., Arney, F. M., & Carbone, J. A. (2006). Early childhood externalising behaviour problems: Child, parenting, and family-related predictors over time. *Journal of Abnormal Child Psychology: An official publication of the International Society for Research in Child and Adolescent Psychopathology*, *34*, 891-906. doi: 10.1007/s10802-006-9071-6
- Mrug, S., & Windle, M. (2009). Mediators of neighborhood influences on externalizing behavior in preadolescent children. *Journal of Abnormal Child Psychology*, *37*, 265-280. doi: 10.1007/s10802-008-9274-0
- Najman, J. M., Behrens, B. C., Andersen, M., Bor, W., O'Callaghan, M., & Williams, G. M. (1997). Impact of family type and family quality on child behavior problems: A longitudinal study. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*, 1357-1365. doi: 10.1097/00004583-199710000-00017
- Pinderhughes, E. E., & Hurley, S. (2008). Disentangling ethnic and contextual influences among parents raising youth in high-risk communities. *Applied Developmental Science*, *12*(4), 211-219. doi: 10.1080/10888690802388151
- Pinderhughes, E. E., Nix, R., Foster, E. M., & Jones, D. (2001). Parenting in context: Impact of neighborhood poverty, residential stability, public services, social networks, and danger on parental behaviors. *Journal of Marriage and Family*, *63*, 941-953. doi: 10.1111/j.1741-3737.2001.00941.x
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879-903. doi: 10.1037/0021-9010.88.5.879

- Preacher, K. J., & Hayes, A. F. (2004). Spss and sas procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments & Computers, 36*, 717-731. doi: 10.3758/bf03206553
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891. doi: 10.3758/brm.40.3.879
- Querido, J. G., Warner, T. D., & Eyberg, S. M. (2002). Parenting styles and child behavior in african american families of preschool children. *Journal of Clinical Child and Adolescent Psychology, 31*, 272-277. doi: 10.1207/153744202753604548
- Rescorla, L. A. (2005). Assessment of young children using the achenbach system of empirically based assessment (aseba). *Mental Retardation and Developmental Disabilities Research Reviews, 11*, 226-237. doi: 10.1002/mrdd.20071
- Rhoades, K. A., & O'Leary, S. G. (2007). Factor structure and validity of the parenting scale. *Journal of Clinical Child and Adolescent Psychology, 36*, 137-146. doi: 10.1080/15374410701274157
- Rinaldi, C. M., & Howe, N. (2011). Mothers' and fathers' parenting styles and associations with toddlers' externalizing, internalizing, and adaptive behaviors. *Early Childhood Research Quarterly, 26*, 1-11. doi: 10.1016/j.ecresq.2011.08.001
- Ryan, R. M., & Claessens, A. (2012). Associations between family structure changes and children's behavior problems: The moderating effects of timing and marital birth. *Developmental Psychology, 48*, 1037-1049. doi: 10.1037/a0029397
- Sameroff, A. J. (2009). *The transactional model of development how children and contexts shape each other*. Washington, DC: American Psychological Association.
- Schoppe, S. J., Mangelsdorf, S. C., & Frosch, C. A. (2001). Coparenting, family process, and family structure: Implications for preschoolers' externalizing behavior problems. *Journal of Family Psychology, 15*, 526-545. doi: 10.1037/0893-3200.15.3.526
- Sarason, I. G., Johnson, J. H., & Siegel, J. M. (1978). Assessing the impact of life changes: Development of the life experiences survey. *Journal of Consulting and Clinical Psychology, 46*(5), 932-946. doi: 10.1037/0022-006x.46.5.932
- Simons, L. G., Chen, Y.-F., Simons, R. L., Brody, G., & Cutrona, C. (2006). Parenting practices and child adjustment in different types of households: A study of african american families. *Journal of Family Issues, 27*, 803-825. doi: 10.1177/0192513x05285447
- Sourander, A. (2001). Emotional and behavioural problems in a sample of finnish three-year-olds. *European Child & Adolescent Psychiatry, 10*, 98-104. doi: 10.1007/s007870170032

- Strohschein, L. (2007). Challenging the presumption of diminished capacity to parent: Does divorce really change parenting practices? *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 56(4), 358-368. doi: 10.1111/j.1741-3729.2007.00465.x
- Teja, S. (1995). *The effects of stress and family environment on children's behavior problems*. 56, ProQuest Information & Learning, US. Retrieved from <https://ezproxy2.library.colostate.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=cookie,ip,url,cpid&custid=s4640792&db=psych&AN=1995-95017-219&site=ehost-live> Available from EBSCOhost psych database.
- Thompson, M. P., Kaslow, N. J., Kingree, J. B., King, M., Bryant, L., Jr., & Rey, M. (1998). Psychological symptomatology following parental death in a predominantly minority sample of children and adolescents. *Journal of Clinical Child Psychology*, 27, 434-441. doi: 10.1207/s15374424jccp2704_7
- Thomson, E., Hanson, T. L., & McLanahan, S. S. (1994). Family structure and child well-being: Economic resources vs. Parental behaviors. *Social Forces*, 73, 221-242. doi: 10.2307/2579924
- Wen, M. (2008). Family structure and children's health and behavior: Data from the 1999 national survey of america's families. *Journal of Family Issues*, 29, 1492-1519. doi: 10.1177/0192513x08320188
- White, J. M., & Klein, D. M. (2008). *Family theories* (3rd ed.). Thousand Oaks: Sage Publications.
- Williams, L. R., Degnan, K. A., Perez-Edgar, K. E., Henderson, H. A., Rubin, K. H., Pine, D. S., . . . Fox, N. A. (2009). Impact of behavioral inhibition and parenting style on internalizing and externalizing problems from early childhood through adolescence. *Journal of Abnormal Child Psychology: An official publication of the International Society for Research in Child and Adolescent Psychopathology*, 37, 1063-1075. doi: 10.1007/s10802-009-9331-3
- Winslow, E. B., & Shaw, D. S. (2007). Impact of neighborhood disadvantage on overt behavior problems during early childhood. *Aggressive Behavior*, 33, 207-219. doi: 10.1002/ab.20178
- Wu, Z., Hou, F., & Schimmele, C. M. (2008). Family structure and children's psychosocial outcomes. *Journal of Family Issues*, 29, 1600-1624. doi: 10.1177/0192513x08322818