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# Negative Marital Interaction and Positive Child Outcomes with Parent/Child Attachment as a Moderating Variable

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NEGATIVE MARITAL INTERACTION AND POSITIVE CHILD OUTCOMES WITH  
PARENT/CHILD ATTACHMENT AS A MODERATING VARIABLE

By:

Chelsea A. Bennett

A Thesis

submitted to the faculty of

Brigham Young University

In partial fulfillment of the requirements for the degree of

Master of Science

Marriage and Family Therapy

School of Family Life

Brigham Young University

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BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

Of a thesis submitted by

Chelsea A. Bennett

This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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## ABSTRACT

### NEGATIVE MARITAL INTERACTION AND POSITIVE CHILD OUTCOMES WITH PARENT/CHILD ATTACHMENT AS A MODERATING VARIABLE

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Master of Science

This longitudinal study investigated the potential moderating effects of attachment on negative marital interaction and positive child outcomes, specifically school engagement and child self-regulation. Waves I and II of data were drawn from the Flourishing Families Project; participants were 296 two parent families (fathers, mothers and children ages 10-13). Both observational and questionnaire data were used in data collection. Negative marital interaction was assessed using observational codes from the Iowa Family Interaction Rating Scales. All three family members' perceptions were used in assessing parent/child attachment and the potential positive child outcomes of school engagement and child self-regulation. As negative marital interaction increased, both school engagement and the child's self-regulation decreased. Only mother's attachment with child was a statistically significant moderating variable for the relationship between negative marital interaction and the child's school engagement. Gender effects showed

that girls were more engaged in school and more self-regulated than boys. Implications for family therapy interventions with problems of child school engagement and self-regulation are explored.

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## Introduction

The effects of negative marital interaction on children have been researched extensively (Emery, 1982; Grych & Fincham, 1990; Porter & O'Leary, 1980; Bogelsa & Brechman-Toussaint, 2006; Davies & Cummings, 1994; Cummings & Davies, 2002; El-Sheikh & Elmore-Staton, 2004; Turner & Barrett, 1998; Davies & Cummings, 1994). This research has focused on such negative outcomes as internalizing and externalizing behavior, depression symptoms, anxiety and school behavioral problems. However, no studies could be found that examined how negative marital interaction may inhibit or diminish positive outcomes in children.

It is possible that negative marital interaction actually has a double-barreled effect. It increases negative outcomes, but it may also decrease positive outcomes in children. Positive outcomes in pre- and early adolescence are important because they become stepping stones to successful adolescence and young adulthood. However, we know very little of how family and couple processes are related to the development or inhibition of positive outcomes in children.

Couple and family process in a given family is often a mixture of both positive and negative. For example, the presence of negative marital interaction does not necessarily mean that the parenting process is negative as well. A couple may have conflict with each other, but have strong attachment to their child. Due to the importance of the parent/child attachment and its ability to create a safe and secure foundation and environment (Bowlby, 1969), it seems logical that the presence of strong attachment can buffer the effects of negative couple interaction on children.

The purpose of this study was to examine the relationship between negative marital interaction and positive child outcomes with mother/child and father/child attachment as moderating variables. More specifically, this longitudinal study examined how observed negative marital interaction was related to child school engagement and self-regulation with mother-child and father-child attachment as moderating variables.

### Literature Review

Many studies have investigated how negative marital interaction influences negative child outcomes (e.g., Hooven, Gottman & Fainsilber, 1995; Gottman & Katz, 1989), but surprisingly no studies could be found examining how marital interaction of parents affects positive outcomes in children. Perhaps researchers have assumed that the absence of negative outcomes implies the presence of positive outcomes, but conceptually it is possible for a child not to exhibit internalizing or externalizing problem behaviors, but still be deficient in positive behaviors or characteristics like school engagement and self-regulation. How marital interaction affects these positive child outcomes deserves to receive more empirical attention in the literature.

#### *Positive Child Outcomes*

Positive child outcomes, also referred to as prosocial behavior, can be defined as “voluntary behavior intended to benefit another” (Eisenberg & Fabes, 1998, p. 701). With such a broad definition, researchers tend to label or associate prosocial behavior with a variety of positive attributes. For example, Malti, Gummerum and Buchmann (2007), measure prosocial behavior using variables such as sympathy and moral motivation. According to Grolnick, Kurowski and Gurland (1999), prosocial behavior is related to children’s self-regulation, given that the ability to self-regulate at a young age prepares for better adult functioning. The development of prosocial behaviors is important because prosocial development helps a child make friends, which in turn appears to affect school performance. Both friends and school performance in children are related to success in adolescence and later adult roles (Grolnick, et al., 1999).

Involvement in school is another rarely studied positive child outcome. Yet, researchers have found school engagement to be a solution to signs of student alienation (Fredricks, Blumenfeld & Paris, 2004), which alienation is in essence the antithesis of prosocial behavior, going outside of oneself and helping another.

School engagement is defined by Fredricks et al. (2004) as having three separate elements: behavioral, emotional and cognitive engagement. Behavioral engagement includes active participation in academic, extracurricular and social activities and foretells of positive academic outcomes. Emotional engagement is the emotional reaction (positive or negative) towards fellow students, the teachers, academics and school in general. Cognitive engagement is related to the level of effort exercised in trying to learn school/academic material.

Self-regulation encompasses several domains, namely emotional, cognitive and behavioral, though for children emotional regulation is the most referred to in the research literature. Self-regulation facilitates a child's ability to adapt to different situations often cited as emotional regulation in the literature. The literature generally focuses on the negative aspects of child self-regulation or those things that decrease a child's ability to self-regulate. This is further evidence that positive child outcomes are under studied compared to negative outcomes, which supports the need for the current study.

Emotion regulation, as a type of self-regulation, is unique as it is subjective in nature due to the many levels and expressions of emotion, especially as children are studied. According to Cole, Martin and Dennis (2004), "The construct of emotion regulation proposes to account for how and why emotions organize or facilitate other

psychological processes (p. 317)”. Because of emotions facilitating other factors, emotional regulation is necessarily considered part of self-regulation. The importance of looking at this in children as it relates to self-regulation is that emotion is a motivator for children. For children, emotion gives experience meaning; what they make out of that meaning can allow children to better regulate themselves (Cole et al., 2004).

Cognitive and behavioral regulations are simply children’s ability to regulate appropriately the way they think and behave. The child’s cognitive and behavioral regulation is usually exhibited in settings such as school. A child’s ability to self-regulate is shown to benefit and increase school engagement, which in turn benefits school performance (Patrick, 1997).

In summary, school engagement and self-regulation are concepts that appear to be developmentally related to children doing better now and in their future. There is no literature that identifies how family processes, specifically marital interaction, affects school engagement and self-regulation.

There is limited research on gender differences of pre-adolescent children in relation to self-regulation and school engagement. It is likely because of different developmental progress that boys will be slightly behind girls in terms of self-regulation and possibly with school engagement. There are no studies reported in literature that have examined gender differences specifically with school engagement and self-regulation. However, Ashman and Van Kraavendoord (1998), looked at gender differences in relation to self-concept and academic achievement with a pre-adolescent sample, concepts somewhat similar to school engagement and self regulation. They concluded that girls at this age have higher reading and spelling abilities and are about



equal on math with boys (Ashman & Van Kraayenoord, 1998). The literature has little information on pre-adolescent gender differences regarding school engagement and self-regulation. It appears that there is a need to study gender influences on self-regulation and school engagement during such formative years of childhood.

### *Parent-Child Attachment*

A concept that might be related to the development of these prosocial behaviors is the secure attachment between parents and their child. John Bowlby, (1969, 1988) developed attachment theory and started his research with infants and the attachments they formed with their caregivers. He found that only within safety and support from a caregiver could a child fully be free to explore his/her world and exhibit behaviors that helped them develop important relational skills and attitudes. “According to the theory, children form ties to caregivers that vary in terms of the security of the bond. Children who form secure attachments are able to use the attachment figure as a safe haven in times of distress and as a secure base to support exploration and play in times of low distress” (Kerns, Tomich, Aspelmeier, & Contreras, 2000, p. 614).

Bowlby also found that there is an innate desire to be connected and seek relationships and a desire to seek “contact comfort,” a term coined by Harlow (1959). This term came from the well-known study of infant monkey’s and their attachment to cloth-substitute mothers. This study showed that in times of need, pain or threat there is a desire to seek comforting figures. Bowlby found that it was natural and innate that people seek attachment figures and infants who were unable to securely attach to such comfort figures exhibited high levels of distress (Bowlby, 1982). More recently, Goleman has postulated that human beings are neurologically designed to be social

beings, to take in social cues and to seek to belong to safe, secure relationships (Goleman, 2006).

Research indicates that early attachment patterns have an impact on well-being throughout the life course. Children who have a secure attachment have less difficulty throughout certain aspects of their lives, such as peer relationships (Kerns, 1996; Sroufe, 1988). Secure attachment can also predict the child's socialization (Bretherton, 1985) and risks for adjustment problems (Erickson, Sroufe, & Egeland, 1985). Mikulincer and Shaver (2007) reported that this attachment is important in 'maintaining and promoting mental health, interpersonal functioning, satisfying close relationships and psychological growth (p. 140).' It has also been found that optimal functioning occurs when attachment figures are available which creates a relationship of security and connection (Bowlby, 1973). Because this attachment has the potential to predominantly affect a child's outcomes, the study of attachment and its results are extremely important to give an idea of the child's future.

The majority of parent/child attachment research is focused on preschool-age children (e.g., Bretherton, Lambert & Golby, 2005; Rydell, Bohlin & Thorell, 2005; Wood, Emmerson & Cowan, 2004). This creates a large gap of research for the middle childhood and early adolescent years when children desperately need a secure figure (Kerns et al., 2000; Bowlby, 1979, 1989). Children report at this middle-childhood stage that they turn most often to their parents for support (Levitt, Guacci-Franco, & Levitt, 1993; Reid, Landesman, Treder, & Jaccard, 1989). Because individuals in this age group most often turn toward parents, marital conflict or parents' ability to work through and resolve conflicts may be one family factor that has an impact on secure attachment

between parents and children. These findings again point toward the need for the current study examining how mother-child and father-child attachment affects the relationship between marital interaction and the child's school engagement and self-regulation, especially in pre and early adolescence.

There are two studies regarding attachment among middle-age children. One study was done in the United States and one was completed in the United Kingdom. The U.S. study focused on children ages 9-12 and obtained attachment-based self-reports from the children. This study also obtained self-reports from the parents and measured their willingness to serve as an attachment figure for the child. Both boys and girls were involved in the study, but the race was predominantly white (87%). In this study researchers were able to administer questionnaires that covered subjects such as security, preoccupied and avoidant coping strategies, as well as a parent's willingness to serve as an attachment figure. The most interesting finding of this study was that the more attachment-related parenting attitudes and behaviors the parents reported, the more the parents were willing to act as attachment figures. The more willing these parents were to being that attachment figure for their child, the more secure the child felt. Kerns, et al. (2000) concluded, "This suggests that parents and children have a shared perspective on the parent-child relationship concerning the degree to which the parent is consistently operating as an accessible and available attachment figure to the child" (p. 623). Also, those children who had more security in their attachment used less avoidant coping with that same parent. (Kerns et al., 2000). Findings from these studies show that parent/child attachment is important at this age for the security of the child.

The other study was conducted in Wales. One of the most important variables of this study was the age of the group involved (11-12 year-old children). They discovered that “marital conflict negatively influences children’s symptoms of psychological distress through adverse effects on their feelings of emotional security stemming from marital conflict which, in turn, adversely influences their feelings of security in their relationship with their parents” (Harold, Shelton, Goeke-Morey, & Cummings, 2004, p. 369). Therefore, the negative marital conflict to which the child is exposed leads to adjustment problems as well as problems in their relationship with their parents, which, in turn, has the potential to create less secure attachment.

In this study, it was proposed that good attachment would be related to positive child outcomes, specifically school engagement and self-regulation. When a child feels securely attached they are more likely to exhibit these positive child behaviors because they feel safe and as a result have a greater ability to self-regulate. A child who has good attachment also does better in school, as they are better able to explore their world and are not distracted by worrying about having a secure base.

### *Marital Interaction*

Marital interaction is another family variable that may be related to both parent/child attachment and to the development of positive child behaviors. Marital conflict and parent/child attachment have both been well researched as separate variables, but they are rarely both included in studies. Goeke-Morey, Cummings, and Papp (2007) concluded that little seems to be known on how conflict and its resolution truly affect children, especially in relation to attachment with the parental figure. Marital conflict has been analyzed in terms of the child’s psychological adjustment (e.g., Emery, 1982; Grych &

Fincham, 1990; Porter & O’Leary, 1980), anxiety (Bogelsa & Brechman-Toussaint, 2006), security about parenting (Harold, et al. 2004), adjustment in general (Davies & Cummings, 1994; Cummings & Davies, 2002; Goeke-Morey et al., 2007; El-Sheikh & Elmore-Staton, 2004; Schoppe-Sullivan, Schermerhorn & Cummings, 2007; Turner & Barrett, 1998), stress (Davies & Cummings, 1994) and the response (good or bad) to marital conflict (Goeke-Morey et al., 2007). While marital conflict and its effects on children appear to be heavily researched, a majority of the research is tied to adjustment and not attachment. Although adjustment tends to be the vehicle in which problems or benefits of attachment are shown, it is an indication of attachment not a measure of attachment itself. There needs to be more studies which examine the effects of parent-child attachment on various outcomes in pre-adolescent children, especially differentiating between mother-child and father-child attachment.

While many studies have linked negative marital interaction with various negative child outcomes, studies have not examined negative marital interaction and positive child outcomes. It may be that parent’s emotions, as a result of conflict, creates tension in a child (Crockenberg & Langrock, 2001; Cummings, Goeke-Morey, Papp, & Dukewich, 2002). The potential attachment the child has with the parent comes as a result of how the child perceives this marital conflict. The intensity of marital conflict has the potential to affect both attachment and the child’s positive outcomes.

Cummings, Goeke-Morey, and Papp (2003) explored some of the emotional responses of children during marital conflict. Children (ages 8-16) participated and were evaluated by their parents regarding their emotions following the witnessing of their parents’ marital conflict. The parents indicated in a home diary their child’s emotional

response after a marital conflict. The parents rated the child's emotions (i.e., happiness, anger, sadness and fear) on a 10-point scale. As a result, a new finding stated that children who experienced happiness after marital conflict were less likely to experience adjustment problems. These authors were cautious, however, and stated they could not tell "whether more optimal marital conflict tactics or a buffering effect of children's positive emotionality, or both, accounted for these effects" (Cummings et al., 2003, p. 1926). Cummings et al. (2003) findings indicate that marital interaction may have an impact on positive outcomes in children as well as on negative outcomes.

The way in which a child responds to marital conflict can be positive or negative depending on contextual factors. A child's positive response to conflict resolution can be a good indication of emotional security and may be an indication that the child has confidence in the parents' ability to resolve conflict. If the child feels safe in the attachment with parents, the child can learn that conflict is a natural part of marriage and that resolution is important. If children feel unsafe in the attachment with the parents, they can conceptualize marital conflict as a threat because they do not have a secure base with the parents. Goeke-Morey et al., (2007) found that, "a child's positive response to conflict resolution was an indication of enhanced emotional security" (p. 751). This is consistent with Bowlby (1973) who believes that a positive aspect of secure attachment is that a child is more likely to respond to stressors with high degrees of distress. Securely attached children, when faced with stressful family events, experience 'felt security' (Cummings, 1990; Sroufe & Waters, 1977), as well as more regulation of negative emotional arousal (Cassidy, 1993; Kobak & Barbagle, 1993) and greater adjustments (Bretherton, Ridgeway, & Cassidy, 1990; Davies & Cummings, 1994). It seems, based

on theory that children who are securely attached to both parents would not necessarily be adversely affected by conflict in the parent's relationship, but more empirical studies are needed to verify whether this is true.

Davies and Cummings (1994) postulated the emotional security hypothesis, which is grounded in attachment theory. They "propose that emotional security is a paramount factor in children's regulation of emotional arousal and organization and in their motivation to respond in the face of marital conflict (p. 388)." Children can feel anxious and stressed amidst adults' conflicts (Cummings, Zahn-Waxler, & Radke-Yarrow, 1981) and at a very young age, they can explore different ways to intercede in marital conflict (Covell & Abramovitch, 1988; Covell & Miles, 1992). They may use different forms of functional symptomatic behavior to obtain the desired security, both for the relationship between the parents, as well as the child's relationship with the parents. Thus, there is an interrelated relationship between family dysfunction and insecure attachment (Belsky, Rovine, & Fish, 1989; Greenberg & Speltz, 1988).

Children feel more distressed with marital conflict if their security is threatened. An anxiously attached child is more likely to be affected by marital conflict than a securely attached child. This idea led the researcher to hypothesize that good attachment between child and parents may moderate the effects of negative marital interaction on child outcomes. According to Davies & Cummings' (1994) emotional security hypothesis, the most salient reaction to marital conflict is emotional distress (e.g., Cummings, 1987). So, "exposure to adults' conflicts induces emotional distress in children, with effects evident in behavioral, affective, cognitive, and physiological responses (Ballard, Cummings, & Larkin, 1993; Cummings, 1987; El-Sheikh,

Cummings, & Goetsch, 1989; Gottman & Katz, 1989; Grych & Fincham, 1993; O'Brian, Margolin, John, & Krueger, 1991). Emotional dysregulation and arousal (Cummings et al., 1981), dysregulation of interpersonal behavior and aggression (Cummings, Iannotti, & Zahn-Waxler, 1985; Cummings, Hennessy, Rabideau, & Cicchetti, 1994), self-reports of guilt and anxiety (Covell & Abramovitch, 1988; Grych & Fincham, 1993), and triadic involvement in parents' disputes (Covell & Miles, 1992; Cummings J.S., Pellegrini, Notarius, Cummings, 1989; Vuchinich, Emery, & Cassidy, 1988) have all been reported" (Davies & Cummings, 1994, p. 390). Thus, according to Davies and Cummings (1994), to account for these effects they propose that emotional security has three distinct impacts on the children's functioning, namely: the child's regulation to their own emotional arousal, the child's attempts to regulate the marital emotions, the emotional security the child feels and internal representations. The child can feel inappropriately stuck in the relationship as a result of poor security. The lack of security can produce anything within two extremes, from triangulation and enmeshment to disengagement and emotional cut-off. The increased marital conflict can also create decreased parental involvement and emotional availability to the child (Davies & Cummings, 1994). "Marital conflict results in diminished parental resources to support optimal parenting" (Schoppe-Sullivan et al., 2007, p. 1119).

Marital conflict has the potential to negatively affect parenting, which in turn may be related to poor attachment (Cummings et al., 2003). According to Schoppe-Sullivan et al., (2007), marital conflict can have a 'spill over' effect in which the conflict not only affects the marriage, but the other relationships surrounding that marriage (i.e., the parent/child relationship). Furthermore, the longer there is marital conflict, the more



likely it is to affect the parenting (Schoope-Sullivan et al., 2007). Naturally, those who are involved with a higher level of conflict will have less time and energy for positive parenting.

This study investigated the relationship between negative marital interaction, parent-child attachment for both fathers and mothers, and positive child outcomes, specifically school engagement and self-regulation in children ages 10-13. This study was unique in that it was longitudinal, used observational as well as questionnaire data and had a large sample. A conceptual model of the proposed relationships is illustrated in Figure 1. It was hypothesized that (1) as negative marital interaction increases, school engagement and self-regulation will decrease, and (2) that attachment will moderate the relationship between negative marital interaction and school engagement and child self-regulation.

## Methods

### *Participants*

The participants in this study came from the *Flourishing Families Project (FFP)*, a longitudinal study of family processes. All two-parent families with a child between the ages of 10 and 14 from the first and second wave of data were included in this study. Each family member filled out a one-and-one half hour self-administered questionnaire and each family participated in a one-hour video taped interview.

Three hundred and fifty three two-parent families made up the sample in the first wave of data (see table 1). The genders of children were almost equal with slightly over 50% being male and 49.6% being female. The mean age of the boys and girls were 11.26 and 11.18, respectively. The mean age of the fathers and mothers were 46.46 and 43.49, respectively. The average family size was 4.48. A majority of the participants were Caucasian with 86.4% fathers, 82.8% mothers, 78.5% daughters, and 78.9% sons, whereas 5.1% of fathers, 4.1% mothers, 2.7% daughters, and 4.0% sons were African American. Multi-racial persons consisted of 10.9% sons, 8.1% daughters, 3.1% fathers, and 3.7% mothers. The remaining participants were Hispanic, Asian Americans or some other race consisting of 5.1% of fathers, 9.4% of mothers, 6% daughters, and 6.9% sons. The annual household income was less than \$20,000 for 2.1% of the families, between \$20,000 and \$40,000 for 7.4%, and more than \$40,000 for 90.5% of the families. More mothers (70.7%) had at least a bachelor's degree. Fathers that had at least a bachelor's degree were 69.6%. The majority of participants were Protestant with husbands at 35.3% and wives at 39.1%; the second majority was Catholic for wives at 16.8% and no

religious preference for husbands at 19.4%. A majority of the husbands and wives were married at 96.3% and only 3.7% of the parents were cohabiting.

The second wave of data had a 96% retention rate with 296 mothers, fathers and children. Twenty families from wave 1 decided not to participate in wave 2. The other data that were lost from the remainder of the families that are not considered in the second wave of data was due to video error in either missing data from sound or image.

### *Procedure*

The first and second waves of data were collected in 2007 and 2008 from families living in Seattle. A majority of the recruiting was gathered from the Polk Directories, a national telephone database purchased from InfoUSA. The database contains 82 million households across the country and has information that was necessary for the study, including the age of children. Families were selected from targeted census tracts that mirrored the socio-economic and racial stratification of reports of local school districts. All families with a child between the ages of 10 and 14 living within target census tracts were deemed eligible to participate in the FFP. A multi-state recruitment protocol was used.

First, an introduction letter was sent to all eligible families. Second, a group of researchers made phone calls and home visits to verify eligibility. They also confirmed the family's desire to participate. Once the family verified its interest, and fit eligibility requirements, the interviewers would make appointments to go to the families home to conduct an assessment interview.

In addition to random selection from the database, families were also gathered in the study through participant referrals. At the end of each family interview the

interviewers would ask for referrals to two other families within the area that fit eligibility. This limited-referral approach provided more participants of varying diversity and social-economic status in the sample.

Through both recruitment protocols, 1,064 eligible families were identified (692 from the database and 372 from referrals). Of these, 500 had a child within the target-age range and agreed to participate (238 from the database and 262 from referrals). The 500 families consisted of 147 single-parent families and 353 two-parent families. The reasons most frequently used for non-participation in the study were concerns for privacy and lack of time.

Upon arrival of the research teams into homes, they would introduce themselves and then ask each member of the family to complete brief description information about their family. While the parents were doing their videotaped marital interaction task, the child was completing a questionnaire. The videotaped marital interaction task was timed for 25 minutes following the protocol established by the Iowa State Coding Lab that developed the Iowa Family Interaction Rating Scales. Partners were given a stack of cards with the instruction to pick one card up at a time and discuss the question on the card. When they were done with that card they were to put it aside and pick up the next card. The cards were in the same order for each marital dyad. The couple was not required to go through a certain amount of cards; they were only asked to continue until the timer went off and the interviewer returned. All videotaped interactions were conducted in this way. While the father and child were doing their video interaction, the mother was completing her questionnaire. While the mother and child were doing their video interaction, the father was completing his questionnaire. This allowed for complete

confidentiality and non-collaboration for the child as the parents were involved in a task and could therefore not see how the child was answering the questions. This also applied to the parents' as one parent would be with the child as the other was filling out the questionnaire and vice versa.

Missing data was less than 1% due to interviewers collecting and checking the questionnaires while they were still in the home and allowed clarification for missing and double marked answers.

When conducting wave 1, each family was asked to provide two stable contacts that would know where the family was if they were to move or something was to happen to them. In the 2<sup>nd</sup> wave of data each family was contacted first by letter. If they had moved, researchers then contacted the contacts to find out where the family was living. Researchers went to great lengths to retain all Wave I families. In some cases researchers followed families to Oregon, Iowa and Sweden and collected data for Wave II. During Wave II, fathers, mothers, and the target child were asked to complete questionnaires as well as participate in videotaped interaction tasks.

### *Measures*

The Iowa Family Interaction Rating Scales (Melby, Conger, Book, Rueter, Lucy, Repinski, Rogers, Rogers & Scaramella, 1998) were used to code actual marital interaction at Time 1. Questionnaire reports from father, mothers and target children were used to measure school engagement, child self-regulation, and mother-child and father-child attachment.

### *The Iowa Family Interaction Rating Scales*

Specific codes from the Iowa Family Interaction Rating Scales (Melby, et al., 1998) were used to create a latent variable called negative marital interaction. These codes included wife hostility, wife reciprocate hostility, wife contempt, wife denial, wife antisocial, husband hostility, husband reciprocate hostility, husband contempt, husband denial, husband antisocial, husband escalate hostility and husband angry coercion. The Iowa Family Interaction Rating Scales have been shown to be reliable and valid as assessed in several studies (i.e., Melby, Conger, Ge, & Warner, 1995; Melby, Conger & Puspitawait, 1999; Melby, Ge, Conger, & Warner, 1995).

#### *Task of Observational Coding*

Coders were trained to provide a macro level rating from 1 to 9 on each of the scales mentioned above. The coders participated in 90 hours of training, including tests over content of scales, practice coding of couples with feedback from certified coders. The coding manual (See Appendix B) provided extensive descriptions of each scale as well as examples and non-examples of the codes. To become a certified coder, meaning they could actually code for the research, coders had to code a criterion couple task that had also been coded by certified coders at the Iowa Behavioral and Social Science Research Institute and reach a minimum of 80% inter-rater agreement.

Once a coder became certified, 25% of their coded tasks were also blindly assigned to a second coder. Assignments for reliability coding were made in such a way that coders were unaware which of their tasks would be coded by two people.

Five latent variables were created as shown in figure 1. The first latent variable, negative marital interaction, was obtained from observational data collected at time 1. To determine how to create the latent independent variable, negative marital interaction, the

author conducted a principle components factor analysis using all negative codes for husbands and all negative codes for wives, a total of 20 codes. This factor analysis revealed that the following codes loaded heavily onto one factor. Codes that did not load well on the factor (above .50) were dropped. The codes which were kept included wife hostility, wife reciprocate hostility, wife contempt, wife denial and wife antisocial, husband hostility, husband denial, husband escalate hostility, husband reciprocate hostility, husband contempt, husband angry coercion, and husband antisocial. All these indicators for negative marital interaction were based on observational codes using the Iowa Rating Interaction Scale.

*Hostility* was defined, according to the Iowa Family Interaction Rating Scale, as “a scale that measures the degree to which the focal displays hostile, angry, critical, disapproving and/or rejecting behavior toward another interactor’s behavior (actions), appearance, or state. Take the following behaviors into account: nonverbal communication, such as angry or contemptuous facial expressions and menacing/threatening body posture; emotional expression, such as irritable, sarcastic, or curt tones of voice or shouting; rejection such as actively ignoring the other, showing contempt or disgust for the together or the other’s behavior, denying the other’s needs; and the content of the statement themselves, such as complaints about the other or denigrating or critical remarks, e.g., “you don’t know anything” or “you could never manage that.” Bear in mind that two people can disagree without being hostile. To be hostile, disagreements must include some element of negative affect such as derogation, disapproval, blame ridicule, etc. (Melby et al., 1998, P. 55).” Cronbach’s inter-rater reliability for wife’s and husband’s hostility were .83 and .82 respectively.

*Reciprocate hostility* was defined, according to the Iowa Family Interaction Rating Scale, as “measure the degree to which the focal responds to another interactor’s hostile, conflictual, angry-coercive and disapproving behavior in like manner. Look at the extent to which the focal reciprocates such behavior (“adds to the heat”) thought the use of hostility, contempt, and/or angry coercion (either verbal or nonverbal). The reciprocated behaviors must occur in response to behavior occurring within the dyad (Melby et al., 1998, p. 81).” Cronbach’s inter-rater reliability for wife’s and husband’s reciprocate hostility were .88 and .86 respectively.

*Contempt* was defined, according to the Iowa Family Interaction Rating Scale, as “a scale that is a specific form of hostility that assess the amount of disgust, disdain, derision, and scorn shown toward another interactor. The content includes personally derogatory adjectives, mocking statement, criticisms of the other person, comments that put down and demean another’s personal characteristics, and sarcasm directed toward the other person as a person. The emotional tone is superior, condescending, distant, cool, cold, or icy versus hot and engaged. At higher levels, the voice reflects being fed-up, sickened, or repulsed. At lower levels the affective tone may be neutral but the voice reflects patronization and superiority. The feeling conveyed is that the other person is not valued or is incompetent. Nonverbal behaviors may include rolling the eyes, short exasperated sighs, or other indications of disgust. Look for the presence of unkind statement presented in a disdainful manner that demean and put down the other person. Such statements must include an element of disgust, not merely make fun of the other person (Melby et al., 1998, p. 69).” Cronbach’s inter-rater reliability for wife’s and husband’s contempt were .78 and .82 respectively.



*Denial* was defined, according to the Iowa Family Interaction Rating Scale, as “a scale that measures the focal’s active rejection of the existence of a given situation or of personal responsibility for a situation being discussed. Code the presence of statements that excuse one’s behavior, deny responsibility for blame or cast blame onto someone or something else with the apparent intent of making the other realize “it’s not my fault,” or “I’ve no control over it.” The focal may explicitly or implicitly deny that he/she is responsible for a past or present situation or may blame others for the existence of a problem. Often such denial will be done in a defensive manner. In the extreme case, the focal may deny the existence of a problem that clearly seems to exist based on other contextual cues (Melby et al., 1998, p. 97).” Cronbach’s inter-rater reliability for wife’s denial was .81.

*Antisocial* was defined, according to the Iowa Family Interaction Rating Scale, as “a measure of degree to which the focal demonstrates socially irresponsible or age-inappropriate behaviors. It includes when a focal resists, defies, or is inconsiderate of others by being noncompliant, insensitive, or obnoxious, as well as when the focal is uncooperative and unsociable. The antisocial person is characteristically self-centered, egocentric, tends to behave in inappropriate ways, or in some other way demonstrates lack of age-appropriate behaviors. This scale includes both immaturity conveyed as acting out behavior and as withdrawn behavior (Melby et al., 1998, p. 137).” Cronbach’s inter-rater reliability for wife’s and husband’s antisocial were .88 and .89, respectively.

*Escalate Hostility* was defined, according to the Iowa Family Interaction Rating Scale, as “assessing the focal’s tendency to escalate his/her own hostile behaviors directed toward another interactor, using hostility, verbal attack, physical attack,

contempt, and/or angry coercions. Hostile is coded if the focal follows one hostile behavior with another hostile behavior or if the original behavior has intensified. Include escalation of all behaviors coded as hostility (e.g., criticizing, hitting, mocking, yelling, ridiculing, blaming, contempt, kicking, throwing objects, pushing, grabbing, etc.) (Melby et al., 1998, p. 77).” The Cronbach’s inter-rater reliability coefficient for husband escalate hostility was .89.

*Angry Coercion* was defined, according to the Iowa Family Interaction Rating Scale, as “a specific form of hostility that assesses the degree to which the focal achieves goals, attempts to control or change the behavior or opinions of another interactor or, or attempts in a hostile manner to get another interactor to do what the focal wants (i.e., power plays, demands, hostile commands, stubbornness, resistance, obstinence, contingent physical or verbal threats, refusals, prohibitions, forcing own opinions on the other, angry whining, angry blaming, contemptuous mocking, derogatory insistence, etc.) To score on Angry Coercion, the focal’s change attempts must demonstrate hostile contemptuous, or sarcastic effect, as opposed to depressed effect (Melby et al., 1998, p. 73).” The Cronbach’s inter-rater reliability coefficient for husband angry coercion was .82.

#### *Questionnaire Data*

The four remaining latent variables can also be seen in Figure 1. The remaining four variables were taken at time 2, Mother Child Attachment, Father Child Attachment, School Engagement and Child Self-Regulation.

The dependent variables, school engagement and child self-regulation, were each created using mother, father, and child report on the School Engagement Scales

(Fredericks, Blumenfield, & Paris, 2004) and Novak and Clayton's (2001) Self-regulation measure. The latent dependent variable, School Engagement, was created using indicators of mother report, father report and child report using the School Engagement Scales (Fredericks, et al., 2004) (See Appendix D). This measure has three subscales, behavioral, emotional, and cognitive engagement. They can be combined together into a total school engagement scale which was the scale used in this study. This scale measures the child's ability to function at school, get homework done and engage in prosocial behavior at school. The target children were asked how much they agree or disagree 1 (*strongly disagree*) to 5 (*strongly agree*) with items such as, "I complete my homework on time," "I talk with people outside of school about what I am learning in class" and "I feel bored in school." The beginning stem was changed for the fathers' and mother's report to "My child...". Otherwise the items remained the same. Possible scores ranged from 15 to 75. Higher scores indicated a greater ability to focus, get homework done and engage in prosocial behavior.

Predictive validity studies have shown engagement to be related to school achievement and teachers ratings of students' involvement. Fredericks, Blumenfield & Paris (2004) found the Cronbach's alpha coefficient for this measure to be .72-.77 (behavioral), .83-.86 (emotional) and .82 (cognitive). The Cronbach's alpha coefficients, for this sample, were found to be .72 (behavioral subscale), .76 (emotional subscale), and .76 (cognitive subscale) and .86 for the overall scale.

The dependent latent variable, self-regulation, was created using mother, father, and child report of the child's self-regulation using a 13-item version of the Novak and Clayton (2001) self-regulation measure (See Appendix E). This scale measures the

child's ability to regulate, specifically their behaviors, cognitions and emotions. Mothers, fathers, and the target child were asked how much they agreed or disagreed with certain phrases, such as, "my child gets upset easily (I get upset easily: for child)," "my child gets distracted by little things (I get distracted by little things: for child)." Responses for parents ranged from 1 (*never true*) to 5 (*always true*), and possible scores ranged from 13 to 65 and children's responses ranged from 1 (*never true*) to 4 (*always true*), with possible scores ranging from 13 to 52. Higher scores indicate the better the child's ability is to regulate emotions, behavior and cognitions. Novak and Clayton (2001) found the Cronbach's alpha coefficient for this measure to be .95 (emotional) .96 (cognitive) and .94 (behavioral). The Cronbach's alpha coefficient for the parents response for this sample was found to be .86 (emotional), .80 (cognitive), .82 (behavioral) and .87 overall. The overall scale was used in this study. The Cronbach's alpha coefficient for the child's response for this sample was found to be .77 (emotional subscale), .70 (cognitive subscale), .72 (behavioral subscale) and .78 overall. The overall scale was used in this study.

The two latent parent-child attachment variables (one for mother and one for father) were each created using two measures (See Appendix C). The two indicators for attachment with mother consisted of the child's report of attachment with mother and the mother's report of attachment with the child. The two indicators for attachment with father consisted of the child's report of attachment with father and the father's report of attachment with the child.

Child's report of attachment with both mother and father were measured using a modified 8-item version of the Inventory of Parent and Peer Attachment (Armsden &

Greenberg, 1987). The responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*) on questions that inquired about the child's perceived communication, trust in or alienation from parent(s). Possible scores ranged from 8 to 40. Items included such questions as: "My parent respects my feelings," "When we discuss things, my parent considers my point of view" and "When I am angry about something, my parent tries to be understanding." A higher score indicated higher attachment between parent and child, a lower score indicated lower attachment between parent and child. Factor analysis resulted in factor loadings ranging from .49 to .83, and predictive validity studies have shown that higher scores on this attachment inventory are related to higher child well being, better emotion management, and better problem managing coping responses (Armsden and Greenberg, 1987). Armsden and Greenberg (1987), reported Cronbach's Alpha reliability coefficient to be .91. The coefficients in this study were .71 for female children and .74 for male children.

The second measure for attachment was the Family Connectedness Scale (Lee, Draper & Lee, 2001), which measures the parent's perception of the degree of healthy connection a child has with the parent. Parents responded on a range from 1 (*disagree*) to 6 (*agree*) on how true the item was for each parent. Items included such questions as "I do not feel related to my child most of the time," "I am able to relate to my child" and "I have little sense of togetherness with my child." High scores represent perceived better levels of connection between child and parent. Scores range from 9 to 54. Factor analysis was performed with factor loadings ranging from .59 to .83 and convergent discriminant validity was demonstrated with connectedness being negatively correlated with loneliness, avoidance, and social discomfort (Lee, et al., 2001). Original Cronbach's

alpha coefficient was .94 and for this sample, Cronbach's alpha coefficient was .85 for female and .88 for male.

*Moderation Testing*

Testing for moderation involved two steps. First, a mediation model was tested with the assumption that if mediation was present, there was no need proceeding to test for moderation. If the mediation paths were not significant, the second step was to test for moderation by entering interaction terms in the model.

## Results

Structural Equation Modeling using AMOS (2007) was used to examine both the measurement model and the structural model proposed in Figure 1. All indicators were examined to determine how well they loaded on each latent variable. The only measures that were dropped were those coding scales that factor loaded below .50. Gender of child, race of child and family income were added to the structural model as control variables.

As seen on Table 2, the factor loadings on the latent variables were generally high, especially for the two dependent variables. For the three indicators for self-regulation (child, mother and father reports), all factor loadings were high loadings with the range being from .75 to .87. For school engagement all factor loadings were high as well with a range of .82 to .91. Factor loadings for other measured variables (with the exception of negative marital interaction discussed earlier) were acceptable (above .50), so they were kept in the model.

Insert Table 2 Here

The means for father child attachment indicated that fathers tended to rate their attachment with the child slightly higher than the child did (father: 45.93, child: 39.21). The mother's reports are similar to that of the children (mother: 43.87, child: 40.86). The three means for school engagement show a gender difference in that daughters' school engagement (34.30) is higher than sons' school engagement (32.35). Both mothers and fathers reported their children to be more engaged in school than the children reported themselves (39.42 and 39.39, respectively, with children at 33.35). With self-regulation,

fathers and mothers reported that daughters were more self-regulated than sons. The children's report of self-regulation was roughly equal for sons and for daughters.

Insert Table 3 Here

Correlations of all the measured variables are found in table 3. As expected, all of the observation indicators for negative marital interaction are highly correlated. There are moderate correlations between different marital codes and reports of self-regulation and school engagement. For example, school engagement according to child reports are significantly correlated with every observed negative marital interaction indicator except wife contempt.

The researcher hypothesized (as shown in Figure 1) that (1) as negative marital interaction increases, school engagement and self-regulation will decrease, and (2) that attachment will moderate the relationship between negative marital interaction and school engagement and child self regulation. Figure 2 shows the resulting standardized beta coefficients for the basic hypotheses that negative marital interaction is significantly and inversely related to school engagement and self-regulation. The path from negative marital interaction is significant ( $B=-.31, p<.001$ ). As seen in Figure 2, gender was also significantly related to school engagement ( $B=-.26, p<.001$ ) and self-regulation ( $B=-.23, p<.001$ ) with males exhibiting less school engagement and self-regulation than females. The fit of the model was acceptable as indicated by an insignificant chi square, a CFI of .990 and RMSEA of .037.

Insert Figure 2 Here

As described above, a mediation model was first analyzed, and the paths from negative marital interaction to attachment were not significant. Figure 3 shows the



results of the model when mother-child and father-child attachment were added as mediating variables between negative marital interaction and school engagement and self-regulation. There was no significant relationship between negative marital interaction and mother-child attachment and father-child attachment. While mother-child attachment and father-child attachment were related to school engagement and self-regulation, they did not mediate the relationship. So the hypothesis that parental attachment would mediate the relationship between negative marital interaction and school engagement and self-regulation was rejected. The mediation model was rejected, as the path from negative marital interaction to attachment was not found to be significant. As a result, MPlus software (Muthen and Muthen, 2008) was used to test the hypothesis that mother-child attachment and father-child attachment moderate the relationship between negative marital interaction and school engagement and self-regulation. This was necessary since AMOS does not allow for testing of moderation in Structure Equation Modeling.

Insert Figure 3 Here

As illustrated in figure 4, our first hypothesis was confirmed that as negative marital interaction increases school engagement and self-regulation will decrease ( $B=-.23$ ,  $p<.001$  and  $B=-.13$ ,  $p<.05$ ). These results also confirmed that mother and father child attachment were related to school engagement and self-regulation ( $B=.32$ ,  $p<.001$  and  $B=.38$ ,  $p<.001$  for father-child attachment and school engagement and self regulation;  $B=.23$ ,  $p<.001$  and  $B=.16$ ,  $p<.05$  for mother-child attachment and school engagement and self-regulation). In terms of moderation, father attachment did not moderate the relationship between negative marital interaction and school engagement ( $B=.04$ ) or self-regulation ( $B=-.03$ ). Mother-child attachment did not moderate the relationship between

negative marital interaction and self-regulation ( $B=-.02$ ), but it did moderate the relationship between negative marital interaction and school engagement ( $B=-.11$ ,  $p<.05$ ). As mother attachment increases, it buffers the effects of negative marital interaction on school engagement. The model fit was good ( $X^2=157.32$ ,  $df=154$ ,  $p=.056$  CFI = .996, RMSEA=.024). The hypotheses that father-child attachment would moderate the relationship between negative marital interaction and school engagement and self-regulation was rejected. The hypothesis that mother-child attachment would moderate the relationship between negative marital interaction and self-regulation was also rejected, but the hypothesis that mother-child attachment would moderate the relationship between negative interaction and school engagement was accepted.

Insert Figure 4 Here

## Discussion

The hypothesis that negative marital interaction would decrease positive child outcomes was supported. Numerous studies have investigated how parental conflict affects negative child outcomes such as depression and externalizing behaviors (Pendry & Adam, 2007; Rogers & Hombeck, 1997). The findings of this study show that negative marital interaction also hinders the development of positive outcomes. This double-barreled effect of negative marital interaction, that is, positive outcomes are hindered at the same time increasing a child's risk for depression most likely sets up the beginning of a negative developmental trajectory where absence of positive outcomes and presence of negative outcomes make it difficult for the child to function at the level of a child who exhibits school engagement, self regulation, and absence of depression.

A child's school engagement and emotional process can be affected by their parent's marriage for many reasons, grounded in theory. One reason would be found in Bowen's theory of triangulation in a family. It is easy for one or both parents in a conflicted marriage to diffuse their anxiety onto their child. From this theoretical perspective, a child is potentially burdened with additional stress and anxiety in whatever way the parent manifests it to the child. This intergenerational transmission process makes it difficult for children to be differentiated and pursue their own developmental needs.

From a Structural Family Therapy view, such a cross-generational coalition between one or both parents and their children could be distracting and all consuming for the child (Minuchin & Fishman, 1981). The idea that conflicted parents attempt to 'triangulate' their children to create homeostasis for the family is found frequently in

family therapy literature. These processes such as triangulation and projection of marital anxiety onto the child may easily drain the child's emotional energy and their interest in school. Draining of a child's emotional energy limits resources for the child to develop their own self-regulation and with this level of distraction, it would be more difficult to focus on school. As negative marital interaction increases, children may necessarily put more attention on the family and less on being engaged at school.

Gender also played a role in that females exhibited more school engagement than boys. Based on findings in other studies (Ashman & Van Kraayenoord, 1998), we expected this result. According to Crosnoe, Riegle-Crumb, Field, Frank, and Muller (2008), in secondary school girls outperform boys in almost every academic indicator. Girls are likely more engaged at the age of children in this study because of developmental differences, namely the idea that girls are still slightly ahead in development at the age of this sample.

Mother-child and father-child attachment was found to be related to school engagement and self-regulation as shown in Figure 3. There were some interesting gender differences related to attachment. First, children saw themselves slightly less attached with their fathers than the fathers saw their attachment with their child. Children's perceptions of attachment with their mothers were more similar to the mother's report of attachment. Phares (1997) found that mothers were able to perceive more accurately their children's internalizing problems and that mothers and teachers were more able to accurately perceive externalizing problems. This finding may be related to the fact that mothers generally spend more time with their children and may be more accurate in the perceptions of the relationship they have with the child.

The findings that attachment was related to school engagement and self-regulation confirms Bowlby's conclusion that best child functioning happens when the parent has a secure relationship with the child (1973). This secure relationship allows the child to better explore their world, including the world of school. As Mikulincer and Shaver (2007) found, a strong attachment between the parent and child can promote those attributes (e.g., interpersonal function, good close relationships, psychological growth) that would directly affect a child's ability to positively engage in school and self-regulate.

The second and final hypothesis was that attachment would moderate the relationship between negative marital interaction and school engagement and child self-regulation. The hypotheses that father-child attachment would moderate the relationship between negative marital interaction and school engagement and self-regulation were rejected. The hypothesis that mother-child attachment would moderate the relationship between negative marital interaction and self-regulation was also rejected, but the hypothesis that mother-child attachment would moderate the relationship between negative marital interaction and school engagement was accepted.

It appears from these findings that no matter how secure the relationship with a father is, it will not make up for the effects of negative marital interaction. It may be that in most households, fathers tend to spend less time with their children in the formative years of early and middle childhood than do mothers. This may account for the finding that attachment to father is not as relevant for school engagement as attachment to mother. Although the father is generally caretaking by providing the financial security, middle-childhood-aged children rarely see that as a caregiving factor and thus do not see the need or the attachment aspect of that type of caregiving. This lack of felt attachment

with the father could contribute to the father-child attachment not acting as a moderator, but it could also be accounted for by the interpretation of the child. The interpretation of the child could be that the father is not as involved in the child's school life or emotional development.

It appears that attachment to mother can buffer the relationship between negative marital interaction and a child's school engagement. It is possible that the mother more often helps the child with homework after school. It is also possible that the mother would more likely be able to go to school related events, such as performances, assemblies or reports that the child is giving, this could be interpreted by the child as support in schooling. This same explanation helps to understand the role of the mother and why the mother-child attachment does serve as a buffer between negative marital interaction and school engagement. It is possible for the child to have good attachment with the mother, who is generally more involved in schooling during these formative years and still be able to flourish in school despite the negative marital interaction. The child can feel safe enough with their mother, and still engage in school as attachment with mother can feel like a stronger foundation (Bowlby, 1969) as this is the parent the child spends a majority of time with.

It appears that attachment to mother cannot buffer the relationship between negative marital interaction and a child's self-regulation. This was surprising when the child is sad or upset, it may be more likely to disclose feelings to the mother who may be more likely to be home and may be more open to listening to a child's feelings and distress. Mothers tend to deal with the child's feelings more often and can more easily be available and responsive to a child's immediate needs. This would explain why the

attachment with fathers does not buffer self-regulation for the child. The father is likely not to be as available or responsive, but it appears that the mother's attachment with the child does not moderate as well with negative marital interaction and self-regulation.

From the viewpoint of various systems models of family therapy (e.g., Minuchin), children are usually affected by negative marital interaction. Parents may think that negative marital interaction is strictly between them because they do not fight in front of the children or they speak in code around the child. However, clinical accounts show that children pick up on cues, fights and even a feeling in the room between two people, especially when it involves their parents. When children are 'freed' so to speak from the worry and concern of their parent's relationship, areas of their life such as school are able to flourish. While attachment to mother may buffer the negative effects of marital conflict on a child's school-engagement, it cannot totally compensate for the effects of negative marital interaction.

From a clinical perspective, one of the most important interventions to child's poor school performance and engagement could be marriage therapy for the parents. At least, it should be considered as adjunct treatment when children present school problems or regulation problems. In terms of the assessment and treatment of children showing problems engaging in school and emotional difficulties, clinicians should have a systemic view of the problem, focusing on other factors that could be affecting the child's life, especially a broader view of the family context looking at the marital dyad specifically. It is assumed that with a stronger marital relationship and possibly family relationship, the potential ability to attach could be much greater and with that attachment comes more freedom to engage in school and regulate self.

*Future Research*

These findings raise several questions for future research and clinical work. During formative years of a child's life, there is a need for further clarification of why attachment with mother moderates school engagement while attachment with father does not. More studies are needed that examine how attachment to both parents offers protection for children regarding various outcomes. Other potential questions could be, why fathers tend to see themselves as being more attached than the child perceives? What is the effect of both negative and positive marital interaction on other positive child outcomes such as generosity, gratitude, leadership potential and resiliency? Do other children/friends buffer or moderate the effects of negative marital interaction and a child's ability to flourish? Does the school system play a significant role; does attachment to teachers make a difference, especially with school engagement? Do siblings or birth order moderate the family life in such a way that negative marital interaction does not have as big of an effect on positive child outcomes? Does the emotional acceptance in the home make a difference on self-regulation in the child? Does the parent's ability to regulate themselves make a difference for the children? Does the ability a productive parent has at labeling and allowing appropriate expression of emotion in their child make a difference?

*Limitations*

This study had several limitations. The sample was composed of mostly Caucasian and African-American children and their families. It was not as racially diverse regarding Latinos and Asians as would be preferred. Because a few families also nominated other families to be in the sample, the sampling frame was not entirely a pure



random sample. It is hard to determine how that affects the generalizability to broader groups of families. The survey measure of attachment used in this study may not measure deep attachment like Ainsworth's interview protocol for attachment. Because the majority of the couples in this sample seemed generally happily married, the negative marital interaction is not as distressed as might be seen in a clinical sample.

### *Conclusion*

It appears that negative marital interaction hinders the development of positive outcomes in preadolescent children. This double hit of increasing negative outcomes in the child and hindering positive outcomes sets children up for poorer developmental trajectories. While the researchers hypothesized that attachment to mother and to father would moderate the negative effects of negative marital interaction on school engagement and child self-regulation, this was only true in the case of mother-child attachment buffering the relationship between negative marital interaction and school engagement.

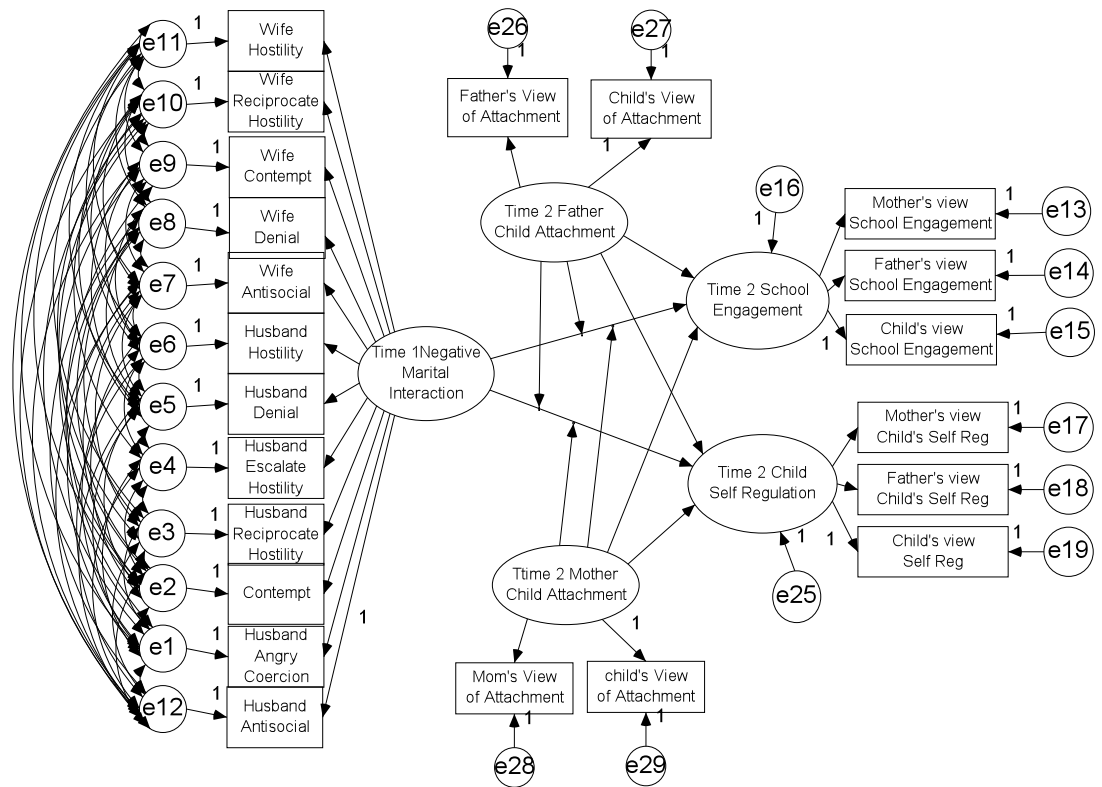


Figure 1. Conceptual Moderation Model with Negative Marital Interaction at Time 1 Predicting School Engagement and Child Self-Regulation at Time 2 with Time 2 Father and Mother Attachment as Moderating Variables.

Table 1. Demographic Characteristics of Sample (N=296 families)

	Fathers	Mothers	Girls	Boys
Age at Time 1	45.38(6.10)	43.49(5.32)	11.18(.95)	11.26(.97)
Age at Time 2	46.45(6.03)	44.56(5.70)	12.29(.98)	12.23(.99)
	Percentages			
Race				
Caucasian	86.4%	82.8.0%	81.3%	79.5%
African Am	5.1%	4.1%	4.2%	2.7%
Hispanic	1.0%	3.0%	2.1%	1.4%
Asian American	2.0%	4.4%	4.2%	4.1%
Other	2.4%	2.0%	0.0%	1.4%
Multiethnic	3.0%	3.7%	8.2%	11.0%
Parents' Education				
Less than H.S.	0%	1.4%	--	--
High School Diploma	6.1%	4.4%	--	--
Some College	25.9%	23.7%	--	--
Bachelors Degree	38.6%	41.4%	--	--
Grad/Professional Degree	29.4%	29.1%	--	--
Household Income				
	Time 1		Time 2	
Under \$15000	4.2%		2.4%	
\$15001-24999	3.8%		5.8%	
\$25000-49999	8.2%		15.4%	
\$50000-74999	15.6%		34.6%	
\$75000-99999	45.4%		29.1%	
\$100000-119,999	9.0%		2.7%	
\$120,000-149,000	6.5%		4.5%	
\$150,000+	4.3%		4.1%	
Missing	3.0%		1.4%	
Family Size	4.37 (1.03) 3-9 range		4.42 (1.00) 3-9 range	
Marital Status				
Married	96.3%		96.9%	
Cohabiting	3.7%		3.1%	

Table 2. Means, Standard Deviations, Range, Alpha Coefficients, and Factor Loadings for All Variables (N=296 families, 296 fathers, 296 mothers, and 296 children)

Variables	$\bar{X}$	(S.D.)	Range	Inter-rater Reliability/ $\alpha$	Factor Loading on Latent Variable
Negative Marital Interaction (All time 1)					
Mother Hostility	2.88	(2.78)	1-9	.85	.79
Mother Reciprocate Hostility	1.39	(1.16)	1-9	.82	.76
Mother Contempt	2.15	(1.70)	1-9	.83	.75
Mother Denial	1.87	(1.13)	1-9	.87	.79
Mother Antisocial	3.12	(1.56)	1-9	.90	.73
Father Hostility	2.45	(1.62)	1-9	.82	.86
Father Reciprocate Hostility	1.34	(1.02)	1-9	.81	.74
Father Escalate Hostility	1.30	(.98)	1-9	.83	.76
Father Contempt	1.90	(1.48)	1-9	.87	.77
Father Denial	2.27	(1.48)	1-9	.89	.82
Father Angry Coercion	1.43	(1.11)	1-9	.91	.86
Father Antisocial	3.17	(1.62)	1-9	.92	.76
Father Child Attachment (Time 2)					
Child's Report (Combined, N=296)	39.21	(6.24)	21-52	.81	.85
Daughters (N=151)	40.58	(6.31)	25-52	.80	N/A
Sons (N=145)	39.01	(5.97)	21-52	.80	N/A
Father's Report (Combined)	45.93	(6.58)	23-54	.74	.82
Daughters	46.23	(6.43)	27-54	.79	N/A
Sons	45.62	(6.74)	23-54	.70	N/A
Mother Child Attachment (Time 2)					
Child's Report (Combined)	40.86	(5.98)	22-53	.81	.83
Daughters	41.27	(5.95)	22-53	.81	N/A
Sons	40.12	(5.52)	22-53	.80	N/A
Mother's Report	43.87	(5.24)	21-54	.82	.86
Daughters	43.93	(5.20)	23-54	.81	N/A
Sons	43.81	(5.31)	21-54	.82	N/A
School Engagement (Time 2)					
Child's Report (Combined)	33.35	(5.36)	16-45	.83	.82
Daughters	34.30	(5.04)	16-45	.82	N/A
Sons	32.35	(5.51)	18-45	.81	N/A
Mother's Report (Combined)	39.42	(6.07)	20-50	.88	.89
Daughters	40.81	(5.58)	20-50	.87	N/A
Sons	37.97	(6.24)	23-50	.87	N/A
Father's Report (Combined)	39.39	(5.57)	21-50	.87	.91
Daughters	40.54	(5.16)	25-50	.86	N/A

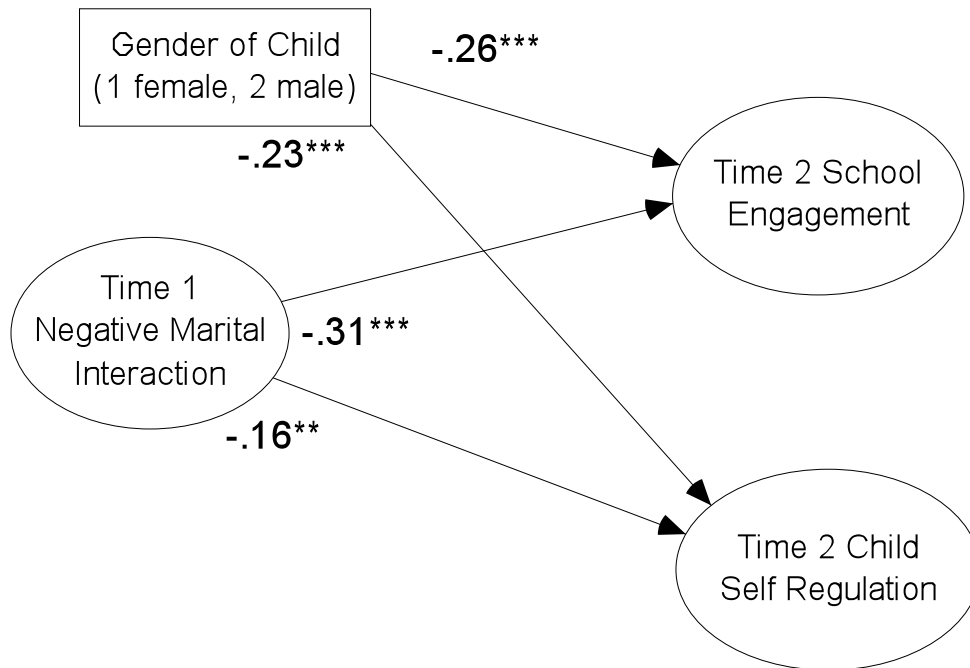
Sons	38.20 (5.70) 21-50	.87	N/A
Child Self Regulation (Time 2)			
Child's Report (Combined)	34.62 (5.45) 18-46	.78	.75
Daughters	34.86 (5.29) 20-46	.78	N/A
Sons	34.35 (5.61) 18-45	.78	N/A
Mother's Report (Combined)	34.52 (6.01) 19-48	.87	.87
Daughters	35.60 (5.82) 19-48	.86	N/A
Sons	33.39 (6.02) 21-46	.86	N/A
Father's Report (Combined)	34.41 (5.75) 20-48	.85	.86
Daughters	35.48 (5.44) 20-47	.84	N/A
Sons	33.30 (5.88) 20-48	.85	N/A

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Table 3. Correlations of All Measured Variables

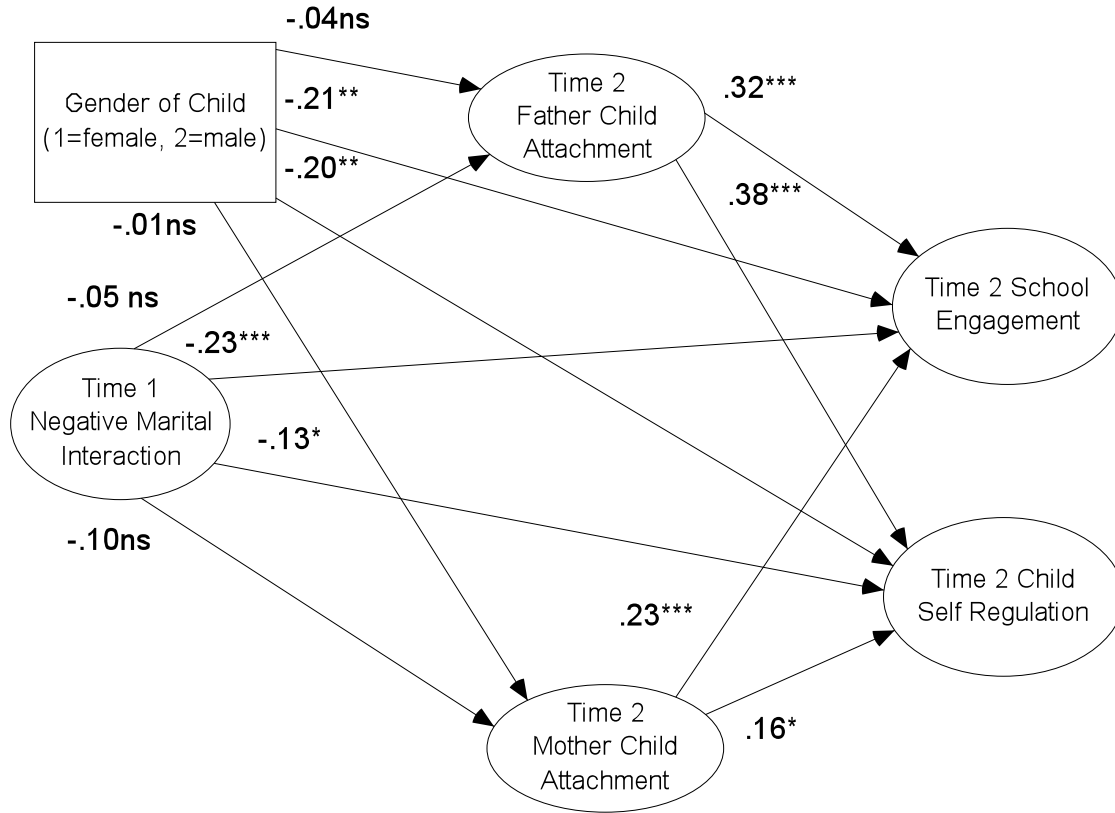
Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1.MHostility	1																						
2.MReciprocate Hostility	.55 <sup>c</sup>	1																					
3.MContempt	.83 <sup>c</sup>	.53 <sup>c</sup>	1																				
4.MDenial	.45 <sup>c</sup>	.34 <sup>c</sup>	.38 <sup>c</sup>	1																			
5.MAntisocial	.82 <sup>c</sup>	.45 <sup>c</sup>	.71 <sup>c</sup>	.41 <sup>c</sup>	1																		
6.FHostility	.57 <sup>c</sup>	.52 <sup>c</sup>	.54 <sup>c</sup>	.56 <sup>c</sup>	.48 <sup>c</sup>	1																	
7.FReciprocate Hostility	.52 <sup>c</sup>	.76 <sup>c</sup>	.50 <sup>c</sup>	.46 <sup>c</sup>	.38 <sup>c</sup>	.60 <sup>a</sup>	1																
8.FEscalateHstl	.47 <sup>c</sup>	.54 <sup>c</sup>	.40 <sup>c</sup>	.43 <sup>c</sup>	.32 <sup>c</sup>	.68 <sup>c</sup>	.69 <sup>c</sup>	1															
9.FCContempt	.58 <sup>c</sup>	.45 <sup>c</sup>	.52 <sup>c</sup>	.49 <sup>c</sup>	.45 <sup>c</sup>	.81 <sup>c</sup>	.68 <sup>c</sup>	.68 <sup>c</sup>	1														
10.FAngryCoer	.43 <sup>c</sup>	.38 <sup>c</sup>	.44 <sup>c</sup>	.50 <sup>c</sup>	.38 <sup>c</sup>	.69 <sup>c</sup>	.71 <sup>c</sup>	.67 <sup>c</sup>	.68 <sup>c</sup>	1													
11.FDenial	.54 <sup>c</sup>	.41 <sup>c</sup>	.52 <sup>c</sup>	.42 <sup>c</sup>	.47 <sup>c</sup>	.58 <sup>c</sup>	.58 <sup>c</sup>	.68 <sup>c</sup>	.47 <sup>c</sup>	.52 <sup>c</sup>	1												
12.FAntisocial	.51 <sup>c</sup>	.43 <sup>c</sup>	.45 <sup>c</sup>	.46 <sup>c</sup>	.51 <sup>c</sup>	.74 <sup>c</sup>	.46 <sup>c</sup>	.54 <sup>c</sup>	.68 <sup>c</sup>	.56 <sup>c</sup>	.48 <sup>c</sup>	1											
13.CAttachtoM	-.19 <sup>b</sup>	-.12 <sup>a</sup>	-.15 <sup>a</sup>	-.25 <sup>b</sup>	-.26 <sup>c</sup>	-.15 <sup>a</sup>	-.04	-.09	-.17 <sup>a</sup>	-.11 <sup>a</sup>	-.06	-.22 <sup>b</sup>	1										
14.MAttachtoC	-.09	-.13 <sup>a</sup>	-.12 <sup>a</sup>	-.13 <sup>a</sup>	-.15 <sup>a</sup>	-.05	-.06	-.03	-.04	-.03	-.02	-.11 <sup>a</sup>	.28 <sup>a</sup>	1									
15.CAttachtoF	-.18 <sup>b</sup>	-.11 <sup>a</sup>	-.16 <sup>a</sup>	-.17 <sup>a</sup>	-.23 <sup>b</sup>	-.11 <sup>a</sup>	.01	-.05	-.16 <sup>a</sup>	-.13 <sup>a</sup>	-.10	-.18 <sup>b</sup>	.87 <sup>a</sup>	.21 <sup>c</sup>	1								
16.FAttachtoC	-.07	-.12 <sup>a</sup>	-.09	-.11 <sup>a</sup>	-.13 <sup>a</sup>	-.10	-.07	-.08	-.09	-.11 <sup>a</sup>	-.10	-.10	.34 <sup>c</sup>	.47 <sup>c</sup>	.32 <sup>c</sup>	1							
17.CSelfReg	-.16 <sup>b</sup>	-.07	-.02	-.14 <sup>a</sup>	-.09	-.09	-.05	-.08	-.10	-.10	-.07	-.15 <sup>a</sup>	.31 <sup>c</sup>	.22 <sup>c</sup>	.32 <sup>c</sup>	.21 <sup>c</sup>	1						
18.MRepCSelf	-.15 <sup>a</sup>	-.07	-.09	-.12 <sup>a</sup>	-.08	-.10	-.10	-.05	-.05	-.10	-.10	-.12 <sup>a</sup>	.21 <sup>c</sup>	.30 <sup>c</sup>	.18 <sup>b</sup>	.30 <sup>c</sup>	.44 <sup>c</sup>	1					
19.FRepCSHR	-.13 <sup>a</sup>	-.08	-.09	-.06	-.10	-.07	-.14 <sup>a</sup>	-.07	-.07	-.09	-.08	-.14 <sup>a</sup>	.22 <sup>c</sup>	.28 <sup>c</sup>	.22 <sup>c</sup>	.45 <sup>c</sup>	.43 <sup>c</sup>	.67 <sup>c</sup>	1				
20.CSchEngage	-.15 <sup>a</sup>	-.11 <sup>a</sup>	-.12 <sup>a</sup>	-.13 <sup>a</sup>	-.15 <sup>a</sup>	-.13 <sup>a</sup>	-.11 <sup>a</sup>	-.11 <sup>a</sup>	-.05	-.12 <sup>a</sup>	-.12 <sup>a</sup>	-.17 <sup>b</sup>	.39 <sup>c</sup>	.26 <sup>c</sup>	.41 <sup>c</sup>	.27 <sup>c</sup>	.43 <sup>c</sup>	.35 <sup>c</sup>	.36 <sup>c</sup>	1			
21.MSchEngage	-.22 <sup>b</sup>	-.12 <sup>a</sup>	-.17 <sup>b</sup>	-.19 <sup>b</sup>	-.21 <sup>b</sup>	-.16 <sup>a</sup>	-.15 <sup>a</sup>	-.12 <sup>a</sup>	-.17 <sup>a</sup>	-.13 <sup>a</sup>	-.15 <sup>a</sup>	-.24 <sup>b</sup>	.35 <sup>c</sup>	.36 <sup>c</sup>	.33 <sup>c</sup>	.35 <sup>c</sup>	.34 <sup>c</sup>	.54 <sup>c</sup>	.49 <sup>c</sup>	.60 <sup>c</sup>	1		
22.FSchEngage	-.16 <sup>b</sup>	-.09	-.10	-.16 <sup>a</sup>	-.13 <sup>a</sup>	-.12 <sup>a</sup>	-.11 <sup>a</sup>	-.11 <sup>a</sup>	-.12 <sup>a</sup>	-.12 <sup>a</sup>	-.11 <sup>a</sup>	-.21 <sup>b</sup>	.29 <sup>c</sup>	.29 <sup>c</sup>	.29 <sup>c</sup>	.40 <sup>c</sup>	.33 <sup>c</sup>	.54 <sup>c</sup>	.52 <sup>c</sup>	.56 <sup>c</sup>	.74 <sup>c</sup>	1	

<sup>a</sup>p<.05, <sup>b</sup>p<.01, <sup>c</sup>p<.001



$X^2=142.42, df=108, p=.051$   
 $CFI=.990, RMSEA=.037$   
 (N=296 families-296 fathers, 296 mothers, 296 children)

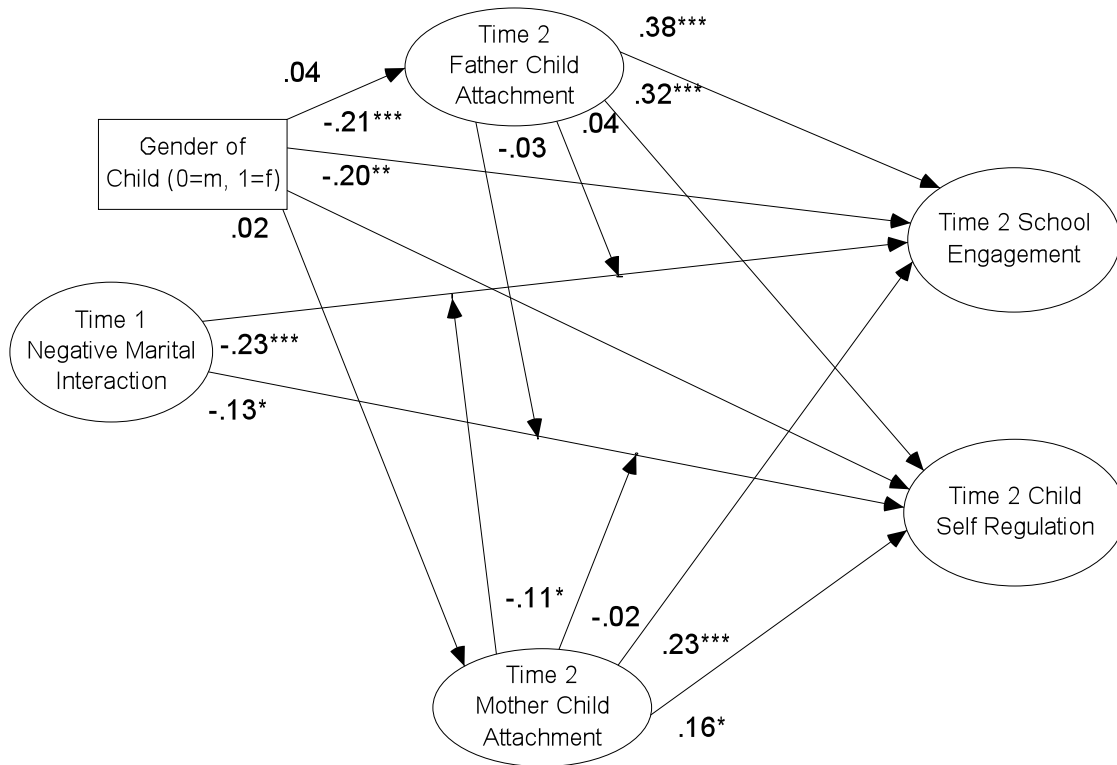
Figure 2. SEM Results for Time 1 Negative Marital Interaction Predicting Time 2 School Engagement and Time 2 Child Self-Regulation



$X^2=184.3, df=152, p=.048$   
 $CFI=.992, RMSEA=.027$   
 (N=296 families; 296 fathers, 296 mothers, and 296 children)

Fig. 3. SEM Results for Mediation Model: Time 1 Negative Marital Interaction, Time 2 Father Child Attachment, Time 2 Mother Child Attachment Predicting Time 2 School Engagement and Time 2 Child Self Regulation.





$X^2=157.32, df=154, p=.056$   
 $CFI=.996, RMSEA=.024$   
 (N=296 families; 296 fathers, 296 mothers, and 296 children)

Figure 4. SEM Results for Moderation Model: Time 1 Negative Marital Interaction, Time 2 Father Child Attachment, Time 2 Mother Child Attachment Predicting Time 2 School Engagement and Time 2 Child Self Regulation with Father-Child Attachment and Mother-Child Attachment moderating the effects of Negative Marital Interaction on School Engagement and Self Regulation.

## Appendix A



### Consent to be a Research Subject

#### **Introduction**

This study is being conducted by members of the Flourishing Families Project, with researchers from Brigham Young University. You were selected as a possible participant family for this study because your child is a 10-13 year-old in the Seattle area.

#### **Procedures**

Participation in this study involves an in-home interview that will last approximately 2 ½ hours. In this interview we will explain the study to you and give you a series of surveys for you and your child to complete. These surveys will ask you questions about your family, how you relate with each other, your family goals, and other aspects of your family life. The surveys will take about 1 ½ hours for parents and about 40 minutes for the child to complete. During this visit we will also have your family do some discussion activities. We will video tape these discussions (with the interviewer leaving the room) so we can better record your responses. Also, as part of your participation, we are asking that you sign a release form to provide the Flourishing Families Project with access to your child's school record information (e.g., grades, WASL, truancy, and attendance). Local school districts will only release your child's information with parental consent. Your child's school record information will remain confidential and will only be used in conjunction with the purpose of the study outlined here.

#### **Risks/Discomforts**

There are minimal risks for participation in this study. However, you may feel emotional discomfort when answering questions about personal beliefs or family interaction patterns. When participating in the video-taped activities, it is possible that you may feel uncomfortable when talking in front of others. The researchers will not be in the room during your family discussions.

#### **Benefits**

There are no direct benefits to subjects. However, it is hoped that through your participation researchers will learn more about family life and be able to assist educators and professionals who serve families.

#### **Confidentiality**

All information provided will remain confidential and will only be reported as group data with no identifying information. All data, including questionnaires and tapes/transcriptions from the discussion activities, will be kept in a locked storage cabinet and only those directly involved with the research will have access to them. After the research is completed, the questionnaires and tapes will be destroyed.

**Compensation**

Participants will receive Visa cash cards for completing the questionnaire. Your family will receive Visa cash cards totaling \$200 dollars (a \$150 card will be given for parent participation, and a \$50 card will be given to your child). During the interview you may decline to answer questions; however, both parents and the child must complete at least 80% of the interview to receive the Visa cash card compensation.

**Participation**

Participation in this research study is voluntary. You have the right to withdraw at any time or refuse to participate.

**Questions about the Research**

If you have questions regarding this study, you may contact Dr. Randal D. Day at 801-422-6415, [day@byu.edu](mailto:day@byu.edu) or Dr. James M. Harper at 801-422-3819, [james\\_harper@byu.edu](mailto:james_harper@byu.edu).

If you have questions you do not feel comfortable asking the researcher, you may contact Dr. Renea Beckstrand, IRB Chair, at (801) 422-3873, or at [renea\\_beckstrand@byu.edu](mailto:renea_beckstrand@byu.edu).

**CONSENT SIGNATURES**

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I have read, understood, and received a copy of the above consent and desire of my own free will to participate in this study.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*Parent*

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*Parent*

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**RESEARCHER STATEMENT**

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I have discussed the above points with the child. It is my opinion that the participant understands the risks, benefits, and procedures involved with participation in this research study.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*Interviewer*



---

**Consent to be a Research Subject**

**CONSENT SIGNATURES**

---

I have read, understood, and received a copy of the above consent and desire of my own free will to participate in this study.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*Parent*

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*Parent*

---

**RESEARCHER STATEMENT**

---

I have discussed the above points with the child. It is my opinion that the participant understands the risks, benefits, and procedures involved with participation in this research study.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*Interviewer*

Appendix B

**IOWA FAMILY INTERACTION RATING SCALES**

**Dyadic Interaction Scales**

**Hostility (HS):** the extent to which hostile, angry, critical, disapproving rejecting or contemptuous behavior is directed toward another interactor's behavior (actions), appearance, or personal characteristics. Also includes behaviors coded #2 through #7 below.

**Contempt (CT):** a specific form of hostility characterized by disgust, disdain, or scorn of another interactor.

**Angry Coercion (AC):** control attempts that include hostile, contemptuous, threatening, or blaming behavior.

**Escalate Hostile (EH):** building onto one's own hostile behaviors toward another interactor.

**Reciprocate Hostile (RH):** extent to which the focal reciprocates in like manner the hostility of another interactor.

**Denial (DE):** active rejection of the existence of or personal responsibility for a past or present situation for which one actually is responsible or shares responsibility.

**Antisocial (AN):** demonstrations of self-centered, egocentric, acting out, and out-of-control behavior that show defiance, active resistance, insensitivity toward others, or lack of constraint. Reflects immaturity and age-inappropriate behaviors.

**Avoidant (AV):** the extent to which the focal physically orients self away from another interactor in such a manner as to avoid interaction.

Appendix C

Questions for Attachment

Child Report

Responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*)

Possible scores ranged from 8-40

- My parent respects my feelings
- I rely on myself (not this parent) when I have a problem to solve
- My parent accepts me as I am
- When we discuss things, my parent considers my point of view
- My parent trusts my judgment
- I do not think I can depend on my parent
- I do not get much attention at home from my parent
- When I am angry about something, my parent tries to be understanding

Parent Report

Responses ranged from 1 (*disagree*) to 6 (*agree*)

Possible scores ranged from 9-54

- I feel distant from my child
- I do not feel related to my child most of the time
- I feel like an outsider with my child
- I feel close to my child
- Even around my child I do not feel that I really belong
- I am able to relate to my child
- I feel understood by my child
- I see my child as friendly and approachable
- I have little sense of togetherness with my child

Appendix D

School Engagement

Responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*)

Possible scores ranged from 15-75

- I pay attention in class
- I complete my homework on time
- I follow the rules at school
- I get in trouble at school
- I feel happy in school
- I feel bored in school
- I feel excited by the work in school
- I am interested in the work at school
- I study at home even when I do not have a test
- I talk with people outside of school about what I am learning in class
- I check my schoolwork for mistakes
- If I do not know what a word means when I am reading, I do something to figure it out, like look it up in the dictionary or ask someone
- I read extra books to learn more about things we do in school
- If I do not understand what I read, I go back and read it over again
- I feel support from my teachers at school

Appendix E

Self-Regulation

Responses ranged for parents from 1 (*never true*) to 5 (*always true*)

Possible scores ranged for parents from 13-65

Responses ranged for child from 1 (*never true*) to 4 (*always true*)

Possible scores ranged for child from 14-52

- I have a hard time controlling my temper
- I get so frustrated I feel ready to explode
- I get upset easily
- I am afraid I will lose control over my feelings
- I slam doors when I am mad
- I develop a plan for all my important goals
- I think about the future consequences of my actions
- Once I have a goal, I make a plan to reach it
- I get distracted by little things
- As soon as I see that things are not working, I do something about it
- I get fidgety after a few minutes if I am supposed to sit still
- I have a hard time sitting still during important tasks
- I find that I bounce my legs or fiddle with objects



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