

CHANGING THE QUALITY OF INTERPERSONAL BEHAVIORS BETWEEN  
PREGNANT ADOLESCENTS AND EXPECTANT YOUNG FATHERS: AN  
ANALYSIS OF A CO-PARENTING INTERVENTION

by

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ABSTRACT  
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The transition to parenthood is typically regarded as a difficult adjustment period for couples. In comparison to adult parents, pregnant adolescent mothers and young expectant fathers experience increased stressors during the transition to parenthood. There are significant implications for the wellbeing of the adolescents, as well as for their child, when the transition to parenthood is contentious. This study examined whether the Young Parenthood Project (YPP), a program focused on improving the co-parenting alliance, could improve the interpersonal interactions between adolescent mothers and their counterpart expectant fathers. Participants (n=106 couples) were randomized into one of three groups: 1) control, 2) care-coordination only, or 3) YPP, which included couples' counseling with care coordination. The interpersonal behaviors of participants were assessed through two videotaped interactions involving the couple during the second trimester of their pregnancy (pre-assessment) and then six months after the child's birth (post-assessment). Results indicated that mothers in the YPP group demonstrated more frequent "Affirming and

Understanding” interpersonal behavior, a type of positive communication, at post-assessment than would be expected if the variables of gender, time, and group were independent. In contrast, mothers in the control group displayed less frequent “Affirming and Understanding” interpersonal behaviors at the post-assessment than would be expected if the variables of gender, time, and group were independent. Participants in the care coordination group demonstrated less frequent “Disclosing and Expressing” interpersonal behavior, a positive type of communication at the post-assessment than would be expected if the variables of gender, time, and group were independent. Participants in the care coordination group also demonstrated significantly more frequent “Asserting and Separating” communication, a neutral type of interpersonal behaviors, at the post-assessment than would be expected if the variables of gender, time, and group were independent. Results demonstrated that mothers in the YPP group displayed more frequent positive interpersonal interactions towards their co-parenting partners at the post-assessment, while participants in the care coordination group displayed less frequent warmth and more frequent neutral interpersonal communication at the post-assessment. These findings provided support for further exploration of the co-parenting relationship between adolescent parents.

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## TABLE OF CONTENTS

ABSTRACT.....	ii
LIST OF TABLES.....	vi
LIST OF FIGURES.....	ix
ACKNOWLEDGMENTS.....	x
Chapter	
I.    Introduction.....	1
II.   Review of the Literature.....	8
III.  Methodology.....	41
IV.  Results.....	64
V.   Summary and Discussion.....	108
References.....	123
Appendices.....	133
Appendix A: SASB Coding Sheet.....	133
Appendix B: Curriculum Vitae.....	134

## LIST OF TABLES

Table 1.	Completers and Non-completers of Time 2 Assessment.....	44
Table 2.	Age Across Groups.....	47
Table 3.	Demographic Information Across Groups.....	47
Table 4.	Stages of Care-coordination in the YPP.....	48
Table 5.	Phases of the Co-parenting Counseling Intervention.....	53
Table 6.	SASB Clusters Within the Other-Focused Codes.....	60
Table 7.	SASB Clusters Within the Self-Focused Codes.....	61
Table 8.	Average Inter-rater Reliability Results for the Group.....	63
Table 9.	Fathers' Responses for Conflict Task in Self-Focused Codes.....	66
Table 10.	Fathers' Responses for Conflict Task in Other-Focused Codes.....	67
Table 11.	Fathers' Responses for Relationship Task in Self-Focused Codes.....	69
Table 12.	Fathers' Responses for Relationship Task in Other-Focused Codes.....	70
Table 13.	Mothers' Responses for Conflict Task in Self-Focused Codes.....	72
Table 14.	Mothers' Responses for Conflict Task in Other-Focused Codes.....	73
Table 15.	Mothers' Responses for Relationship Task in Self-Focused Codes.....	74
Table 16.	Mothers' Responses for Relationship Task in Other-Focused Codes.....	75
Table 17.	Crosstabulation of Gender and Time and Group for "Affirming and Understanding" in the Conflict Task.....	80
Table 18.	Crosstabulation of Gender and Time and Group for "Affirming and Understanding" in the Relationship Task.....	81

Table 19.	Crosstabulation of Gender and Time and Group for “Loving and Approaching (1-3)” in the Conflict Task.....	82
Table 20.	Crosstabulation of Gender and Time and Group for “Loving and Approaching (1-3)” in the Relationship Task.....	83
Table 21.	Crosstabulation of Gender and Time and Group for “Nurturing and Protecting (1-4)” in the Conflict Task.....	84
Table 22.	Crosstabulation of Gender and Time and Group for “Nurturing and Protecting (1-4)” in the Relationship Task.....	85
Table 23.	Crosstabulation of Gender and Time and Group for “Watching and Controlling (1-5)” in the Conflict Task.....	86
Table 24.	Crosstabulation of Gender and Time and Group for “Watching and Controlling (1-5)” in the Relationship Task.....	87
Table 25.	Crosstabulation of Gender and Time and Group for “Belittling and Blaming (1-6)” in the Conflict Task.....	88
Table 26.	Crosstabulation of Gender and Time and Group for “Belittling and Blaming (1-6)” in the Relationship Task.....	89
Table 27.	Crosstabulation of Gender and Time and Group for “Asserting and Separating (2-1)” in the Conflict Task.....	91
Table 28.	Crosstabulation of Gender and Time and Group for “Asserting and Separating (2-1)” in the Relationship Task.....	93
Table 29.	Crosstabulation of Gender and Time and Group for “Disclosing and Expressing (2-2)” in the Conflict Task.....	95
Table 30.	Crosstabulation of Gender and Time and Group for “Disclosing and Expressing (2-2)” in the Relationship Task.....	96
Table 31.	Crosstabulation of Gender and Time and Group for “Joyfully Connecting (2-3)” in the Conflict Task.....	97
Table 32.	Crosstabulation of Gender and Time and Group for “Joyfully Connecting (2-3)” in the Relationship Task.....	98
Table 33.	Crosstabulation of Gender and Time and Group for “Trusting and Relying (2-4)” in the Conflict Task.....	99

Table 34.	Crosstabulation of Gender and Time and Group for “Trusting and Relying (2-4)” in the Relationship Task.....	100
Table 35.	Crosstabulation of Gender and Time and Group for “Deferring and Submitting (2-5)” in the Conflict Task.....	101
Table 36.	Crosstabulation of Gender and Time and Group for “Deferring and Submitting (2-5)” in the Relationship Task.....	102
Table 37.	Crosstabulation of Gender and Time and Group for “Sulking and Scurrying (2-6)” in the Conflict Task.....	103
Table 38.	Crosstabulation of Gender and Time and Group for “Sulking and Scurrying (2-6)” in the Relationship Task.....	104
Table 39.	Statistical Significance of Chi-Square Analyses.....	105
Table 40.	Interpretation of Statistically Significant Findings.....	107

## LIST OF FIGURES

Figure 1. Recruitment of participants into the YPP.....	43
Figure 2. Transitive circumplex in SASB.....	55
Figure 3. Intransitive circumplex in SASB.....	56
Figure 4. Affiliation in the SASB.....	57
Figure 5. Interdependence in SASB.....	58

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## CHAPTER 1: Introduction

The rate of adolescent pregnancy and childbirth has been steadily declining in the United States throughout the last two decades. In 2013, a historically low rate of adolescent childbearing (26.6 births per 1000 adolescent females) was observed across the nation. When compared to the most recent peak in 1991, the rate of adolescent births decreased 57% while a decrease of ten percent was observed in the single year between 2012 and 2013 (Hamilton, Martin, Osterman, & Curtin, 2014). Despite this drastic decline, approximately one in three women in the United States will become pregnant before they reach the age of twenty (Kirby, 2007). Overall, the rate of adolescent pregnancies in the United States remains the highest among all industrialized countries in the world (Kearney & Levine, 2012). This difference is notable considering that adolescents report rates of sexual activity that are comparable across developed countries (Coyne & D'Onofrio, 2012).

For adolescent pregnancies that are carried to childbirth, there exists a broad reach of accompanying consequences to the community, child, and the adolescent parents. For example, it is estimated that the cost of adolescent pregnancies to the surrounding community was \$9.4 billion in the year 2010 alone (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2011). Furthermore, more than two-thirds of unintended pregnancies are funded by public assistance, a rate that is nearly double the rate of publically-funded "intended" pregnancies (Sonfield, Kost, Gold, & Finer, 2011). In addition to this cost to the community, consequences for the children of adolescent parents

range from poor health outcomes at birth to academic and behavioral issues across various stages of development (Hoffman & Maynard, 2008).

When considering the adolescent parents themselves, negative individual outcomes after childbirth have been historically noted in the areas of physical health, mental health, academic and behavioral functioning in the school setting, substance abuse, poverty, and problematic attachment to their children for both mothers and fathers (Boden, Fergusson, & Horwood, 2008; Gillmore, Gilchrist, Lee, & Oxford, 2006; Moore & Florsheim, 2001; Patel & Sen, 2012). These negative individual outcomes for adolescent parents are exacerbated by a high risk for increased conflict with a co-parenting partner after childbirth (Twenge, Campbell, & Foster, 2003). For any new parent, difficulties associated with the transition to the lifestyle that accompany parenthood can be difficult and long-lasting (Cowan & Cowan, 1992; Doss, Rhoades, Stanley, & Markman, 2009). For example, a meta-analysis found a significant decline in relationship satisfaction in both men and women in co-parenting relationships from the time of birth to 11 months post-birth (Mitnick, Heyman, & Smith-Slep, 2009). Adolescent parents face this difficult transition to parenthood, as well as the difficulties associated with transitioning through normative adolescent development (Osofsky, Osofsky, & Diamond, 1988). Given this difficult transition to adolescence, it is critical to examine how the relationship between adolescents transforms while also becoming new parents.

The majority of available literature regarding the transition to parenthood is largely focused on samples of married, adult couples. However, studies have

found that childbirth at a younger age can be linked to high rates of parental stress and eventual engagement in dysfunctional parenting behaviors (East, Chien, & Barber, 2012; Stevens-Simon, Nelligan, & Kelly, 2001). In a study conducted on young mothers, it was found that the reporting of hostile relationships with co-parenting partners was correlated with harsh parenting behaviors toward their children (Lee & Guterman, 2010). Conversely, studies on adolescent mothers have found that lower rates of depression are correlated with co-parenting relationships that are stable and supportive (Fagan & Yookyong, 2011). Findings have demonstrated that adolescent co-parenting dyads often experience tumultuous relationships and more severe risk for pre-existing issues within their psychological well-being (Collins, 2002; Emery, 2001; Lehrer, Shrier, & Gortmaker, & Buka, 2006; Mirowsky & Ross, 2002; Moore & Brooks-Gunn, 2002; Moore & Florsheim, 2001). Thus, it is critical to target the quality of the interpersonal relationship between adolescent co-parents in order to combat difficulties stemming from the developmental stage of adolescent parents and stress due to the transition to parenthood.

The link between the qualities of the co-parenting relationship, as it relates to outcomes for the child's development and the parenting provided to this child, has been termed the "spill-over" effect. This "spill-over effect" consists of the transfer of emotions within the marital relationship to the parent-child relationship. More specifically, when marriages are considered to be hostile or have frequent conflictual interactions, this hostility is then transferred to negative interactions between the parent and the child. The decline in parent-child interactions is

believed to occur due to the emotional and cognitive toll that conflicts have in relationships, which in turn, leaves the parents with limited capacity to meet the needs of the child (Dorsey, Forehand, & Brody, 2007).

Research on this “spill-over” effect in adolescent couples, though still in its infancy, has begun to demonstrate that interactions between the couple are linked to parenting outcomes with the child. For example, in a study of pregnant and expectant adolescents, the measured quality of the co-parenting relationship before the birth of the baby was linked to the quality of mother-child and father-child interactions when examined at a two year follow-up assessment (Florsheim & Smith, 2005). This study also determined that negative interactions between the co-parenting couple were linked to an increased level of hostility in the interactions observed between young fathers and their child.

When considering the interventions available for adolescent parents, the majority of interventions focus the individual parenting skill set of the expectant mother or father (Florsheim, 2014). Although a psycho-educational approach may be beneficial for the child born to adolescent parents, it lacks a consideration for the surrounding support system for the child. When reflecting on the aforementioned “spill-over” effect, these findings are especially alarming. If the co-parenting relationship already faces risk of elevated levels of negative interactions amongst each other, it is possible that this could filter through to their interactions with their child. It is thus posited that working to improve the quality of the co-parenting relationship could have positive outcomes for the emotional

well-being of the adolescent parents, which in turn, promotes a positive surrounding environment for the child.

### **Overview of Study**

The purpose of the present study is to examine whether it is possible to change the quality of the co-parenting relationship for a sample of racially diverse expectant adolescent couples. A scarcity of research exists in the areas of adolescent co-parenting interventions. This current study will extend the available research on the interaction style between expectant and parenting adolescents, while also exploring whether these interactions can be modified through intervention. The demographic characteristics of the participants add to the importance of this study given the underrepresentation of racially diverse adolescents in research studies within the field. In spite of this underrepresentation, the population of racially diverse adolescents remains most at-risk for pregnancy in the United States.

The current study also seeks to contribute to the available literature base regarding evidence-based practices through careful design methodologies. The utilization of a randomized control study design will allow for concrete analyses of the relationship between co-parents and subsequent outcomes after the intervention. The qualities of the relationship and communication style of the adolescent couple are assessed through two 10-minute videotaped interactions. The interpersonal behaviors of the adolescent mother and father will be

categorized using an observational coding scheme based on the Structural Analysis of Social Behavior (SASB; Benjamin, 1974).

The interpersonal behaviors examined through the use of the SASB system are categorized into several types of communication. From a total of sixteen interpersonal behavioral categories in SASB, eleven types will be of focus in this study. These categories are: 1) Affirming and understanding, 2) Loving and approaching, 3) Nurturing and protecting, 4) Watching and controlling, 5) Belittling and blaming, 6) Asserting and separating, 7) Disclosing and expressing, 8) Joyfully connecting, 9) Trusting and relying, 10) Deferring and submitting, and lastly, behaviors that are 11) Sulking and scurrying.

In general, interpersonal behaviors can be categorized as either warm or hostile behaviors. Warm interpersonal behaviors include those that are, “affirming and understanding,” “loving and approaching,” “nurturing and protecting,” “asserting and separating,” “disclosing and expressing,” “joyfully connecting,” and “trusting and relying.” Conversely, interpersonal behaviors considered to be hostile that will be explored in this study include those that are, “watching and controlling,” “belittling and blaming,” “deferring and submitting,” as well as those that are “sulking and scurrying.”

## **Summary**

Due to the demonstrated links between the quality of the co-parenting relationship and spill-over outcomes for the child, it is critical to work to improve the quality of the co-parenting relationship. The interpersonal behaviors between

pregnancy adolescents and expectant fathers will be of focus in this study. The Young Parenthood Project (YPP; Florsheim, 2014) focuses on improving the quality of the co-parenting alliance between adolescent mothers and expectant fathers. Though research regarding the effectiveness of the YPP remains more recent, there has already been some evidence for the positive impact of the YPP on some co-parenting variables. For example, Florsheim, et al. (2012) found that adolescent fathers who were randomized into the YPP displayed a significantly higher degree of positive parenting compared to adolescent fathers in the control group. Additionally, Florsheim, McArthur, Hudak, Heavin, and Burrow-Sanchez (2011) found that adolescent couples who were randomized into the YPP, compared to adolescents in the control group, were less likely to have engaged in intimate partner violence at a follow-up assessment. This study will explore whether couples who receive the YPP intervention could show increased positive interpersonal behaviors, and decreased negative interpersonal behaviors, as evidenced in two video-taped interactions at pre-intervention and post-intervention assessment sessions.

## CHAPTER 2: Literature Review

### **Theoretical Framework**

Throughout the course of development, children and adolescents are affected by factors across a variety of environments. This study draws on principles from an ecological perspective which considers the impact of environmental factors as well as individual elements on development (Bronfenbrenner, 1986; 2005). Bronfenbrenner's ecological systems theory (1986) is based on the notion that an individual's development is influenced by five critical environmental systems: the microsystem, mesosystem, exosystem, chronosystem, and macrosystem. The following section provides a brief overview of each of these systems. This description draws on the work of Christensen (2004) as framed for increasing understanding of the influence of parents on a child.

The microsystem refers to the immediate surrounding environment of the individual, including the individual's own biology. This environment would include a child's family, same-aged peers, educational environment, and his or her neighborhood. The mesosystem refers to the connectedness of the relationship between contexts. This connectedness could be exemplified by a child who is experiencing difficulties in the school context, which could then affect his or her behavioral functioning within the home context. The exosystem is indicative of external influences to an individual's development that do not play a direct role in their immediate context. For example, a child will be influenced by the type of work and the effects of work on their parent, even though the child is not

immediately within the parent's work environment. The chronosystem refers to the influence of changes over an individual's life span within surrounding environments, such as a transition brought on by a divorce. Though the child is not immediately involved in the divorce of his or her parents, the adjustment to divorce will fluctuate as time progresses. The macrosystem describes the cultural context that influences the individual. This cultural context can include ethnicity, language, socioeconomic status, and political influences of their nation of origin. An individual is influenced by a combination of all five of these systems and the systems influence each other in a bidirectional or reciprocal manner (Christenson, 2004). Additionally, this model implies that the entire system is greater than any one of its individual components.

The environmental system of focus in this study is the microsystem, with the parental relationship as the primary area of study. This parental relationship, or "subsystem," is also founded in the theoretical framework of Minuchin's structural family theory (1974). In structural family therapy, multiple systems exist with a family, such as the parent-child relationship. The parental relationship, which includes separate considerations for the marital relationship (when applicable) and the co-parenting relationship, is critical in providing guidance to children through leadership and defined, authoritative roles. The hierarchy of the parental relationship described in family systems theory establishes a delineation of responsibilities focused on promoting the wellbeing of a child (Teubert & Pinquart, 2010). Though initially focused on traditional or nuclear families with adult, married parents, this theory is applicable to the consideration of adolescent

parents whether romantically connected or not at the time of childbirth. The following section will further explore how children are impacted across their development when their parents are adolescents.

### **Children of Adolescent Parents**

Children born to adolescent parents have a high-risk of experiencing negative outcomes at birth, during the toddler years, and later throughout their own adolescence. Both historical and more recent research findings have linked negative outcomes at birth, such as low birth rate and a higher rate of perinatal mortality, to having adolescent parents (Brooks-Gunn & Furstenberg, 1986; Mollborn & Lovegrove, 2011). Mollborn and Lovegrove (2011) found that these differences in birth outcomes were observed in both objective and self-report measures about the parent's perception of their child's health. This observed greater incidence of adverse health outcomes for children of young parents has been connected to the greater levels of socioeconomic stress, lower education level, and decreased access to resources experienced by adolescent parents in comparison to older parents.

Once in their toddler and pre-school years, children born to adolescent mothers or fathers have been found to display lower cognitive and behavioral functioning than children born to adult parents (Luster, Bates, Fitzgerald, Vandenbelt, & Key, 2000; Mollborn & Loveborn, 2011; Terry-Humen, Manlove, & Moore, 2005; Lounds, Borkowski, & Whitman, 2006). Though differences in cognitive functioning are more pronounced in samples of adolescent mothers

who are also impoverished, many of these findings have been replicated when controlling for socioeconomic status. For example, children of adolescent mothers have been found to display lower outcomes across cognitive, approaches to learning, and social skills domains. In the area of cognitive skills, children of adolescent mothers display less general knowledge, lower assessment scores, and lower letter recognition than children of adult mothers. In the area of approaches to learning, children of adolescent mothers displayed less motivation to learn, less creativity, less ability to concentrate, and less responsibility for tasks than adult mothers. Finally, in the area of social skills, children of adolescent mothers displayed less interpersonal skills than children with mothers older than 25 (Terry-Humen et al., 2005).

Less is known about the long-term implications of adolescent parenting on the developmental outcomes (Dahinten, Shapka, & Willms, 2007). Past findings have also been complicated by limited consideration for the impact of socioeconomic and parenting differences. Nonetheless, adolescents who were born to adolescent parents have been linked to higher incidence of such negative outcomes as school dropout, unemployment, and violent criminal offenses in comparison to children of adult parents (Jaffee, Caspi, Moffitt, Belsky, & Silva, 2001). A study conducted by Dahinten et al., (2007) found that children of adolescent parents displayed lower academic outcomes, especially in the area of math achievement. With regard to the sexual behaviors of adolescents, children (and especially sons) of young parents have been found to engage in sexual

intercourse at a younger age than children of older parents, placing them at higher risk of becoming adolescent parents themselves (Eshbaugh, 2008).

These developmental concerns across the child's lifespan have been attributed to greater environmental stressors as well as differences in the parenting style of adolescent parents. The healthy development of a child is dependent, in part, on a positive, secure attachment between the primary caregiver and the child (Hungerford & Cox, 2006). The caregiver must be available to attend to the needs of a child who requires intensive care and support. However, the responsiveness of adolescent parents is often complicated by significant parental stress, a perception of limited social support, and limited ability to manage such environmental stressors as poverty, psychological, educational, and familial problems (Letourneau, Stewart, & Barnfather, 2004; Mollborn & Morningstar, 2009).

In contrast, when adolescent parents remain positively engaged in the parenting process, their children have been found to display resilience against many of these risk factors. For example, when adolescent fathers are consistently engaged in parenting, their co-parenting partners experience less children display significantly less parenting stress and their children display decreased risk of depression and decreased risk of becoming adolescent parents in the future (Mollborn & Lovegrove, 2011). Additionally, the reported perception of a strong, positive attachment between adolescent parents and their infants has been shown to protect against the potential for negative outcomes associated with having adolescent parents (Loyola-Briceno, Defeyter, & Woonosler, 2013).

Thus, the quality and frequency of parental interaction significantly impacts the trajectory of developmental outcomes for children of adolescent parents. The following sections will provide further information about how the interaction between a child and their mother or father is associated with the age of the parent.

### **Mother-Child Interactions and Child Outcomes**

Adolescent mothers have historically been found to differ significantly from older mothers in the manner in which they engage with their young children. These differences in the style of parenting interaction with their children are often negative in comparison to those of older mothers. Early research found that when compared to adult mothers between the ages of 18 and 35, adolescent mothers were less responsive to the needs of their young children, less verbal, and less sensitive to their infants (Culp, Appelbaum, Osofsky, & Levy, 1988; Garcia Coll, Hoffman, & Oh, 1987). Given the critical impact of parenting style on later developmental outcomes for the child, having an adolescent mother has long been considered to be a deficit for children.

Research that link adolescent mothers to negative parenting interactions have been replicated in more recent studies. The response style of adolescent mothers has been explored across physiological and physical domains. For example, Giardino, Gonzalez, Steiner, and Fleming (2008) compared the hormonal and biological responses to the cries of children across samples of adolescent mothers, adolescents who are not mothers, and adult mothers. The

researchers also included a self-report measure of sympathetic responsiveness to their crying child. Giardino et al. (2008) found that though adolescent mothers displayed a higher degree of self-reported alertness and sympathetic responsiveness than adolescents who are not mothers, the adolescent mothers were less physiologically responsive to the crying of their infants than adult mothers. This finding was significant even after controlling for socioeconomic status. The results of this study were noteworthy given the contrast between the perceived level of responsiveness and the measured physiological response of the adolescent mothers.

Similar differences have been found when comparing adolescent and adult mothers in the quality of physical and emotional responsiveness to their children. In a study comparing adolescent mothers to mothers over the age of 26, adolescent mothers were found to be at greater risk for using harsh parenting (i.e. spanking) towards their children when compared to adult mothers (Lee, 2009). Differences in the emotional responsiveness of young mothers have been observed from the child's birth through the toddler years of the child. A study that compared adolescent mothers to a sample of "young adult" and adult mothers found that the adolescent mothers were significantly less sensitive, less responsive, and displayed less positive regard for their toddlers than older mothers (Lewin, Mitchell, & Ronzio, 2013). Lewin et al. (2013) also replicated previous findings regarding a higher incidence of harsh or punitive discipline practices, such as spanking, than adult mothers. Overall, historical and more

recent research provides support for the link between adolescent motherhood and negative interactions with their young children.

### **Father-Child interactions and Child Outcomes**

The majority of adolescent fathers are not married to the mothers of their children. Adolescent fathers also have a significantly greater level of non-residence with their children than adult fathers (Mollborn & Lovegrove, 2011). Historically, this lack of co-residence with their children was believed to cause less frequent interactions and to impact the style of interaction between adolescent fathers and their children. Also, some mothers reported a perception that fathers could not perform the functions involved with caring for an infant as well as mothers could (Lamb, 2010). However, studies have found that the majority of adolescent and nonresident fathers remain in consistent contact with their children throughout the first eight years of their life (Howard, Lefever, Borkowski, & Whitman, 2006). Adolescent fathers have also been found to be able to engage in competent caretaking and support of their children (Lamb, 2010).

When examining the expectations of fatherhood of adolescent fathers, these are often similar to the expectations of adult fathers for their roles in the lives of their children (Paschal, Lewis-Moss, Hsiao, 2011). The most common role identified by both adult and adolescent fathers is that of a nurturer and economic support for their children. Studies comparing the interaction style of adolescent and adult fathers have found that limited differences exist in the

quality of the father-child relationship (Mollborn & Lovegrove, 2011). These similarities across age groups are particularly significant given the importance of the father-child relationship and its impact on the future developmental outcomes of children.

In comparison to the impact of adolescent mother-child interactions on child development, less is known about how the quality of interactions between adolescent fathers and their children impacts child development. Children of adolescent fathers experience significantly greater socioeconomic stressors than children of adult fathers (Mollborn & Lovegrove, 2011). However, fewer studies have been conducted where the impact of these disadvantages has been controlled. Nonetheless, studies have found that the interaction style of fathers and their children significantly impacts short- and long-term outcomes across cognitive, behavioral, and emotional development of their children (Flouri, 2010). In a study comparing the relationship between mother-child and father-child interactions on child development, it was found that though the mother-child interaction was more significant, the impact of the father-child interaction on development was observed even after controlling for variables related to the mother-child interaction. However, this study also found that the quality of interaction between fathers and their children was more predictive of cognitive outcomes, rather than behavioral or emotional outcomes (Flouri, 2010).

Once having reached school-age, the children of adolescent fathers have been shown to benefit from a high degree of contact with their fathers. In a study examining how the father-child relationship protects against the risks for potential

negative developmental outcomes, children with frequent contact with their adolescent fathers displayed less behavioral issues and higher cognitive outcomes in the school setting (Howard, et al., 2006). This study found that these protective factors were especially salient when children also had a high risk of negative mother-child interactions. These results remained significant when examining the objective report of the child's functioning completed by their teachers (Howard, et al., 2006).

Given this potential for positive outcomes when there is a strong level of paternal engagement, it is critical to understand the factors that facilitate active engagement between adolescent fathers and their children. Roberts, Coakley, Washington, and Kelly (2014) conducted a qualitative study of the factors that serve as barriers or supports in engagement between non-resident fathers and their children. The majority of fathers in this study identified a desire to engage with their children in a positive manner. Common roles or responsibilities identified by these fathers included: conveying care for their young children, providing financial support, facilitating healthy development, sharing caretaking responsibilities with the mothers, serving as role models for their children, and protecting their children. Fathers identified several factors that facilitated active paternal engagement, which included a positive relationship with the mother of their child. Fathers also noted that mothers who limited paternal contact with their children, and who also expressed a negative perception about their abilities as a father, were barriers to their active engagement in the lives of their children (Roberts, et al., 2014). Thus, the quality of the mother-father relationship has a

significant impact on the potential for a positive father-child relationship. The following sections will further explore factors that impact the transition to parenthood and how this transition impacts the functioning of a family system.

### **The Transition to Parenthood**

The transition to parenthood is defined as the period between when a couple decides to conceive, or becomes aware of having conceived, and the first few years after the child is born. There is no specific time delineated as the transition period due to the variability in how a specific couple may transition through this process (Adamsons, 2013). Nonetheless, this adjustment period for families has been found to be particularly demanding. For instance, even when the experience of conception was planned, couples in this transitional period have been found to be susceptible to an increase in stress in the relationship. This decline in relationship satisfaction has been observed for both pregnant mothers and expectant fathers in a comparison of relationship satisfaction after the child is born (Mitnick, Heyman, & Smith, 2009). Though this difficult adjustment is notable in both parents, the experience of the pregnant mother and expectant father differs significantly. The following section will describe how the pregnant mother, expectant father, and the couple as a whole experience the transition to parenthood.

### **The Transition to Motherhood**

For women, the pregnancy and post-partum periods include significant emotional, cognitive, and physical changes. These adjustments impact the

mother while also impacting the quality of the relationship as experienced by the mother. Mothers have reported earlier declines in relationship satisfaction compared to men (Cowan & Cowan, 2000). Furthermore, the decline reported by mothers occurs across more areas than their partners. Doss, Rhoades, Stanley, & Markham (2009) found the new mothers reported declines in relationship satisfaction, increased intensity of problems in the relationship, difficulty with conflict management, increased negative communication, and decreased confidence in the relationship. These changes reported by mothers were found to be more pronounced than for fathers. The deterioration of the relationship for new mothers has been linked to decreased time spent with their partner, as well as discrepant expectations for equal division of work related to infant care between the mother and father (Dew & Wilcox, 2011).

### **The Transition to Fatherhood**

The majority of research regarding the transition to parenthood has been centered in the experiences of the new mother (Biehle & Mickelson, 2012). However, the limited research conducted on new fathers has found a significantly different experience when compared to that of mothers. For new fathers, the transition to parenthood has been found to occur across a longer period of time than mothers, typically until the child is two years old (Cowan & Cowan, 2000). In an exploration of the changes in the relationship between fathers and mothers in this transition period, fathers reported significant decline in relationship satisfaction, dedication to the relationship, and an increase in negative communication. Though fathers in this study also reported an increase in the

intensity of problems, this increase was more gradual than the increase reported by mothers (Doss et al., 2009). The decline in the functioning of the relationship, as reported by new fathers, has been attributed to a several factors including: more limited support networks for new fathers than mothers, pressure to provide financial support, a greater idealization of the pregnancy and parenthood experience, and a lesser likelihood of reaching out for emotional support (Condon, Boyce, & Corkindale, 2004).

### **The Transition as a Couple to Parenthood**

Similar challenges during this transition to parenthood have been found when couples are examined as a unit, instead of as individual mothers and fathers. Though declines in the quality of relationships across time have been found in non-parenting couples, the deterioration for parenting couples is much more significant (Lawrence, Cobb, Rothman, Rothman, & Bradbury, 2008). The decline in the relationship during the transition to parenthood has been attributed to a shift in the amount of time spent between partners to time spent with the child (Daly, 2001). Parents of young children must spend a considerable amount of time in the care of this child, thus, possibly neglecting the needs of their spouse. Aside from the decrease in time spent together, unmet expectations for the contribution of each partner to the care of the child impacts the experience of the mother and father (Biehle & Mickelson, 2012).

Having explored the adjustment of the mother, father, and couple to parenthood, it is apparent that the relationship is at a high risk for challenges in

this period. A greater understanding of the interaction between expectant parents is critical to protect against a decline in relationship functioning. As previously mentioned, the “spill-over effect” indicates that a decline in the quality of the relationship impacts the couple while also impacting the relationship with their child.

### **The Transition to Parenthood for Hispanic Parents**

The majority of studies that have examined the transition to parenthood are based on samples of White couples. As such, there is a significant gap in the literature that considers how this period of adjustment is manifested across racially or ethnically diverse parents (Solmeyer, McHale, Killoren, & Updegraff, 2011). This scarcity of research is especially alarming given that Hispanic adolescents are more likely to become pregnant than their White or African-American peers (Ventura, Hamilton, & Matthews, 2014). Additionally, Hispanic females have a significant chance of experiencing environmental stressors (such as limited access to healthcare, low socioeconomic status, and discrimination) which can impact the wellness of the mother and the child during the pregnancy (Garcia-Esteve, Ascaso, Ojuel, & Navarro, 2004). A significant portion of the sample of participants in this study was Hispanic. As such, it is critical to examine the limited literature regarding how Hispanic parents transition to parenthood.

Caldera, Fitzpatrick, and Wampler (2002) conducted interviews of adult Mexican-American parents to examine the degree to which they collaborate in the care of their child. The parents in this study remained in intact romantic

relationships. Results from this study found that Mexican-American fathers and mothers both reported a high degree of involvement in parenting activities. Parenting activities identified by the parents in this study included decision-making regarding the care of the child, coordination of tasks, and providing support to the other parent. The activities that resulted as primary parenting tasks were similar to those that are critical for co-parenting relationships, thus, lending support for the existence of the co-parenting construct within populations of Hispanic parents.

Though the co-parenting relationship appears to be a relevant construct for Hispanic couples in the manner that it is relevant for White couples, it is possible that other parenting constructs differ for Hispanic parents. For example, the experiences and expectations for motherhood have been found to differ significantly for Mexican-American mothers when compared to other mothers. Mexican-American women often identify to the construct of familismo, which is a cultural construct that places a high degree of importance on the attachment to the family (German, Gonzalez, & Dumka, 2009). A study conducted by Tamis-LeMonda and Kahana-Kalman (2009) examined the expectations for African-American and immigrant mothers from Mexico, the Dominican Republic, and China. Tamis-LeMonda and Kahana-Kalman found that Mexican mothers spoke much more about the family in comparison to the other mothers. In comparison, this study determined that African-American and Dominican mothers most often spoke about resources, while Chinese mothers spoke about child development.

These findings are significant given the measurement and contrast of themes reported by mothers across Hispanic groups.

Another central cultural construct that may impact the transition to parenthood for Hispanic parents, and for Hispanic mothers in particular, is the construct of Marianismo. The construct of Marianismo is derived from the significance of the Virgin Mary to the spiritual beliefs of many Mexican women (Castillo, Perez, Castillo, & Ghosheh, 2010). Marianismo places the experience of motherhood and the upbringing of children as a central component of the identity development of a Hispanic woman (Castillo, et al., 2010). As such, the experiences and tasks associated with the transition to motherhood are viewed as rewarding for the new mother. This positive identification with the transition to motherhood has been found to be associated with positive pregnancy outcomes in a sample of Mexican-American women. For Hispanic women, this positive experience during the adjustment to motherhood may also impact the transition to parenthood experienced by a Hispanic couple. The following section will further explore the parenting relationship between mothers and fathers, termed the co-parenting construct.

## **The Study of Co-parenting**

### **Defining Co-parenting**

The concept of “co-parenting” is defined as, “the ways that parents and/or parental figures relate to each other in the role of parent” (Feinberg, 2003, p. 96). A co-parenting relationship excludes characteristics of relationships that are not

associated with parenting roles, such as financial issues and romantic or sexual interactions between the parenting figures (Feinberg, 2003). It is important to note that the term does not imply that the roles and responsibilities associated with parenting are equally divided across two people; instead the focus lies in the organization and support of the involved parties when considering the parenting task.

For the purpose of this study, the examined co-parenting relationship will consist of that which exists between the biological mother and father of a child. This model is one of several types of co-parenting relationships (McHale & Lindahl, 2011). Alternative types of co-parenting structures may include extended family members, such as the grandparents of a child, or other parental figures. In some diverse cultures, there are often other community members, such as elder women, who also participate in the childrearing process. Though these co-parenting figures are not considered throughout this discourse, these relationships are also valuable and appropriate support systems to the development of a child. Nonetheless, this study seeks to extend the available literature in the examination of the relationship between the biological parents of a child.

### **The Co-parenting Relationship**

It is estimated that less than twenty percent of adolescent parents are married to each other when the child is born. Additionally, adolescent childbirth has been linked with a decreased likelihood of becoming married in later life (Ng

& Kaye, 2012). Furthermore, research findings indicate that characteristics of the co-parenting relationship are more predictive of outcomes for the child and for the parenting relationship in comparison to other characteristics of the relationship between parents (Feinberg, 2003). A positive relationship between mothers and fathers has been found to be associated with a higher quality of parenting while high conflict relationships between parents have been linked to maladjustment in children as well as parental negativity (Feinberg, Kan, & Hetherington, 2007). As such, it is critical to examine the co-parenting relationship, rather than the romantic relationship, of adolescent parents to best determine how to improve interpersonal interactions with each other and their children.

When considering beliefs about fragile families, or those where the parents are not in a formal marriage, it is most commonly perceived that unwed fathers are not engaged in the childrearing experience. In contrast, fathers who are not married to the mother of their child often provide support to the child through emotional or financial means (Carlson et al., 2008). When fathers remained involved in this process, children have been found to fare better in terms of overall psychological wellbeing in comparison to children where fathers are totally absent from their childrearing experience (McLanahan & Beck, 2010). It is thus critical to provide young mothers and fathers with tools to be able to effectively co-parent their child. In addition, this draws a critical focus on the ability to improve the interactions between mothers and fathers, rather than the skills of either parent, since the co-parenting process is one that is collaborative.

## **The Evolution of Co-parenting Interventions**

Early research in the field of co-parenting examined the relationships between parents after a divorce (Ahrons, 1981). This early research determined that there was a link between the quality of the relationship between the parents post-divorce and outcomes for their children. Studies found positive results for children whose parents reported positive co-parenting practices and active engagement of the noncustodial father (Ahrons & Miller, 1993). In contrast, studies found that negative co-parenting relationships were associated with significantly less time spent between children and their non-custodial fathers (Seltzer, McLanahan, & Hanson, 1998). More recent research has shifted to examine how the quality of the co-parenting relationship impacts outcomes for the child and the parents. Though this shift has assisted with the broadening of the research across intact or separated families, the available literature is largely focused on the examination of adult couples.

The key components of the co-parenting relationship have also evolved over time. The earliest definitions of the co-parenting construct were discussed through the lens of the “parenting alliance.” The parenting alliance included the degree to which parents provided support to one another, the “dissonance” or antagonism between the parents, and the level of the parents’ engagement with their child (McHale, 1995; Belsky, Crnic, & Gable, 1995). Subsequent research on the central components of co-parenting has included the examination of similar constructs, such as the degree of parental alliance or support, the degree of conflict or hostility between parents, and the level engagement and shared

responsibility for childrearing activities. The current seeks to examine the positive and negative components of the co-parenting constructs, including the degree of support and the degree of hostility between parents.

Though the majority of early research focused on adult couples, more recent research has evolved to examine adolescent parents. There are several types of interventions that have been implemented to support pregnant and parenting adolescents. Common interventions include individual, group-based, and couple-based models (Cowan, Cowan, & Knox, 2010). Interventions for this population typically focus on such goals as: reducing repeated pregnancies in adolescence, providing psychoeducation about the pregnancy and childbirth process, improving birth outcomes, providing support groups with other pregnant or parenting adolescents, and linking adolescents to additional community resources (Suner, Nakamura, & Caufield, 2003). In a review of the effects of interventions on parenting adolescents, improvements in the quality of interactions between mothers and their children, increases in communication with children, and enhanced cognitive outcomes of the children were observed across variety of interventions (Coren & Barlow, 2001). Though the amount of programs available to adolescent parents remains limited, this review found support for the positive impact of intervention with this population.

Interventions for adolescent parents are conducted across a variety of settings including: school-based, home-based, community-based, and medical-based settings. School-based interventions have been found to improve the likelihood of the mother completing her education, but outcomes are significantly

impacted by the mother's educational performance prior to becoming pregnant (Strunk, 2008). Home-based interventions have been found to be successful in engaging participants more frequently, as well as engaging extended family members, which has led to strong relationships between participants and staff. Community-based programs occur in diverse settings, but most often provide parenting classes and case management services to their participants (Klerman, 2004). Lastly, programs in medical settings most often target the simultaneous provision of healthcare services to the mother and child. Medical-based programs have shown a positive effect on mother's education completion as well as in the resultant health outcomes of the child (Akinbami, Chang, & Kornfeld, 2001).

In spite of positive outcomes for the adolescent and the child found across different types of interventions for pregnant or parenting teens, a scarcity of rigorously evaluated programs exists (Lachance, Burrus, & Scott, 2012). Letourneau, Stewart, and Barnfather (2004) reviewed current research and found that the establishment of evidence-based interventions for adolescent mothers has been limited by various factors including: the use of inconsistent measures, high rates of attrition, small samples, and a lack of appropriate control groups for comparison purposes. Further consideration for the duration, modality, and content of interventions is necessary in order to strengthen the knowledge base regarding effective interventions for adolescent parents. The following section will provide more specific information about one framework of co-parenting intervention targeting adolescent parents.

## **A Framework for Co-parenting Interventions**

Though still relatively new in the field, the study of interventions with a sample of co-parenting dyads has been explored through evidence-based research. The Centers for Disease Control (CDC) have targeted adolescent pregnancy prevention as a “top-six” priority in the realm of health and “quality-of-life” issues for this nation’s youth (CDC, 2014). In a review of various interventions for pregnant and co-parenting adolescents, it was determined that effective programs are those that establish and maintain a supportive relationship with the pregnant or co-parenting adolescent, begin during the pregnancy and continue through the second birthday of the child, intervene in individual settings (rather than group intervention formats), encourage the involvement of supportive adults in order to create stability, consider developmentally- and culturally-appropriate methods, and address the prevention of subsequent pregnancies during adolescence (Klerman, 2004).

The first study featuring a sample of co-parenting of adolescents was carried out through the modality of group treatment (Fagan, 2008). This intervention delivered by Fagan occurred during the earlier period of pregnancy. It is posited that the prenatal period is ideal for the delivery of intervention due to the increased motivation of couples to develop skills that will improve their ability to co-parent once the child is born (Carlson & McLanahan, 2006). In addition, expectant parents often begin to form their beliefs about the parenting experience during the pregnancy, in spite of limited co-parenting responsibilities when compared to those that are needed after the arrival of the baby (Van

Egeren & Hawkins, 2004). Lastly, work by McHale and Rotman (2007) has linked eventual co-parenting behaviors with the expectations for the co-parenting experience during the prenatal period. Thus, the prenatal period is a central period in the development of the co-parenting relationship.

Traditional childbirth interventions include such areas of focus as education about the pregnancy, delivery, and infant care. The control group of Fagan's study was delivered a traditional childbirth intervention of this type that featured such topics as nutrition, how fathers can provide support during the delivery process, infant development, and safety issues. In contrast, the intervention curriculum in Fagan's study featured a co-parenting focus which addressed three primary aspects of the co-parenting relationship. These areas included the co-parenting couple's support for one another, communication skills when dealing with the needs of their child, and the alliance between the co-parenting partners. Fagan reported that the co-parenting intervention more significantly improved adolescent fathers' perceptions of engagement in childrearing. Though these findings are significant when considering the scarcity of research regarding the involvement of adolescent fathers, it presents with various limitations. Of greatest importance is the lack of inclusion of expectant mothers in the intervention. Given that only expectant adolescent fathers were intervened upon, the information gathered could only be gleaned from the perspectives of the fathers. By expanding this treatment model to include expectant mothers, outcomes may elucidate how each parent perceives any change (or lack thereof) in co-parenting skills on a personal level, as well as how

each person evaluates the co-parenting relationship with the partner. The following section will detail how this study will examine the quality of the co-parenting relationship between adolescents.

### **The Young Parenthood Program**

This study features the Young Parenthood Project (YPP; Florsheim, 2014) as the primary intervention strategy. The YPP began with the intention of examining the role of adolescent fathers in childrearing and parenting relationships. When the early studies of the YPP were conducted, adolescent fathers were significantly represented in a negative light by past research (Lerman, 1993). In contrast, the first two studies using the YPP sought out to examine whether adolescent fathers desired active involvement in their child's lives, as well as a positive relationship with the mother of their child. Findings from these initial studies demonstrated that the quality of the parenting interaction between adolescent fathers and their children was predicted by the quality of the relationship with the mother. More specifically, fathers were more likely to be disengaged with their children when the quality of the relationship with the mother was hostile. Additionally, fathers who were observed to engage in hostile communication with the mothers while pregnant were also more likely to display harsh parenting with their children years later (Florsheim & Smith, 2005; Florsheim, et al., 2003). When early YPP studies examined adolescent mothers, the degree to which the mothers' parenting interactions were less significantly impacted by the quality of the relationship with the father.

Recent initial randomized clinical trials of the YPP have found support for the hypothesis that an intervention focused on positive co-parenting skills, and a reduction in negative interpersonal behaviors, can have additional effects on the participating adolescents. For example, Florsheim et al. (2011) demonstrated that adolescents who were randomized into the YPP counseling program experienced decreased incidents of intimate partner violence than participants in a control group. In addition, Florsheim et al. (2012) demonstrated that young fathers who were randomized into the YPP counseling program showed significantly more frequent and positive engagement with the mother compared to fathers in a control group. Florsheim et al. (2012) also found that fathers in the YPP group were more likely to demonstrate positive and warm parenting interactions with their children when compared to fathers in the control group. The study of the impact of the YPP intervention on adolescent mothers remains a critical area to examine in future research.

### **Research Questions**

With these considerations in mind, the present study poses the following questions:

(1a) Is there an association between “Group” and “Time” for “Affirming and Understanding” interpersonal behaviors for fathers in the Conflict and Relationship Tasks? (1b) Is there an association between “Group” and “Time” for “Affirming and Understanding” interpersonal behaviors for mothers in the Conflict and Relationship Tasks? As previously mentioned, both fathers and mothers

report that positive communication typically decreases, while negative communication increases, during the transition to parenthood (Doss, et al., 2009). Interpersonal behaviors that are “Affirming and Understanding” are positive in nature. Thus, it is posited that mothers and fathers who were randomized into the control group would demonstrate this change in the quality of the relationship through less frequent “Affirming and Understanding” interpersonal behaviors when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination group would display less frequent “Affirming and Understanding” interpersonal behaviors. In contrast, it is posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this decrease in “Affirming and Understanding” interpersonal behaviors at the post-assessment taking place when the baby is six months old.

(2a) Is there an association between “Group” and “Time” for “Loving and Approaching” interpersonal behaviors for fathers in the Conflict and Relationship tasks? (2b) Is there an association between “Group” and “Time” for “Loving and Approaching” interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are “Loving and Approaching” in nature demonstrate the highest degree of warmth as described in the coding scheme. As such, it is hypothesized that the mothers and fathers in the YPP group would also not display a lower frequency than expected at the post-assessment period, while control and care-coordination group mothers and

fathers would demonstrate less frequent “Loving and Approaching” interpersonal behaviors than would be expected at the post-assessment.

(3a) Is there is an association between “Group” and “Time” for “Nurturing and Protecting” interpersonal behaviors for fathers in the Conflict and Relationship tasks? (3b) Is there an association between “Group” and “Time” for “Nurturing and Protecting” interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are “Nurturing and Protecting” are also warm in nature. Thus, it is posited that mothers and fathers who were randomized into the control group would demonstrate a decrease in the quality of the relationship through less frequent “Nurturing and Protecting” interpersonal behaviors when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination group would display less frequent “Nurturing and Protecting” interpersonal behaviors than would be expected at the post-assessment. In contrast, it is posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this decrease in “Nurturing and Protecting” interpersonal behaviors at the post-assessment taking place when the baby is six months old.

(4a) Is there is an association between “Group” and “Time” for “Watching and Controlling” interpersonal behaviors for fathers in the Conflict and Relationship tasks? (4b) Is there an association between “Group” and “Time” for “Watching and Controlling” interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are “Watching and Controlling” are neutral in nature, but the quality of the interaction is one where

the partner communicates monitoring and control over the other partner's behaviors. Thus, it is posited that mothers and fathers who were randomized into the control group would demonstrate a change in the quality of the relationship through more frequent "Watching and Controlling" interpersonal behaviors when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination group would display more frequent "Watching and Controlling" interpersonal behaviors than would be expected at post-assessment. In contrast, it is posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this increase in "Watching and Controlling" interpersonal behaviors at the post-assessment taking place when the baby is six months old.

(5a) Is there is an association between "Group" and "Time" for "Belittling and Blaming" interpersonal behaviors for fathers in the Conflict and Relationship tasks? (5b) Is there an association between "Group" and "Time" for "Belittling and Blaming" interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are "Belittling and Blaming" are hostile in nature. Thus, it is posited that mothers and fathers who were randomized into the control group would demonstrate a change in the quality of the relationship through more frequent "Belittling and Blaming" interpersonal behaviors when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination group would display more frequent "Belittling and Blaming" interpersonal behaviors. In contrast, it is posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this

increase in “Belittling and Blaming” interpersonal behaviors at the post-assessment taking place when the baby is six months old.

(6a) Is there is an association between “Group” and “Time” for “Asserting and Separating” interpersonal behaviors for fathers in the Conflict and Relationship tasks? (6b) Is there an association between “Group” and “Time” for “Asserting and Separating” interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are “Asserting and Separating” are neutral in nature, however, contain communication that is focused on the needs of the individual instead of the other partner. It is posited that mothers and fathers who were randomized into the control group would demonstrate a change in the quality of their relationship through more frequent “Asserting and Separating” interpersonal behaviors than would be expected when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination group would display more frequent “Asserting and Separating” interpersonal behaviors. In contrast, it is posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this increase in “Asserting and Understanding” interpersonal behaviors at the post-assessment after the baby is six months old. Instead, it is hypothesized that mothers and fathers in the YPP group would demonstrate less frequent “Asserting and Understanding” interpersonal behaviors than would be expected.

(7a) Is there is an association between “Group” and “Time” for “Disclosing and Expressing” interpersonal behaviors for fathers in the Conflict and

Relationship tasks? (7b) Is there an association between “Group” and “Time” for “Disclosing and Expressing” interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are “Disclosing and Expressing” are warm in nature. Given the expected decline in the quality of the relationship between mothers and fathers throughout the transition to parenthood, it is posited that mothers and fathers who were randomized into the control group would demonstrate less frequent “Disclosing and Expressing” interpersonal behaviors than would be expected when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination group would display less frequent “Disclosing and Expressing” interpersonal behaviors than would be expected at the post-assessment. In contrast, it is posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this decrease in “Disclosing and Expressing” interpersonal behaviors at the post-assessment. Instead, it is hypothesized that mothers and fathers in the YPP would demonstrate more frequent “Disclosing and Expressing” interpersonal behaviors than would be expected at post-assessment.

(8a) Is there is an association between “Group” and “Time” for “Joyfully Connecting” interpersonal behaviors for fathers in the Conflict and Relationship tasks? (8b) Is there an association between “Group” and “Time” for “Joyfully Connecting” interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are “Joyfully Connecting” are warm in nature. Mothers and fathers who transition to parenthood are expected to display a

decrease in positive communication. Thus, it is posited that mothers and fathers who were randomized into the control group would demonstrate a change in the quality of the relationship through less frequent “Joyfully Connecting” interpersonal behaviors when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination group would display less frequent “Joyfully Connecting” interpersonal behaviors than would be expected. In contrast, it is posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this decrease in “Joyfully Connecting” interpersonal behaviors at the post-assessment after the baby is six months old. Instead, it is hypothesized that mothers and fathers in the YPP will display more frequent “Joyfully Connecting” interpersonal behaviors than would be expected at the post-assessment.

(9a) Is there is an association between “Group” and “Time” for “Trusting and Relying” interpersonal behaviors for fathers in the Conflict and Relationship tasks? (9b) Is there an association between “Group” and “Time” for “Trusting and Relying” interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are “Trusting and Relying” are warm in nature. Given the expected decline in the co-parenting relationship throughout the transition to parenthood, it is posited that mothers and fathers who were randomized into the control group would demonstrate a change in the quality of the relationship through less frequent “Trusting and Relying” interpersonal behaviors than would be expected when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination

group would display less frequent “Trusting and Relying” interpersonal behaviors than would be expected at the post-assessment. In contrast, it is posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this decrease in “Trusting and Relying” interpersonal behaviors at the post-assessment. Instead, mothers and fathers in the YPP are hypothesized to demonstrate more “Trusting and Relying” interpersonal behaviors than would be expected at the post-assessment.

(10a) Is there is an association between “Group” and “Time” for “Deferring and Submitting” interpersonal behaviors for fathers in the Conflict and Relationship tasks? (10b) Is there an association between “Group” and “Time” for “Deferring and Submitting” interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are “Deferring and Submitting” are neither warm nor hostile in nature. Though these interpersonal behaviors are neutral, this would involve one partner not expressing oneself to the other partner, which is not conducive to healthy communication. Given the expected decline of healthy communication for mothers and fathers in the transition to parenthood, it is posited that mothers and fathers who were randomized into the control group would demonstrate a change in the quality of the relationship through more frequent “Deferring and Submitting” interpersonal behaviors than would be expected when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination group would display more frequent “Deferring and Submitting” interpersonal behaviors than would be expected at the post-assessment. In contrast, it is

posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this increase in “Deferring and Submitting” interpersonal behaviors than would be expected at the post-assessment.

(11a) Is there is an association between “Group” and “Time” for “Sulking and Scurrying” interpersonal behaviors for fathers in the Conflict and Relationship tasks? (11b) Is there an association between “Group” and “Time” for “Sulking and Scurrying” interpersonal behaviors for mothers in the Conflict and Relationship tasks? Interpersonal behaviors that are “Sulking and Scurrying” are hostile in nature. Given the expected increase in negative communication for mothers and fathers in the transition to parenthood, it is posited that mothers and fathers who were randomized into the control group would demonstrate a change in the quality of the relationship through more frequent “Sulking and Scurrying” interpersonal behaviors when assessed after the birth of the baby. Similarly, it is hypothesized that mothers and fathers in the care-coordination group would display more frequent “Sulking and Scurrying” interpersonal behaviors than would be expected at post-assessment. In contrast, it is posited that mothers and fathers who receive the YPP counseling sessions would not demonstrate this increase in “Sulking and Scurrying” interpersonal behaviors than would be expected at the post-assessment.

## CHAPTER 3: Methodology

The current study draws from a population of adolescent couples who have already participated in the Young Parenthood Study (Florsheim, 2014). Participants were recruited into the study between 2005 and 2007. Couples who were eligible for the study were followed through 2009. The sample of adolescent couples was recruited from an urban area in a Western state. This chapter will further describe the participants, procedures, intervention, and coding procedure used to examine the research questions.

### **Participants**

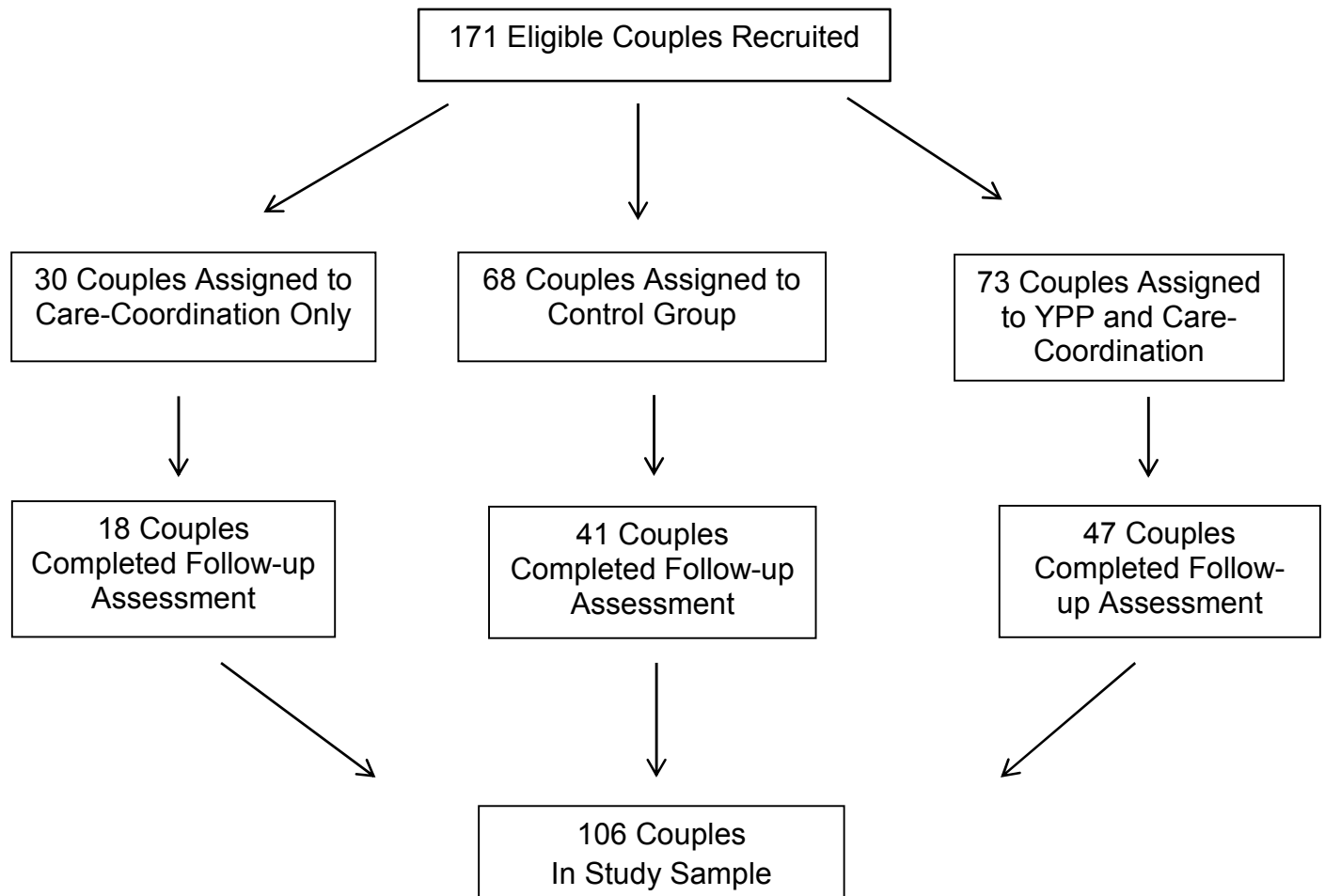
The sample of participants for this study consists of pregnant adolescent mothers and their young male expectant parenting counterparts. Pregnant adolescent mothers in this sample ranged in age from 14 to 18 years old, while the expectant fathers ranged in age from 14 to 24 years old. The mean age of the pregnant adolescent mothers was 16.49 years old ( $SD=1.13$ ), while the mean age for expectant fathers was 18.64 years old ( $SD=2.23$ ). To be eligible for the study, it was necessary for the biological mother and biological father to be expecting their first child together and for both partners to agree to participate in the study. This requirement was due to the focus on the development of the co-parenting relationship, rather than an examination of any singular outcomes regarding the parenting experience. The couple was not required to be in a romantic relationship with each other to participate. An additional stipulation for

the couple to be participants in the study was that the difference in age between the mother and father could not exceed six years.

The recruitment process was approved by the Institutional Review Board of the University of Utah prior to recruitment. Participants for this study were recruited from their primary prenatal care clinics or from a school for pregnant adolescents. Prenatal care providers or school staff provided de-identified information to study staff regarding patients who were possibly eligible to participate and then trained staff obtained consent from the patient to be approached for the study. Trained study recruiters then provided the couple with information regarding the study procedures and explained that participation (or refusal to participate) would not impact the quality of their prenatal care at their clinic.

After recruited for the study and completing the initial assessment, participants were randomly assigned into one of three groups: the treatment (YPP intervention and care-coordination services), control, or care-coordination only group. A total of 49 couples completed the treatment, 42 couples completed follow-up from the control group, and 18 couples who received “care-coordination only” completed follow-up. From baseline (T1) to follow-up assessment, couples who received the YPP counseling sessions and care-coordination services had a 67% retention rate. Couples in the control group had a 62% retention rate. Couples in the “care-coordination group” had a retention rate of 58% between T1 and T2. Couples who did not complete the study either were not found for the

follow-up assessment or experienced miscarriage. Figure 1 demonstrates the recruitment and engagement procedure for participants in this study.



*Figure 1.* Recruitment of participants into the YPP

Of the total sample of participants recruited to the study ( $n=171$ ), there were 65 couples who did not complete the Time 2 assessment. In the overall sample, this resulted in a retention rate of 62 percent. Table 1 provides further demographic comparison of the sample of participants who completed Time 2 and those who did not complete Time 2. Table 2 lists the racial or ethnic

identification of the couple. Couples identified as White, Latino, or Mixed (if the partners identified as different ethnicities). This demographic data is limited by the lack of availability of the identified racial/ethnic identity of each partner, rather than the couple as a whole.

Table 1

*Completers and Non-completers of Time 2 Assessment*

		Completers		Non-Completers	
		Male	Female	Male	Female
	Mean Age (SD)	18.64 (2.23)	16.49 (1.13)	18.96 (2.47)	16.38 (1.24)
		N	%	N	%
Couple Race/ Ethnicity	White	18	17	12	21
	Latino	61	58	33	59
	Mixed	25	24	11	20
	Missing	2	2	1	2
Relationship Status	Disengaged	8	8	8	14
	Co-parenting or Dating	32	30	10	18
	Cohabiting or Married	43	41	3	5
	Missing	22	21	35	61

*Note.* Total percentages are not 100 for every characteristic due to rounding.

**Procedure**

Once potential participants were recruited by the aforementioned procedures, participants then provided informed consent and/or assent when

required due to the participants' age. For adolescents under the age of 18, parental consent was obtained prior to the initial assessment. Both consent and assent forms were available in English or Spanish. The baseline (Time 1 or T1) stage of assessment was conducted prior to the birth of the baby, and more specifically, prior to 26 weeks of gestation. This timeframe was implemented in order for couples to have sufficient time to complete the 10-14 week intervention sessions if randomized into this condition. Trained study staff facilitated participation in the initial assessment, which consisted of a battery of self-report measures administered through a secure computer program. The computer programs were accessed at the University of Utah and data was stored on a secure network. Each partner completed this baseline assessment in a separate room from the other partner with the aim of promoting honest responses and ensuring confidentiality. After each partner completed this battery of self-report measures separately, couples were placed in the same room and were asked to engage in two, ten-minute semi-structured tasks. These tasks were video-taped and trained staff provided the couples with prompts before leaving the room. The first prompt, called the "Conflict" prompt, provided to participants was the following:

"The next thing I would like you to do is engage in a discussion with each other, which I will video-tape. The purpose of video-taping it is that we need a record of your discussion for research purposes. I realize that it may feel a little strange to talk in front of a video camera, but try your best to be yourselves and talk like you normally do. It's important that you talk

to each other, not to me or the camera. I would like you to think of a recent conflict or disagreement that you had with each other. Talk about why it occurred and try to reach a solution that is acceptable to both of you. This discussion should take about fifteen minutes. Remember, talk to each other, not to me or the camera.”

After twenty minutes had elapsed, the trained staff returned to the room and provided the following prompt, known as the “Connection” prompt for the second interaction:

“The next thing I’m going to ask you to do is to have another conversation with each other. This conversation should be about your relationship. I would like you to discuss two things: what you like about each other and what you like about your relationship. Again, I realize it may feel a little strange to talk in front of a video camera, but try your best to be yourselves and talk like you normally do. It’s important that you talk to each other, not to me, or the camera.”

After this baseline assessment was completed, each couple was randomly assigned into one of three groups: treatment intervention, “care-coordination only,” or the control group. Randomization was conducted through the use of computer software that ensured an equal opportunity for randomization into each of the groups. Table 2 provides additional information about the age of participants in each group.

Table 2

*Age Across Groups*

	Control (n=41)		Care-Coordination (n=18)		YPP (n=47)	
	Male	Female	Male	Female	Male	Female
Mean	18.58	16.40	18.28	16.28	18.84	16.44
Age (SD)	(2.25)	(1.15)	(2.00)	(0.96)	(2.32)	(1.20)

Table 3 provides additional information about the ethnicity reported by the couple and the relationship status of the couple at Time 2. Data regarding the relationship status of the couple at Time 2 was not available for couples in the Care-Coordination group.

Table 3

*Demographic Information Across Groups*

		Control		Care-Coordination		YPP	
		N	%	N	%	N	%
Couple Race/Ethnicity	White	7	17	5	28	6	13
	Latino	25	61	7	39	29	63
	Mixed	8	20	6	33	11	23
Relationship Status	Disengaged	3	7	--	--	5	11
	Co-parenting or Dating	20	49	--	--	12	26
	Co-habiting or Married	15	37	--	--	28	60

Couples who were placed in the treatment intervention group received a combination of the YPP co-parenting counseling sessions along with care-

coordination services. Care-coordination services are similar to case management services provided by community-based interventions for parenting adolescents (Klerman, 2004). Care coordination services include providing support across such areas as employment, housing, education, and legal issues. The following table (Table 4) describes the different stages of care-coordination.

Table 4

*Stages of Care-coordination in the YPP (Florsheim, 2014)*

Stage	Title	Goals
Stage 1	Engagement	Introduction to participants and family members. Explanation of care-coordination services.
Stage 2	Assessment and Planning	Exploration of primary needs. Identification of available resources.
Stage 3	Facilitating Access to Resources and Services	Assisting participants with navigation of community resources. Utilization of motivational techniques.
Stage 4	Documenting Care-coordination Progress and Activities	Tracking progress made by participants towards identified care-coordination goals.
Stage 5	Maintain Regular Contact	Engagement in at least once/week interaction via phone or face-to-face contact to maintain rapport.

Couples who were randomized into the “care-coordination only” group received the support explained above, but did not receive the co-parenting counseling intervention. Couples in the “care-coordination only” group were randomized into the group at a rate of 1:2 in comparison to randomization into the group that received counseling sessions and care-coordination. Groups were randomized unequally due to a desire to provide the largest number of

participants with a dose of treatment. This method of unequal randomization has been supported when done in the interest of ethical concerns (Dumville, Hahn, Miles, & Torgerson, 2006). Couples who were approached for participation in this study, in a manner consistent with the population of pregnant and expecting adolescents, presented with significant needs to obtain or connect with community resources. As such, linking and providing the maximum amount of couples with support was a focus of this research design. When considering the design of randomized controlled trials, it has been found that unequal randomization can reduce the statistical power of results when the ratio is at a rate of 3:1 or greater. The current randomization plan falls below this threshold. The third group of participants was randomized into the control group. Randomization of couples into the treatment and control groups occurred at a balanced rate. Couples in the control group did not receive the co-parenting counseling interventions or the care-coordination services.

Couples in each of the three groups (treatment, care-coordination only, and control) completed follow-up assessments consisting of the battery of self-report measures and the video-taped interactions. The follow-up assessment, or Time-2 (T2) assessment, was conducted when the child was six months old. Participants were each compensated with forty dollars and provided with a meal each time an assessment was completed.

If the couple was randomized into the treatment condition, this couple was provided an opportunity to accept or decline participation in the intervention phase. Consenting and/or assenting procedures, based on the age of the

participant, were carried out by trained study staff. The couple was then assigned to a therapist. Therapists held either a master's level degree in counseling or graduate level education in the area of mental health counseling. Counselors who were completing their graduate training were provided with regular supervision by a licensed psychologist. All therapists participated in regular group consultation and supervision of the cases. Couples in the intervention group attended between five and ten sessions of couples' based counseling and were paid ten dollars each for each session attended. The entire intervention was implemented before the birth of the baby.

Throughout the implementation of the intervention, some participants did not complete the treatment condition (i.e. did not receive the full recommended dose of counseling services) due to non-compliance or withdrawing from the study. In these cases, the results from the T2 assessment will still be analyzed according to the intent-to-treat (ITT) design (Gupta, 2011). By utilizing an ITT approach, the results will be analyzed in a manner that prevents results skewed to reflect only couples who complete the full treatment. By including couples who withdraw or receive less than the intended dose of treatment, the resulting effects of the intervention are estimated in an unbiased manner and align more closely to typical results of an intervention in a traditional clinical setting (Heritier, Gebski, & Keech, 2003). Through inclusion of the complete sample of randomized couples in later analyses, this will also maintain the sample size used to complete analyses and prevents the loss of statistical power for the findings related to the subsequent analyses (Wertz, 1995).

## **Implementation of the Young Parenthood Program Intervention**

The Young Parenthood Program (YPP) is centered on the goal of improving the skills necessary for maintaining a positive co-parenting relationship, regardless of the status of the romantic relationship between adolescent parents. This goal is carried out through a couples-based approach to treatment that develops relationship skills. The program begins by identifying individual and relationship goals. Interventions related to relational skills are then chosen to reflect these individual/relationship goals, but may include such topics as problem-solving skills, listening skills, and learning how to provide support. Additional long-term goals of the group include preventing intimate partner violence, preventing child abuse, and promoting positive co-parenting practices. The YPP intervention, along with the current study, seeks to extend past models of prevention and intervention developed by Feinberg (2002).

The YPP intervention is a manualized treatment encompassing six steps that are based on the co-parenting intervention model outlined by Fagan (2008). Florsheim's YPP manual (2014) was designed to be flexible based on the needs of the couple. The treatment is provided with individual couples at a location that is accessible and convenient to the participants (i.e. community settings, prenatal clinics, or in participants' homes). The initial step of the intervention involves building rapport with the couple while directing the focus on the co-parenting relationship and its potential impact on the couple's child. This introduction phase generally takes place across one or two sessions. The second phase of intervention, termed the "goal setting" phase, involves the establishment of goals

and strengths. The couple works to identify personal goals and strengths, relationship goals and strengths, and to discuss how these goals may impact the course of their co-parenting intervention. Counselors and couples work throughout approximately one or two sessions to define these areas and create an individualized plan for their intervention experience.

The area of focus for the third phase lies in interpersonal skills-building activities which are delivered during the course of four to six sessions. The skills may be centered on such topics as communication abilities (i.e. reflective listening, acceptance, and providing support) or effective conflict-resolution techniques, depending on the identified goals of the couple. Phase four of the intervention, defined as “role transitions,” is focused on examining how each adolescent will transition in the relationship, as well as in other relationships. Such transitions may occur in relationships with family members or peers once the baby arrives. These pending transitions are discussed across two sessions. Lastly, the fifth phase of the intervention, which may take place across one or two sessions, is focused on the integration of newly learned skills while the couple prepares for future challenges associated with the birth of their child. During this “looking forward” phase, the co-parenting couple and counselor collaborate to create a stress reduction plan in anticipation for the potential strain associated with the delivery of a baby. Couples are provided with “booster sessions” once the baby arrives to assist in the implementation of newly learned skills while managing the adjustment to a newborn child. The following table (Table 5) summarizes the YPP phases of intervention.

Table 5

*Phases of the Co-parenting Counseling Intervention (Florsheim, 2014)*

Phase	Title	Duration	Goals
Phase 1	Introduction, Assessment, and Intervention	1-2 sessions	Introduction to program. Obtaining confidentiality.
Phase 2	Goal Setting	1-2 sessions	Identification of personal and relationship strengths/areas for growth. Addressing cultural issues. Creation of individualized plan.
Phase 3	Interpersonal Skill Building	4-6 sessions	Implementation of skill building interventions based on identified needs.
Phase 4	Role Transitions	2 sessions	Exploration of upcoming changes in personal and relationship areas.
Phase 5	Summing Up/Looking Forward	1-2 sessions	Integration of learned skills. Creation of stress management plan and enhancement of couples' strengths.

The counselor is tasked with engaging the couple throughout the treatment process. The relationship between the couple and the counselor is viewed as the key instrument for providing support to and fostering growth in the participating couples. Counselors are required to utilize basic therapeutic skills such as listening to both the mother and father, responding with empathy, creating a respectful and safe environment for sharing, redirecting behavior when it becomes unhealthy, and focusing on forward movement in the couple's relationship regardless of how this may ultimately impact the romantic relationship of the couple (Florsheim, 2014). Counselors must also utilize these therapeutic skills in a manner that the participants can relate to the material. Such considerations for working with at-risk youth include employing simple

language, providing understandable explanations and psychoeducation about the therapeutic process, demonstrating flexibility, and considering the development of each participant. The therapeutic alliance is of focus throughout this program due to evidence that this relationship is a predictor of therapeutic outcomes (Shirk, Carver, & Brown, 2011). In addition, the therapeutic relationship also creates an opportunity to implement relationship skills that the couple may be working to improve in the intervention.

### **Coding Procedure**

The video-taped interactions between the co-parenting couple was coded according to the model set in place by the Structural Analysis of Social Behavior system (SASB; Benjamin, 1974; Florsheim & Benjamin, 2001). The SASB system is a model used to code the interactions between members of a couple. This system has a dimensional framework for interpreting behaviors focused on three areas.

The first area is defined as the “focus” of the behaviors, which is depicted by three separate circumplexes of behavior. Though there are a total of three circumplexes within the SASB system, only two of these circumplexes are utilized in the interpretation and coding of this study. These two circumplexes involve behaviors focused on the other partner (other-focused) and behaviors focused on the self (self-focused). For example, if the participant were to make the statement, “Stop what you’re doing,” this statement is focused on the other partner (other-focused). The “transitive” circumplex, which categorizes

interpersonal behaviors that are focused on the other, would then be used to further categorize this interpersonal behavior (Figure 2).

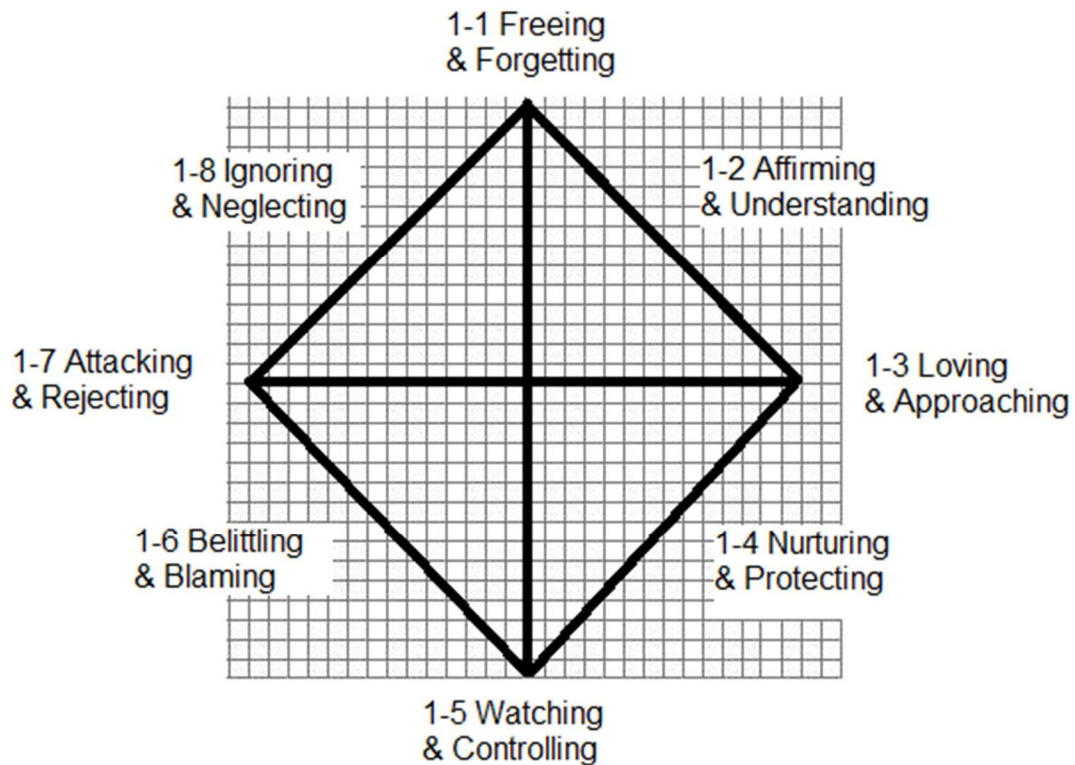


Figure 2. Transitive circumplex in SASB. Adapted from *The structural analysis of social behavior observational coding scheme*, L.L. Humphrey and L.S. Benjamin, 1989, Unpublished manual, Northwestern University Medical School.

In contrast, if the participant were to make the statement, “I feel bored,” the coder would determine that this statement is focused on the participant’s experience (self-focused). In this case, the coder would use the “intransitive” circumplex, which categorizes interpersonal behaviors focused on the self (Figure 3).

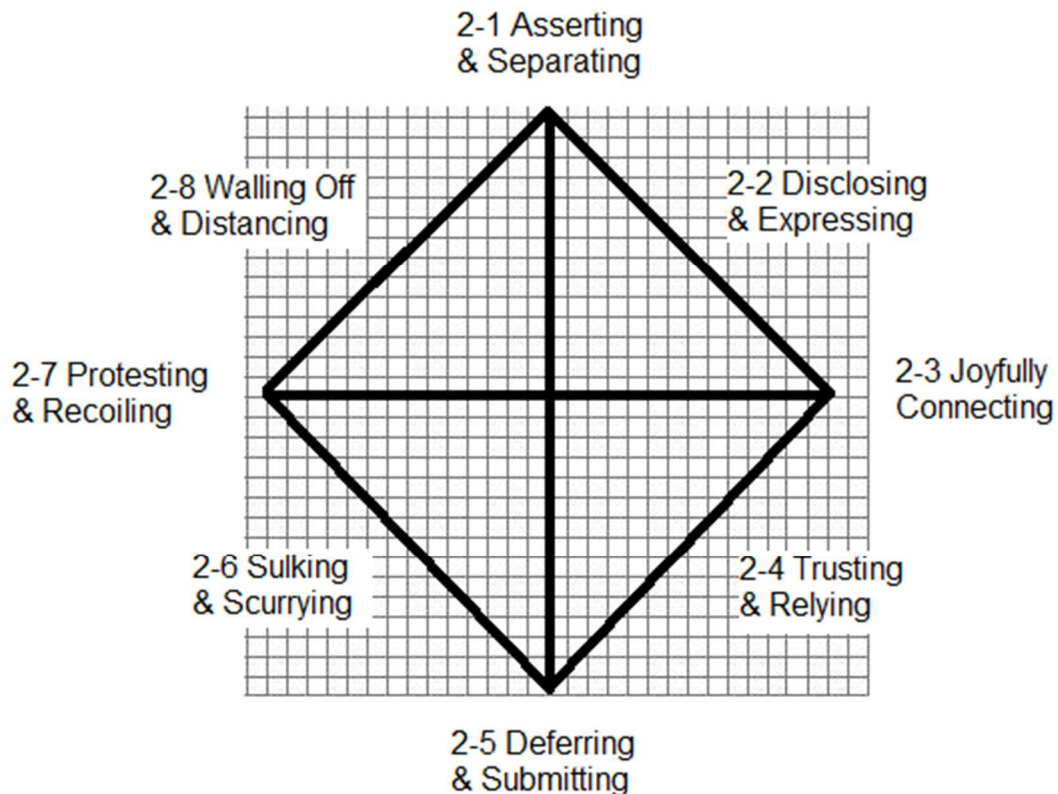
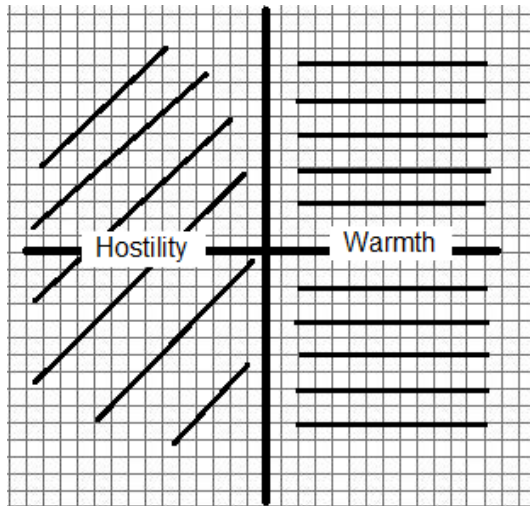


Figure 3. Intransitive circumplex in SASB. Adapted from *The structural analysis of social behavior observational coding scheme*, L.L. Humphrey and L.S. Benjamin, 1989, Unpublished manual, Northwestern University Medical School.

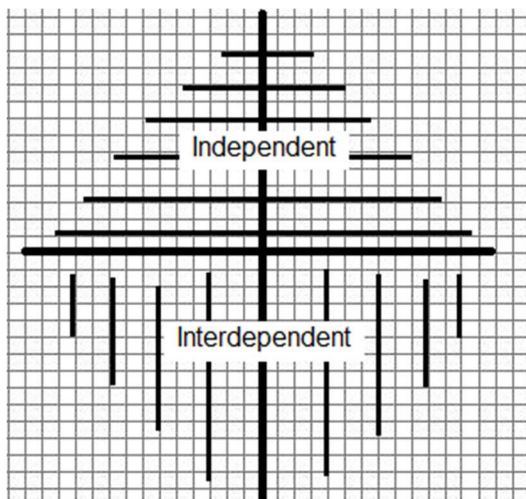
The second area of focus in the SASB is described as affiliation, which is defined as the degree of warmth or hostility within a unit of behavior (Figure 4). Affiliation is measured across the horizontal axis of the circumplex. Behaviors that are found to the left of the vertical axis are categorized as hostile behaviors while those on the right side of the vertical axis are considered to be characteristic of warmth. As an example, if a member of the co-parenting couple was to give the other person a hug, this would be coded as having a high degree

of warmth. On the other hand, if a member of the couple were to slap the other person, this would be considered to be hostile behavior which is found on the left side of the vertical axis.



*Figure 4. Affiliation in the SASB*

The third area of focus is defined as behaviors of interdependence, which refers to the “degree of enmeshment”, demonstrated within a unit of behavior (Figure 5). In general, when behaviors are conceptualized to fall below the vertical axis, they are more demonstrative of interdependence. However, behaviors characterized according to the level of interdependence are interpreted according to the focus of the interaction. For example, if the behavior is focused on the self, an interdependent behavior is one that might be conceptualized as controlling. However, if the behavior is focused on the other person in the interaction and has a high degree of interdependence, then the behavior is conceptualized as a submission to the other person.



*Figure 5.* Interdependence in SASB

Eight clusters of behaviors correspond to each of the circumplexes of the SASB model. These clusters correspond to the level of affiliation and interdependence evident in the unit of behavior that is being observed. As such, a total of 16 different clusters, or codes, of behaviors are of focus in this study. The framework of this model is intended to code individual units of behaviors, rather than providing an overall rating of the behaviors present in an entire interaction. More specifically, an individual unit of behavior might consist of the statement, “so what did you think about what happened on Saturday night?” This unit of behavior is focused on the “other,” meaning the other person in the relationship. As such, it falls within the first circumplex. This statement also conveys a sense of empathy or an attempt to understand the other person’s experience. It also implied that fair and active listening is occurring by the partner who is asking this question. Thus, this unit of behavior would be coded in the “1-2” cluster, which is indicative of behaviors that are affirming and understanding.

This example is in contrast to a statement of, “I was mad.” This statement is focused on the self, which places it within the second circumplex. This statement also indicates a degree of autonomy taken by the person speaking through the clear and independent identification of his or her thoughts surrounding this specific situation. Thus, this unit of behavior would fall within the “2-1” cluster of behavior, indicating that the interaction included aspects of communication which are assertive and separate one’s experience from the other person’s experience. The following tables (Table 6 and Table 7) provide further information about each of the 16 clusters within the “other-focused” and “self-focused” circumplexes of the SASB coding system. Descriptions and examples of each cluster or code are based on the Humphrey and Benjamin (1989) SASB observational coding manual.

Table 6

*SASB Clusters Within the Other-Focused Codes*

Other-Focused Codes	Description	Example
Freeing and Forgetting (1-1)	Neutral, with no warmth or hostility. Allowing another person to communicate their thoughts/feelings.	"Do what you want."
Affirming and Understanding (1-2)	Active listening and validation of another. Communicating empathy and understanding.	"I understand how you feel."
Loving and Approaching (1-3)	Warmth, often displayed through initiation of affection.	"I love you."
Nurturing and Protecting (1-4)	Caring control, which may involve teaching, protecting, and guidance of another person.	"Would you want some help with that?"
Watching and Controlling (1-5)	Controlling or monitoring (i.e. telling someone what to do).	"Do what I say."
Belittling and Blaming (1-6)	Criticizing or condescending toward another person. Control with hostility.	"You never do anything right."
Attacking and Rejecting (1-7)	Threatening a person. Extremely hostile interaction, whether physical or verbal.	"I hate you."
Ignoring and Neglecting (1-8)	Giving autonomy to another through hostile means. Abandoning or neglectful behavior/communication.	"Get lost!"

Table 7

*SASB Clusters Within the Self-Focused Codes*

Self-Focused Codes	Description	Example
Asserting and Separating (2-1)	Acting independently, communicating one's own thoughts/feelings. Neither warm nor hostile.	"I'm going to do things my way."
Disclosing and Expressing (2-2)	Sharing of own ideas, experiences, or feelings with warmth.	"I'm feeling frightened right now."
Joyfully Connecting (2-3)	Responding to another person with extreme warmth. Being receptive and enjoying the presence of another person.	"I love you too."
Trusting and Relying (2-4)	Receiving help or guidance from another person. Submissiveness with warmth. Behavior may be child-like.	"Would you help me with this?"
Deferring and Submitting (2-5)	Complying with expectations, giving in to another person, submissiveness.	"Yes, ma'am."
Sulking and Scurrying (2-6)	Whining, resentful compliance, "scurrying" to appease another person, submissiveness with hostility. May appear to be defensive self-justification.	"Fine...I'll do what you say, like I always do!"
Protesting and Recoiling (2-7)	Communicating fear or hate towards another person. Extreme hostility.	"I'm disgusted by you!"
Walling-off and Distancing (2-8)	Taking autonomy through hostile means. Isolating or withdrawing. Shutting another person out.	"Bug off!"

In a review of several methods for examining the observation of adolescent couples, Welsh and Shulman (2008) determined that the SASB coding system is particularly flexible for use in an adolescent population. Through a focus on the level of independence or affiliation, this explores key areas of interpersonal behavior as relevant to the developmental stage of adolescents. The SASB system was also determined to link the research and clinical realms through identification problematic behaviors, which can then inform areas of focus in a clinical intervention. Aside from this relevance to an adolescent population, the SASB system is also appropriate for use with a culturally diverse sample. Given a consideration for varying degrees of interpersonal behavior, there is significant sensitivity to contextual cues. The SASB requires for the coder to accurately infer the observed interpersonal behavior within the specific context (Florsheim & Moore, 2008). More specifically, the coder uses contextual clues to determine the potential motivation for a particular behavior. For example, if a mother in this couple was to remain silent when in discussion with the father, the context would lend data about whether this silence is due to ignoring, disrespect, or deference to the father, among other possible motivations for this behavior. This degree of consideration for the context allows for consideration for a variety of cultural contexts.

For the purposes of this study, the SASB Composite coding system was implemented by a team of trained raters who recorded the frequency of each type of interaction across the span of the ten minute interaction. The team of raters was comprised of undergraduate and graduate level research assistants.

Each rater's codes were then totaled to arrive at a composite score for each cluster across the video interaction. Raters who participated in this data analysis each received at least 80 hours of training through the SASB system of coding behaviors. The group established inter-rater reliability through an examination of intraclass correlations to ensure that each individual coder demonstrated a minimum level of 0.80 reliability before the formal coding process began. In addition to this measure, 20% of the videos were coded by multiple coders, in order to ensure intermittent reliability checks remain consistent. Given the significance of the coder's ability to disentangle highly nuanced behaviors, it was imperative for coders to identify their own perceptions of interpersonal behavior and work to become reliable at the group-level. The following table (Table 8) provides further detail about the inter-rater reliability between the group coders.

Table 8

*Average Inter-rater Reliability Results for the Group*

	Reliability	SD
Overall (n=82)	0.84	0.08
Mothers (n=41)	0.84	0.08
Fathers (n=41)	0.83	0.09

## CHAPTER 4: Results

The following chapter presents result from the current study. Results are organized into categories as follows: (1) preliminary analyses (means of responses); (2) chi-square tests of data for “Affirming and Understanding” interpersonal behaviors for hypothesis one; (3) chi-square tests of data for “Loving and Approaching” interpersonal behaviors for hypothesis two; (4) chi-square tests of data for “Nurturing and Protecting” interpersonal behaviors for hypothesis three; (5) chi-square tests of data for “Watching and Controlling” interpersonal behaviors for hypothesis four; (6) chi-square tests of data for “Belittling and Blaming” interpersonal behaviors for hypothesis five; (7) chi-square tests of data for “Asserting and Separating” interpersonal behaviors for hypothesis six; (8) chi-square tests of data for “Disclosing and Expressing” interpersonal behaviors for hypothesis seven; (9) chi-square tests of data for “Joyfully Connecting” interpersonal behaviors for hypothesis eight; (10) chi-square tests of data for “Trusting and Relying” interpersonal behaviors for hypothesis nine; (11) chi-square tests of data for “Deferring and Submitting” interpersonal behaviors for hypothesis ten; (12) chi-square tests of data for “Sulking and Scurrying” interpersonal behaviors for hypothesis 11; and (13) overall results.

### **Preliminary Analyses**

The means for the frequency of each type of interpersonal behavior were computed for each gender, time, and task. As displayed in Table 9 and Table 10, the frequency for each interpersonal behavior for fathers in the conflict task

ranged from 0 to 122 times within a 10 minute interaction. For fathers in the conflict task, the least frequently observed interpersonal behavior, from those that are of interest in this study, was “Deferring and Submitting at time 1 ( $M = 0.13$ ,  $SD = 0.61$ ) at Time 1 and at Time 2 ( $M = 0.09$ ,  $SD = 0.70$ ). The most frequently observed interpersonal behavior for fathers was “Disclosing and Expressing” at Time 1 ( $M = 27.74$ ,  $SD = 19.13$ ), while the “Nurturing and Protecting” interpersonal behavior was observed most frequently in Time 2 ( $M = 27.53$ ,  $SD = 17.03$ ). Table 9 demonstrates that there were no instances of “Freeing and Forgetting” or “Attacking and Rejecting” interpersonal behaviors in the follow-up assessment of the “Conflict Task.” Due to the lack of observation of “Freeing and Forgetting” and “Attacking and Rejecting” interpersonal behaviors, these were excluded from the subsequent analyses.

Table 9

*Fathers' Responses for Conflict Task in Self-Focused Codes (n=105)*

Code	Time 1 <sup>a</sup>				Time 2 <sup>b</sup>			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Freeing & Forgetting	0.02	0.20	0	2	--	--	--	--
Affirming & Understanding	13.83	9.49	0	46	11.38	8.53	0	53
Loving & Approaching	3.75	5.49	0	24	1.32	3.60	0	26
Nurturing & Protecting	25.90	14.70	1	59	27.53	17.03	4	122
Watching & Controlling	8.76	10.68	0	60	5.92	7.72	0	33
Belittling & Blaming	3.90	4.88	0	26	2.15	4.51	0	37
Attacking & Rejecting	0.07	0.35	0	2	--	--	--	--
Ignoring & Neglecting	0.25	1.04	0	7	0.05	0.26	0	2

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. <sup>b</sup> Time 2 was the follow-up assessment completed when the child was six months old.

Table 10 depicts the frequency of “other-focused” codes for fathers in the “Conflict Task.” Table 10 demonstrates that there were no instances of “Protesting and Recoiling” interpersonal behaviors at the pre- or post-assessment for fathers in the “Conflict Task.” Due to the lack of observations of “Protesting and Recoiling” interpersonal behavior, this code was excluded from subsequent analyses.

Table 10

*Fathers' Responses for Conflict Task in Other-Focused Codes (n=105)*

Code	Time 1 <sup>a</sup>				Time 2 <sup>b</sup>			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Asserting & Separating	14.24	12.49	0	71	8.17	8.43	0	53
Disclosing & Expressing	27.74	19.13	1	88	22.13	13.20	1	57
Joyfully Connecting	7.37	7.01	0	29	3.95	5.27	0	32
Trusting & Relying	5.50	5.50	0	25	4.19	5.47	0	36
Deferring & Submitting	0.13	0.61	0	5	0.09	0.70	0	7
Sulking & Scurrying	0.23	0.67	0	5	0.22	0.68	0	4
Protesting & Recoiling	--	--	--	--	--	--	--	--
Walling Off & Distancing	0.11	.47	0	3	0.10	0.59	0	5

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. <sup>b</sup> Time 2 was the follow-up assessment completed when the child was six months old.

When examining the frequency for each interpersonal behavior for fathers in the relationship task, frequencies ranged from 0 to 94 times within a 10 minute interaction. For fathers in the relationship task, the least frequently observed interpersonal behavior, from those that are of interest in this study, was “Deferring and Submitting at time 1 ( $M = 0.04$ ,  $SD = 0.31$ ) at Time 1 and at Time 2 ( $M = 0.02$ ,  $SD = 0.14$ ). The most frequently observed interpersonal behavior for

fathers was “Disclosing and Expressing” at Time 1 ( $M = 34.41$ ,  $SD = 21.32$ ) and at Time 2 ( $M = 27.76$ ,  $SD = 16.27$ ). Table 11 and Table 12 provide specific data regarding the frequency of responses for fathers in the relationship task at Time 1 and Time 2. Table 11 demonstrates that there were no instances of “Freeing and Forgetting” interpersonal behaviors at the pre- or post-assessments for fathers in the “Relationship Task.” Additionally, Table 11 demonstrates that there were no recorded instances of “Ignoring and Neglecting” interpersonal behaviors for fathers in the follow-up assessment for the “Relationship Task.” Due to the lack of observation of these types of interpersonal behaviors, “Freeing and Forgetting” and “Ignoring and Neglecting” interpersonal behaviors were excluded from the subsequent analyses.

Table 11

*Fathers' Responses for Relationship Task in Self-Focused Codes (n=105)*

Code	Time 1 <sup>a</sup>				Time 2 <sup>b</sup>			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Freeing & Forgetting	--	--	--	--	--	--	--	--
Affirming & Understanding	21.43	12.57	0	70	17.78	10.52	0	46
Loving & Approaching	6.03	8.07	0	59	2.58	4.88	0	31
Nurturing & Protecting	16.23	11.12	1	47	17.70	10.81	0	59
Watching & Controlling	3.24	4.99	0	32	3.06	4.58	0	23
Belittling & Blaming	1.94	3.00	0	15	1.21	2.24	0	14
Attacking & Rejecting	0.03	0.22	0	2	0.01	0.10	0	1
Ignoring & Neglecting	0.05	0.35	0	3	--	--	--	--

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. <sup>b</sup> Time 2 was the follow-up assessment completed when the child was six months old.

Table 12 depicts the frequency of “other-focused” interpersonal behaviors of fathers in the Relationship Task. Table 12 demonstrates that there were no observed “Protesting and Recoiling” interpersonal behaviors for fathers in the “Relationship Task” at the pre- or post-assessment. Due to the lack of observation of this type of interpersonal behavior, “Protesting and Recoiling” interpersonal behaviors were not further analyzed in subsequent analyses.

Table 12

*Fathers' Responses for Relationship Task in Other-Focused Codes (n=105)*

Code	Time 1 <sup>a</sup>				Time 2 <sup>b</sup>			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Asserting & Separating	6.19	6.52	0	25	3.92	4.84	0	33
Disclosing & Expressing	34.41	21.32	0	94	27.76	16.27	0	82
Joyfully Connecting	8.50	7.17	0	32	5.31	5.09	0	23
Trusting & Relying	3.40	3.65	0	15	2.90	4.03	0	25
Deferring & Submitting	0.04	0.31	0	3	0.02	0.14	0	1
Sulking & Scurrying	0.24	0.95	0	8	0.17	0.74	0	7
Protesting & Recoiling	--	--	--	--	--	--	--	--
Walling Off & Distancing	0.04	0.24	0	2	0.07	0.68	0	7

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. <sup>b</sup> Time 2 was the follow-up assessment completed when the child was six months old.

Table 13 and Table 14 display the frequency of each type of interpersonal behavior observed in mothers during the conflict task. Frequencies for each code ranged from 0 to 119 times within a 10 minute interaction. For mothers in the conflict task, the least frequently observed interpersonal behavior, from those that are of interest in this study, was “Deferring and Submitting at time 1 ( $M = 0.12$ ,  $SD = 0.51$ ) at Time 1 and at Time 2 ( $M = 0.03$ ,  $SD = 0.17$ ). The most

frequently observed interpersonal behavior for mothers was “Disclosing and Expressing” at Time 1 ( $M = 29.05$ ,  $SD = 18.42$ ), while the “Nurturing and Protecting” interpersonal behavior was observed most frequently in Time 2 ( $M = 27.83$ ,  $SD = 15.60$ ). Table 13 demonstrates that there were no instances of observed “Freeing and Forgetting” interpersonal behaviors for mothers in the post-assessment of the “Conflict Task.” Due to the lack of observation of this type of interpersonal behavior, “Freeing and Forgetting” interpersonal behaviors were not further examined in subsequent analyses.

Table 13

*Mothers' Responses for Conflict Task in Self-Focused Codes (n=105)*

Code	Time 1 <sup>a</sup>				Time 2 <sup>b</sup>			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Freeing & Forgetting	0.08	0.33	0	2	--	--	--	--
Affirming & Understanding	11.47	8.14	1	38	9.74	6.61	0	29
Loving & Approaching	2.31	4.11	0	24	0.71	1.93	0	13
Nurturing & Protecting	22.66	15.34	0	83	27.83	15.60	2	76
Watching & Controlling	10.32	11.47	0	57	7.48	10.35	0	66
Belittling & Blaming	5.52	9.93	0	79	3.12	5.12	0	25
Attacking & Rejecting	0.05	0.32	0	3	0.02	0.20	0	2
Ignoring & Neglecting	0.43	1.32	0	9	0.04	0.19	0	1

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. <sup>b</sup> Time 2 was the follow-up assessment completed when the child was six months old.

Table 14 depicts the frequency of “other-focused” interpersonal behaviors at pre- and post-assessment for mothers in the “Conflict Task.” Table 14 demonstrates that there were no instances of “Protesting and Recoiling” interpersonal behaviors at the post-assessment for mothers in the “Conflict Task.” Due to the lack of observation of “Protesting and Recoiling” interpersonal behavior, this code was excluded from subsequent analyses.

Table 14

*Mothers' Responses for Conflict Task in Other-Focused Codes (n=105)*

Code	Time 1 <sup>a</sup>				Time 2 <sup>b</sup>			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Asserting & Separating	16.64	12.84	0	74	9.63	8.91	0	46
Disclosing & Expressing	29.05	18.42	0	81	24.47	18.19	0	119
Joyfully Connecting	10.72	7.73	0	31	5.71	5.97	0	29
Trusting & Relying	5.12	4.50	0	19	3.79	5.16	0	37
Deferring & Submitting	0.12	0.51	0	4	0.03	0.17	0	1
Sulking & Scurrying	1.24	2.76	0	16	0.79	2.44	0	18
Protesting & Recoiling	0.01	0.10	0	1	--	--	--	--
Walling Off & Distancing	0.34	1.03	0	6	0.09	0.37	0	3

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. <sup>b</sup> Time 2 was the follow-up assessment completed when the child was six months old.

When examining the frequency for each interpersonal behavior for mothers in the relationship task, frequencies ranged from 0 to 90 times within a 10 minute interaction. For mothers in the relationship task, the least frequently observed interpersonal behavior, from those that are of interest in this study, was “Deferring and Submitting at time 1 ( $M = 0.01$ ,  $SD = 0.10$ ) at Time 1. The most frequently observed interpersonal behavior for mothers was “Disclosing and Expressing” at Time 1 ( $M = 34.72$ ,  $SD = 20.15$ ) and at Time 2 ( $M = 28.63$ ,  $SD =$

14.82). Table 15 and Table 16 provide specific data regarding the frequency of responses for mothers in the relationship task at Time 1 and Time 2. Table 15 demonstrates that there were no observations of “Attacking and Rejecting” interpersonal behaviors for mothers in the pre-assessment of the “Conflict Task.” Due to the lack of observation of “Attacking and Rejecting” interpersonal behaviors, this code was excluded from subsequent analyses.

Table 15

*Mothers' Responses for Relationship Task in Self-Focused Codes (n=105)*

Code	Time 1 <sup>a</sup>				Time 2 <sup>b</sup>			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Freeing & Forgetting	0.01	0.10	0	1	0.01	0.10	0	1
Affirming & Understanding	19.57	12.16	0	72	18.40	11.82	0	52
Loving & Approaching	4.62	6.36	0	39	2.39	3.84	0	22
Nurturing & Protecting	13.44	10.70	0	53	18.24	13.46	0	77
Watching & Controlling	5.58	7.69	0	46	4.19	5.55	0	29
Belittling & Blaming	2.09	3.40	0	19	1.54	2.64	0	16
Attacking & Rejecting	--	--	--	--	0.02	0.14	0	1
Ignoring & Neglecting	0.10	0.41	0	3	0.04	0.24	0	2

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. <sup>b</sup> Time 2 was the follow-up assessment completed when the child was six months old.

Table 16 depicts the frequency of “other-focused” codes for mothers in the “Relationship Task.” Table 16 demonstrates that there were no observed “Deferring and Submitting” interpersonal behaviors at the post-assessment. Additionally, Table 16 demonstrates that there were no observed “Protesting and Recoiling” interpersonal behaviors at pre- or post-assessment for mothers in the “Relationship Task.” Due to the lack of observation of “Protesting and Recoiling” interpersonal behaviors, this code was excluded from subsequent analyses.

Table 16

*Mothers’ Responses for Relationship Task in Other-Focused Codes (n=105)*

Code	Time 1 <sup>a</sup>				Time 2 <sup>b</sup>			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Asserting & Separating	7.51	7.17	0	32	4.93	5.35	0	26
Disclosing & Expressing	34.72	20.15	0	90	28.63	14.82	0	69
Joyfully Connecting	13.47	8.89	0	45	7.71	5.65	0	30
Trusting & Relying	3.74	4.15	0	24	2.68	3.96	0	28
Deferring & Submitting	0.01	0.10	0	1	--	--	--	--
Sulking & Scurrying	1.00	3.03	0	27	0.57	2.03	0	16
Protesting & Recoiling	--	--	--	--	--	--	--	--
Walling Off & Distancing	0.23	1.12	0	10	0.01	0.10	0	1

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. <sup>b</sup> Time 2 was the follow-up assessment completed when the child was six months old.

## Data Analysis for Research Questions

The data gathered throughout the course of this study were examined through use of categorical data analysis techniques. There were three categorical variables of interest in this study: gender, time, and group. First, the variable of gender was examined through the analysis of the interpersonal behaviors of the mother and father. Second, the variable of time was examined across two assessment points: time 1 (before the mother reached 26 weeks gestation) and time 2 (when the baby was six-months old). Third, the variable of group was examined across the three groups to which participants were assigned: control group, care-coordination only, and YPP counseling with care-coordination services. These variables resulted in a three-way contingency table where the relationship between time and group was examined according to the conditional relationship these variables have at the fixed level of gender. More specifically, the conditional association for time and group was examined through calculation of two chi-square statistics: one for the fathers', and the other for mothers' responses.

The chi-square statistics compare the actual observed frequencies for the responses of the participants to the frequencies that would be expected if the variables were statistically independent. In the case of the data in this study, the null hypothesis would state that the variables of time and group were independent within each gender (males and females, or fathers and mothers). The alternative hypothesis then examines whether there is a conditional association between time and group, separately for mothers and fathers, through

computation of the chi-square statistics. The total frequency of each participant's responses was then organized into a cell of the contingency table.

The residual is defined as the difference between the observed frequency and the expected frequency in each of the cells of the resulting contingency table (Azen & Walker, 2011). The standardized residual, which divides the residual by the standard error, was used to interpret the results of the chi-square analyses in this study. Standardized residuals are distributed in a manner similar to that of a normal distribution, where approximately 95% of the values are contained within 2 standard deviations from the mean. Thus, the resulting standardized residuals that are larger than the value of two, or smaller than negative 2, are considered to contribute significantly to the chi-square finding with a 95% confidence interval. The value of positive or negative two is regarded as the measure of significance given that results with this standardized residual are considered to fall more than two standard deviations away from the expected frequency of that cell. As such, the data from the analyses of this study that had resulting standardized residuals of positive or negative two were considered to contribute most significantly to the chi-square finding, while other resulting standardized residuals that did not cross this threshold were considered to contribute less to the chi-square finding. In contrast, when standardized residual were zero or nearly zero, this indicated that the observed frequencies were close to what was expected for that cell. For example, if the standardized residual for a cell was 3.0, this would indicate that the observed frequency was three standardized deviations greater than the

expected frequency, while a standardized residual of 0.1 would indicate that the observed frequency was very close to the expected frequency of that cell.

Results from chi-square analyses are highly dependent on the sample size contained in each individual cell. In the case of this study, there were some instances where there were no, or very few, observations of a particular type of interpersonal behavior. In these cases, the test of chi-square would be inaccurate due to the dependence of this test on the approximation of the chi-square distribution based on a large-sample. As such, it became necessary to add a constant across all cells, or across each of the participants' responses, in order to ensure that a small sample size was not contributing to the resulting chi-square. Since a cell frequency of at least five is considered to be sufficient to examine chi-square results, the constant of five was added across all cells (Azen & Walker, 2011).

There were a total of eleven types of interpersonal behaviors observed across two tasks that were of interest in this study. This resulted in 22 total comparisons. Since multiple comparisons were being drawn from the analyses of this data, it was necessary to adjust the  $p$  level of significance. Rather than utilizing the standard  $p$  level of 0.05, this value was divided by 22 in order to lower the critical value. This adjustment was based on the Bonferroni correction, which indicates that the critical value must be divided by the total number of comparisons (McDonald, 2014). Thus, the critical value utilized across the statistical analyses of this study was  $p < .002$ .

In summary, the chi square results were used to examine whether there was a conditional association between the variables of gender, time, and group. The chi-square result was considered to be significant if it was less than  $p < .002$ . Lastly, the interpretation of how the cells have contributed to the significant result was dependent upon the resulting standardized residuals.

### **Research Question One: Chi-square Tests of Data for “Affirming and Understanding” Interactions**

#### **Conflict Task**

Chi-square tests were performed to examine whether a relationship exists between gender, time, and task for the “Affirming and Understanding” interpersonal behaviors. Results from the chi-square test demonstrated that when examining “Affirming and Understanding” interactions during the “Conflict Task,” there was no association between Group and Time for fathers ( $\chi^2=10.66$ ,  $df=2$ ,  $p=.005$ ) or for mothers ( $\chi^2= 3.01$ ,  $df=2$ ,  $p=.222$ ). Among expectant fathers and pregnant mothers during the “Conflict Task,” the hypothesis that differences in the frequency of “Affirming and Understanding” interactions are related to “Group” and “Time” is not supported by this analysis. Table 17 provides further information about the results of this analysis.

Table 17

*Crosstabulation of Gender and Time and Group for “Affirming and Understanding (1-2)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	696	376	905	10.66	.005
		Std. Residual	-1.4	1.8	.1		
	2	Count	674	266	780		
		Std. Residual	1.5	-1.9	-.1		
Female	1	Count	620	364	745	3.01	.222
		Std. Residual	.2	.9	-.8		
	2	Count	545	295	708		
		Std. Residual	-.2	-.9	.8		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### **Relationship Task**

Results from the chi-square test revealed that when examining “Affirming and Understanding” interactions during the “Relationship Task,” there is no association between Group and Time for fathers ( $\chi^2= 10.10$ ,  $df=2$ ,  $p=.006$ ).

Among fathers during the “Relationship Task,” the hypothesis that differences in the frequency of “Affirming and Understanding” interactions are related to “Group” and “Time” is not supported by this analysis. However, there is a conditional association between Group and Time for mothers ( $\chi^2= 17.20$ ,  $df= 2$ ,  $p< .001$ ).

Among mothers who received the YPP counseling sessions and Care Coordination services (YPP+CC group), there was a lower frequency of “Affirming and Understanding” communication at Time 1, and higher frequency at

Time 2, during the “Relationship Task” than would be expected if “Group” and “Time” were independent. Among mothers in the control group, there was a higher frequency of “Affirming and Understanding” communication at Time 1 during the “Relationship Task” than would be expected if “Group” and “Time” were independent. Among mothers in the control group, there was a lower incidence of “Affirming and Understanding” communication at Time 2 during the “Relationship Task” than would be expected if “Group” and “Time” were independent. Table 18 displays the result of this chi-square analysis.

Table 18

*Crosstabulation of Gender and Time and Group for “Affirming and Understanding (1-2)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	1088	494	1193	10.10	.006
		Std. Residual	1.6	.0	-1.5		
	2	Count	842	426	1124		
		Std. Residual	-1.7	.0	1.6		
Female	1	Count	1045	472	1063	17.20	< .001*
		Std. Residual	1.8	.8	-2.2		
	2	Count	887	416	1154		
		Std. Residual	-1.8	-.8	2.2		

*Note.* \*Significant at the  $p < .002$  level.

<sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

## **Research Question Two: Chi-square Tests of Data for “Loving and Approaching” Interactions**

### **Conflict Task**

When examining “Loving and Approaching” interactions during the “Conflict Task,” there is no association between Group and Time for fathers ( $\chi^2=7.84$ ,  $df=2$ ,  $p=.020$ ) or for mothers ( $\chi^2=1.46$ ,  $df=2$ ,  $p=.481$ ). Among expectant fathers and pregnant mothers during the “Conflict Task,” the hypothesis that differences in the frequency of “Loving and Approaching” interactions are related to “Group” and “Time” is not supported by this analysis. Table 19 displays the result of this chi-square analysis.

Table 19

*Crosstabulation of Gender and Time and Group for “Loving and Approaching (1-3)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	350	162	407	7.84	.020
		Std. Residual	.1	-1.5	.9		
	2	Count	249	153	262		
		Std. Residual	-.1	1.8	-1.1		
Female	1	Count	315	131	322	1.46	.481
		Std. Residual	.4	-.7	.1		
	2	Count	234	117	249		
		Std. Residual	-.4	.8	-.1		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### Relationship Task

When examining “Loving and Approaching” interactions during the “Relationship Task,” there is no association between Group and Time for fathers ( $\chi^2=4.48$ ,  $df=2$ ,  $p=.107$ ) or for mothers ( $\chi^2=9.94$ ,  $df=2$ ,  $p=.007$ ). Among

expectant fathers and pregnant mothers during the “Relationship Task,” the hypothesis that differences in the frequency of “Loving and Approaching” interactions are related to “Group” and “Time” is not supported by this analysis. Table 20 displays the results of this chi-square analysis.

Table 20

*Crosstabulation of Gender and Time and Group for “Loving and Approaching (1-3)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	418	236	504	4.48	.107
		Std. Residual	.6	-1.2	.3		
	2	Count	268	194	334		
		Std. Residual	-.7	1.4	-.4		
Female	1	Count	436	172	402	9.94	.007
		Std. Residual	1.6	-1.1	-.8		
	2	Count	279	158	339		
		Std. Residual	-1.8	1.2	.9		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### **Research Question Three: Chi-square Tests of Data for “Nurturing and Protecting” Interactions**

#### **Conflict Task**

When examining “Nurturing and Protecting” interactions during the “Conflict Task,” there is no association between Group and Time for fathers ( $\chi^2= 1.35$ ,  $df= 2$ ,  $p= .510$ ) or for mothers ( $\chi^2= 2.02$ ,  $df= 2$ ,  $p= .364$ ). Among fathers and mothers during the “Conflict Task,” the hypothesis that differences in the

frequency of “Nurturing and Protecting” interactions are related to “Group” and “Time” is not supported by this analysis. Table 21 displays the results of this chi-square analysis.

Table 21

*Crosstabulation of Gender and Time and Group for “Nurturing and Protecting (1-4)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	1234	547	1464	1.35	.510
		Std. Residual	-.4	.7	-.1		
	2	Count	1326	541	1549		
		Std. Residual	.4	-.7	.1		
Female	1	Count	1082	506	1316	2.02	.364
		Std. Residual	-.8	.6	.3		
	2	Count	1341	571	1535		
		Std. Residual	.7	-.6	-.3		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### Relationship Task

When examining “Nurturing and Protecting” interactions during the “Relationship Task,” there is no association between Group and Time for fathers ( $\chi^2= 7.09$ ,  $df= 2$ ,  $p= .029$ ) or for mothers ( $\chi^2= 0.88$ ,  $df= 2$ ,  $p= .644$ ). Among fathers and mothers during the “Relationship Task,” the hypothesis that differences in the frequency of “Nurturing and Protecting” interactions are related to “Group” and “Time” is not supported by this analysis. Table 22 displays the results of this chi-square analysis.

Table 22

*Crosstabulation of Gender and Time and Group for “Nurturing and Protecting (1-4)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	921	367	941	7.09	.029
		Std. Residual	1.2	-1.4	-.3		
	2	Count	908	451	1024		
		Std. Residual	-1.2	1.4	.3		
Female	1	Count	760	286	890	0.88	.644
		Std. Residual	.5	-.2	.3		
	2	Count	924	370	1146		
		Std. Residual	-.5	.2	.3		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” Group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

#### **Research Question Four: Chi-square Tests of Data for “Watching and Controlling” Interactions**

##### **Conflict Task**

When examining “Watching and Controlling” interactions during the “Conflict Task,” there is no association between Group and Time for fathers ( $\chi^2= 2.05$ ,  $df= 2$ ,  $p= .360$ ). Among fathers during the “Conflict Task,” the hypothesis that differences in the frequency of “Watching and Controlling” interactions are related to “Group” and “Time” is not supported by this analysis. However, there is a conditional association between Group and Time for mothers ( $\chi^2= 13.72$ ,  $df= 2$ ,  $p= .001$ ).

Among mothers in the “Care-coordination” group, there was a lower frequency of “Watching and Controlling” communication at Time 1 during the Conflict Task than would be expected if “Group” and “Time” were independent. Among mothers in the “Care-coordination” group, there was a higher frequency of “Watching and Controlling” communication at Time 2 during the Conflict Task than would be expected if “Group” and “Time” were independent. Conversely, mothers who received YPP counseling sessions and care-coordination services (YPP+CC) displayed a reverse pattern from Time 1 to Time 2. More specifically, mothers in the YPP+CC group displayed more frequent “Watching and Controlling” interpersonal behaviors at Time 1, and less frequent “Watching and Controlling” behaviors at Time 2, than would be expected if “Group” and “Time” were independent. Table 23 displays the results of this chi-square analysis.

Table 23

*Crosstabulation of Gender and Time and Group for “Watching and Controlling (1-5)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	596	291	558	2.05	.360
		Std. Residual	-.7	.1	.7		
	2	Count	503	229	415		
		Std. Residual	.8	-.1	-.8		
Female	1	Count	666	253	690	13.72	.001*
		Std. Residual	.3	-2.2	1.2		
	2	Count	530	273	507		
		Std. Residual	-.3	2.4	-1.3		

*Note.* \*Significant at the  $p < .002$  level.

<sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

## Relationship Task

When examining “Watching and Controlling” interactions during the Relationship Task, there is no association between Group and Time for fathers ( $\chi^2= 8.26$ ,  $df= 2$ ,  $p= .016$ ) or for mothers ( $\chi^2= 4.85$ ,  $df= 2$ ,  $p= .088$ ). Among fathers and mothers during the Relationship Task, the hypothesis that differences in the frequency of “Watching and Controlling” interactions are related to “Group” and “Time” is not supported by this analysis. Table 24 displays the results of this chi-square analysis.

Table 24

*Crosstabulation of Gender and Time and Group for “Watching and Controlling (1-5)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	358	138	369	8.26	.016
		Std. Residual	.4	-1.8	.9		
	2	Count	337	180	329		
		Std. Residual	-.4	1.8	-.9		
Female	1	Count	382	214	515	4.85	.088
		Std. Residual	-.7	-.7	1.1		
	2	Count	359	205	401		
		Std. Residual	.8	.7	-1.5		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

## Research Question Five: Chi-square Tests of Data for “Belittling and Blaming” Interactions

## Conflict Task

When examining “Belittling and Blaming” interactions during the Conflict Task, there is no association between Group and Time for fathers ( $\chi^2= 4.52$ ,  $df= 2$ ,  $p= .104$ ) or for mothers ( $\chi^2= 9.29$ ,  $df= 2$ ,  $p= .010$ ). Among fathers and mothers during the Conflict Task, the hypothesis that differences in the frequency of “Belittling and Blaming” interactions are related to “Group” and “Time” is not supported by this analysis. Table 25 displays the results of this chi-square analysis.

Table 25

*Crosstabulation of Gender and Time and Group for “Belittling and Blaming (1-6)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	396	157	382	4.52	.104
		Std. Residual	-.5	-.8	1.1		
	2	Count	337	144	270		
		Std. Residual	.6	.9	1.2		
Female	1	Count	526	172	407	9.29	.010
		Std. Residual	.5	-1.8	.7		
	2	Count	385	178	290		
		Std. Residual	-.6	2.1	-1.4		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

## Relationship Task

When examining “Belittling and Blaming” interactions during the Relationship Task, there is no association between Group and Time for fathers

( $\chi^2= 2.99$ ,  $df= 2$ ,  $p=.225$ ) or for mothers ( $\chi^2= 3.41$ ,  $df= 2$ ,  $p= .182$ ). Among fathers and mothers during the Relationship Task, the hypothesis that differences in the frequency of “Belittling and Blaming” interactions are related to “Group” and “Time” is not supported by this analysis. Table 26 displays the results of this chi-square analysis.

Table 26

*Crosstabulation of Gender and Time and Group for “Belittling and Blaming (1-6)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	309	108	312	2.99	.225
		Std. Residual	.1	-1.0	.6		
	2	Count	274	118	260		
		Std. Residual	-.1	1.1	-.6		
Female	1	Count	307	113	324	3.41	.182
		Std. Residual	.0	-1.1	.7		
	2	Count	282	128	277		
		Std. Residual	.0	1.1	-.7		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### **Research Question Six: Chi-square Tests of Data for “Asserting and Separating” Interactions**

#### **Conflict Task**

When examining “Asserting and Separating” interactions during the Conflict Task, there is a conditional association between Group and Time for both fathers ( $\chi^2= 20.53$ ,  $df= 2$ ,  $p< .001$ ) and mothers ( $\chi^2= 17.95$ ,  $df= 2$ ,  $p< .001$ ).

Among fathers in the “Care-coordination” group, there was a lower frequency of “Asserting and Separating” communication at Time 1 during the Conflict Task than would be expected if “Group” and “Time” were independent. Among fathers in the “Care-coordination” group, there was a higher incidence of “Asserting and Separating” communication at Time 2 during the Conflict Task than would be expected if “Group” and “Time” were independent. The opposite directional pattern was observed for fathers in the control group and in the YPP+CC groups, where more frequent “Asserting and Separating” interpersonal behaviors were observed at Time 1, and less frequent “Asserting and Separating” interpersonal behaviors were observed at Time 2, than would be expected if “Group” and “Time” were independent.

Among mothers in the Conflict Task, results demonstrated a similar pattern to the aforementioned results of the fathers. Mothers in the “Care-coordination” group displayed a lower frequency of “Asserting and Separating” communication at Time 1 during the Conflict Task than would be expected if “Group” and “Time” were independent. Among mothers in the “Care-coordination” group, there was a higher incidence of “Asserting and Separating” communication at Time 2 during the Conflict Task than would be expected if “Group” and “Time” were independent. Conversely, mothers in both the control and “YPP+CC” groups displayed more frequent “Asserting and Separating” interpersonal behaviors at Time 1, and less frequent “Asserting and Separating” interpersonal behaviors at Time 2, than would be expected if “Group” and “Time” were independent. Table 27 displays the results of this chi-square analysis.

Table 27

*Crosstabulation of Gender and Time and Group for “Asserting and Separating (2-1)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	967	257	796	20.53	< .001*
		Std. Residual	.7	-2.7	.9		
	2	Count	624	254	505		
		Std. Residual	-.9	3.2	-1.0		
Female	1	Count	1036	301	935	17.95	< .001*
		Std. Residual	.4	-2.4	1.1		
	2	Count	681	279	576		
		Std. Residual	-.4	2.9	-1.4		

*Note.* \*Significant at the  $p < .002$  level.

<sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### Relationship Task

When examining “Asserting and Separating” interactions during the Relationship Task, there is no association between Group and Time for fathers ( $\chi^2 = 6.64$ ,  $df = 2$ ,  $p = .036$ ). Among fathers during the Relationship Task, the hypothesis that differences in the frequency of “Asserting and Separating” interactions are related to “Group” and “Time” is not supported by this analysis. However, there is a conditional association between Group and Time for mothers ( $\chi^2 = 17.87$ ,  $df = 2$ ,  $p < .001$ ).

Among mothers in the control group, there was a higher frequency of “Asserting and Separating” communication at Time 1 during the Relationship

Task than would be expected if “Group” and “Time” were independent. Among mothers in the control group, there was a lower frequency of “Asserting and Separating” communication at Time 2 during the Relationship Task than would be expected if “Group” and “Time” were independent.

Mothers in the “Care-coordination” group demonstrated the opposite pattern of interpersonal behavior in the Relationship task. Among mothers in the “care-coordination” group, there was a lower frequency of “Asserting and Separating” communication at Time 1 during the Relationship Task than would be expected if “Group” and “Time” were independent. Among mothers in the “Care-coordination” group, there was a higher frequency of “Asserting and Separating” communication at Time 2 during the Relationship Task than would be expected if “Group” and “Time” were independent. Mothers in the “YPP+CC” group demonstrated a similar pattern of this type of interpersonal behavior during the Relationship Task. Mothers in the “YPP+CC” group displayed less frequent “Asserting and Separating” interpersonal behavior at Time 1, and more frequent “Asserting and Separating” interpersonal behaviors at Time 2, than would be expected if “Group” and “Time” were independent. Table 28 displays the results of this chi-square analysis.

Table 28

*Crosstabulation of Gender and Time and Group for “Asserting and Separating (2-1)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	528	153	494	6.64	.036
		Std. Residual	.9	-1.5	.0		
	2	Count	386	157	394		
		Std. Residual	-1.0	1.7	.0		
Female	1	Count	609	197	508	17.87	< .001*
		Std. Residual	2.1	-1.7	-1.1		
	2	Count	393	182	468		
		Std. Residual	-2.4	1.9	1.3		

Note. \*Significant at the  $p < .002$  level.

<sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### **Research Question Seven: Chi-square Test of Data for “Disclosing and Expressing” Interactions**

#### **Conflict Task**

When examining “Disclosing and Expressing” interactions during the Conflict Task, there is no association between Group and Time for fathers ( $\chi^2= 2.91$ ,  $df= 2$ ,  $p= .234$ ). Among fathers during the Conflict Task, the hypothesis that differences in the frequency of “Disclosing and Expressing” interactions are related to “Group” and “Time” is not supported by this analysis. However, there is a conditional association between Group and Time for mothers ( $\chi^2= 16.86$ ,  $df= 2$ ,  $p < .001$ ).

Among mothers in the “Care-coordination” group, there was a higher frequency of “Disclosing and Expressing” communication at Time 1 during the Conflict Task than would be expected if “Group” and “Time” were independent. Among mothers in the “Care-coordination” group, there was a lower frequency of “Disclosing and Expressing” communication at Time 2 during the Conflict Task than would be expected if “Group” and “Time” were independent. Mothers in the “YPP+CC” group demonstrated the opposite pattern in the results of the Conflict Task. Mothers in “YPP+CC” group displayed less frequent “Disclosing and Expressing” interpersonal behaviors at Time 1, and more frequent “Disclosing and Expressing” interpersonal behaviors at Time 2, than would be expected if “Group” and “Time” were independent. Table 29 displays the results of this chi-square analysis.

Table 29

*Crosstabulation of Gender and Time and Group for “Disclosing and Expressing (2-2)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	1304	643	1491	2.91	.234
		Std. Residual	.0	1.0	-.6		
	2	Count	1080	489	1280		
		Std. Residual	.0	-1.1	.7		
Female	1	Count	1271	720	1584	16.86	< .001*
		Std. Residual	-.3	2.4	-1.3		
	2	Count	1117	506	1471		
		Std. Residual	.3	-2.6	1.4		

*Note.* \*Significant at the  $p < .002$  level.

<sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### Relationship Task

When examining “Disclosing and Expressing” interactions during the Relationship Task, there is a conditional association between Group and Time for fathers ( $\chi^2= 16.83$ ,  $df= 2$ ,  $p < .001$ ). However, there is no conditional association between Group and Time for mothers ( $\chi^2= 7.67$ ,  $df=2$ ,  $p=.022$ ). Among mothers during the Conflict Task, the hypothesis that differences in the frequency of “Disclosing and Expressing” interactions are related to “Group” and “Time” is not supported by this analysis.

Among fathers in the care-coordination group, there was a higher frequency of “Disclosing and Expressing” communication at Time 1 during the

Relationship Task than would be expected if “Group” and “Time” were independent. Among fathers in the care-coordination group, there was a lower frequency of “Disclosing and Expressing” communication at Time 2 during the Relationship Task than would be expected if “Group” and “Time” were independent. The opposite pattern was observed in the fathers who were in the “YPP+CC” group. Fathers in the “YPP+CC” group demonstrated less frequent “Disclosing and Expressing” communication was observed at Time 1 and more frequent “Disclosing and Expressing” communication at Time 2 than would be expected if “Group” and “Time” were independent. Table 30 displays the results of this chi-square analysis.

Table 30

*Crosstabulation of Gender and Time and Group for “Disclosing and Expressing (2-2)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	1589	817	1732	16.83	< .001*
		Std. Residual	.0	2.3	-1.5		
	2	Count	1323	562	1555		
		Std. Residual	.0	-2.6	1.6		
Female	1	Count	1517	819	1835	7.67	.022
		Std. Residual	-.9	1.6	-.2		
	2	Count	1351	610	1570		
		Std. Residual	1.0	-1.8	.2		

*Note.* \*Significant at the  $p < .002$  level.

<sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

## Research Question Eight: Chi-square Tests of Data for “Joyfully Connecting” Interactions

### Conflict Task

When examining “Joyfully Connecting” interactions during the Conflict Task, there is no association between Group and Time for fathers ( $\chi^2= 2.07$ ,  $df= 2$ ,  $p= .356$ ) or for mothers ( $\chi^2= 1.47$ ,  $df= 2$ ,  $p= .479$ ). Among fathers and mothers during the Conflict Task, the hypothesis that differences in the frequency of “Joyfully Connecting” interactions are related to “Group” and “Time” is not supported by this analysis. Table 31 displays the results of this chi-square analysis.

Table 31

*Crosstabulation of Gender and Time and Group for “Joyfully Connecting (2-3)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	510	228	561	2.07	.356
		Std. Residual	.7	-.3	-.5		
	2	Count	341	174	425		
		Std. Residual	-.9	.4	.5		
Female	1	Count	695	331	625	1.47	.479
		Std. Residual	.6	-.2	-.5		
	2	Count	448	231	446		
		Std. Residual	-.7	.2	.6		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

## Relationship Task

When examining “Joyfully Connecting” interactions during the Relationship Task, there is no association between Group and Time for fathers ( $\chi^2= 1.20$ ,  $df= 2$ ,  $p= .550$ ) or for mothers ( $\chi^2= 1.02$ ,  $df= 2$ ,  $p= .600$ ). Among fathers and mothers during the Relationship Task, the hypothesis that differences in the frequency of “Joyfully Connecting” interactions are related to “Group” and “Time” is not supported by this analysis. Table 32 displays the results of this chi-square analysis.

Table 32

*Crosstabulation of Gender and Time and Group for “Joyfully Connecting (2-3)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	556	212	650	1.20	.550
		Std. Residual	.4	-.6	-.1		
	2	Count	407	177	499		
		Std. Residual	-.5	.7	.1		
Female	1	Count	727	387	770	1.02	.600
		Std. Residual	-.4	.6	-.1		
	2	Count	768	374	797		
		Std. Residual	.0	.1	-.1		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

## Research Question Nine: Chi-square Tests of Data for “Trusting and Relying” Interactions

## Conflict Task

When examining “Trusting and Relying” interactions during the Conflict Task, there is no association between Group and Time for fathers ( $\chi^2= 9.68$ ,  $df= 2$ ,  $p= .008$ ) or for mothers ( $\chi^2= 10.02$ ,  $df= 2$ ,  $p= .007$ ). Among fathers and mothers during the Conflict Task, the hypothesis that differences in the frequency of “Trusting and Relying” interactions are related to “Group” and “Time” is not supported by this analysis. Table 33 displays the results of this chi-square analysis.

Table 33

*Crosstabulation of Gender and Time and Group for “Trusting and Relying (2-4)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	431	154	518	9.68	.008
		Std. Residual	-1.4	-.3	1.6		
	2	Count	434	142	389		
		Std. Residual	1.5	.3	-1.7		
Female	1	Count	394	201	468	10.02	.007
		Std. Residual	-1.6	1.1	.9		
	2	Count	405	146	372		
		Std. Residual	1.7	-1.2	-.9		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

## Relationship Task

When examining “Trusting and Relying” interactions during the Relationship Task, there is no association between Group and Time for fathers

( $\chi^2 = 0.35$ ,  $df = 2$ ,  $p = .839$ ) or for mothers ( $\chi^2 = 0.77$ ,  $df = 2$ ,  $p = .680$ ). Among fathers and mothers during the Relationship Task, the hypothesis that differences in the frequency of “Trusting and Relying” interactions are related to “Group” and “Time” is not supported by this analysis. Table 34 displays the results of this chi-square analysis.

Table 34

*Crosstabulation of Gender and Time and Group for “Trusting and Relying (2-4)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	$p$
			Control	CC	YPP+CC		
Male	1	Count	363	118	401	0.35	.839
		Std. Residual	-.2	-.2	.3		
	2	Count	348	116	366		
		Std. Residual	.2	.2	-.3		
Female	1	Count	395	141	382	0.77	.680
		Std. Residual	.3	-.5	.1		
	2	Count	337	136	333		
		Std. Residual	-.3	.6	-.1		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### **Research Question Ten: Chi-Square Tests of Data for “Deferring and Submitting” Interactions**

#### **Conflict Task**

When examining “Deferring and Submitting” interactions during the Conflict Task, there is no association between Group and Time for fathers ( $\chi^2 =$

0.20,  $df= 2$ ,  $p= .903$ ) or for mothers ( $\chi^2= 0.02$ ,  $df= 2$ ,  $p= .993$ ). Among fathers and mothers during the Conflict Task, the hypothesis that differences in the frequency of “Deferring and Submitting” interactions are related to “Group” and “Time” is not supported by this analysis. Table 35 displays the results of this chi-square analysis.

Table 35

*Crosstabulation of Gender and Time and Group for “Deferring and Submitting (2-5)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	$p$
			Control	CC	YPP+CC		
Male	1	Count	207	89	243	0.20	.903
		Std. Residual	-.2	.2	.1		
	2	Count	212	85	237		
		Std. Residual	.2	-.2	-.1		
Female	1	Count	211	88	239	0.02	.993
		Std. Residual	.0	.1	.0		
	2	Count	207	85	236		
		Std. Residual	.0	-.1	.0		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### Relationship Task

When examining “Deferring and Submitting” interactions during the Relationship Task, there is no association between Group and Time for fathers ( $\chi^2= 0.05$ ,  $df= 2$ ,  $p= .975$ ) or for mothers ( $\chi^2 < 0.01$ ,  $df= 2$ ,  $p= .999$ ). Among fathers and mothers during the Relationship Task, the hypothesis that differences in the frequency of “Deferring and Submitting” interactions are related to “Group”

and “Time” is not supported by this analysis. Table 36 displays the results of this chi-square analysis.

Table 36

*Crosstabulation of Gender and Time and Group for “Deferring and Submitting (2-5)” in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	205	88	236	0.05	.975
		Std. Residual	-.1	.1	.0		
	2	Count	206	85	236		
		Std. Residual	.1	-.1	.0		
Female	1	Count	205	85	236	< 0.01	.999
		Std. Residual	.0	.0	.0		
	2	Count	205	85	235		
		Std. Residual	.0	.0	.0		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### **Research Question Eleven: Chi-square Tests of Data for “Sulking and Scurrying” Interactions**

#### **Conflict Task**

When examining “Sulking and Scurrying” interactions during the Conflict Task, there is no association between Group and Time for fathers ( $\chi^2= 0.12$ , *df*= 2, *p*= .944) or for mothers ( $\chi^2= 3.15$ , *df*= 2, *p*= .207). Among fathers and mothers during the Conflict Task, the hypothesis that differences in the frequency of “Sulking and Scurrying” interactions are related to “Group” and “Time” is not

supported by this analysis. Table 37 displays the results of this chi-square analysis.

Table 37

*Crosstabulation of Gender and Time and Group for “Sulking and Scurrying (2-6)” in the Conflict Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	219	88	242	0.12	.944
		Std. Residual	.1	-.2	.1		
	2	Count	217	92	239		
		Std. Residual	-.1	.2	-.1		
Female	1	Count	262	97	296	3.15	.207
		Std. Residual	-.8	-.3	.9		
	2	Count	268	95	245		
		Std. Residual	.8	.3	-1.0		

*Note.* <sup>a</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup> The “Control” group received no treatment. Group “CC” received care-coordination only. Group “YPP+ CC” received the Young Parenthood Program counseling sessions and care-coordination services.

### Relationship Task

When examining “Sulking and Scurrying” interactions during the Relationship Task, there is no association between Group and Time for fathers ( $\chi^2= 0.01$ ,  $df= 2$ ,  $p= .997$ ) or for mothers ( $\chi^2= 1.82$ ,  $df= 2$ ,  $p= .402$ ). Among fathers and mothers during the Relationship Task, the hypothesis that differences in the frequency of “Sulking and Scurrying” interactions are related to “Group” and “Time” is not supported by this analysis. Table 38 displays the results of this chi-square analysis.

Table 38

*Crosstabulation of Gender and Time and Group for "Sulking and Scurrying (2-6)" in the Relationship Task*

Gender	Time <sup>a</sup>		Group <sup>b</sup>			$\chi^2$	<i>p</i>
			Control	CC	YPP+CC		
Male	1	Count	222	87	241	0.01	.997
		Std. Residual	.0	.0	.0		
	2	Count	218	86	239		
		Std. Residual	.0	.0	.0		
Female	1	Count	252	87	291	1.82	.402
		Std. Residual	-.5	-.4	.7		
	2	Count	248	89	248		
		Std. Residual	.5	.5	-.7		

*Note.* <sup>a</sup>Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old. <sup>b</sup>The "Control" group received no treatment. Group "CC" received care-coordination only. Group "YPP+ CC" received the Young Parenthood Program counseling sessions and care-coordination services.

### Overall Results of the Chi-square Tests

#### Significant Results

There were a total of eleven types of interpersonal behaviors that were examined in this study. These eleven codes were examined across two tasks for two participant groups (mothers and fathers). Thus, a total of 44 chi-square results were obtained throughout the course of this analysis. Of these results, a total of seven were significant at a level of  $p < .002$ . When comparing results across tasks, there were four significant results in the Conflict Task, while three significant results were observed in the Relationship Task. When comparing results across gender, there were two significant findings for fathers, while there

were five significant results for mothers. Table 39 displays the overall results of the chi-square analyses.

Table 39

*Statistical Significance of Chi-Square Analyses*

Code	Conflict Task		Relationship Task	
	Fathers	Mothers	Fathers	Mothers
Affirming and Understanding	.005	.222	.006	< .001 *
Loving and Approaching	.020	.481	.107	.007
Nurturing and Protecting	.510	.364	.029	.644
Watching and Controlling	.360	.001*	.016	.088
Belittling and Blaming	.104	.010	.225	.182
Asserting and Separating	< .001*	< .001*	.036	< .001*
Disclosing and Expressing	.234	< .001*	< .001*	.022
Joyfully Connecting	.356	.479	.550	.600
Trusting and Relying	.008	.007	.839	.680
Deferring and Submitting	.903	.993	.975	.999
Sulking and Scurrying	.944	.207	.997	.402

*Note.* \*Significant at the level of  $p < .002$

**Direction of Significance**

The directionality of the resulting significant findings is summarized below in Table 40. For significant findings in the YPP group, the direction was observed to be less frequent at Time 1 and more frequent at Time 2. For significant findings in the control group, the direction was observed to be more frequent at

Time 1 and less frequent at Time 2. Significant findings in the care coordination group were not observed to have a consistent pattern of directionality.

Table 40

*Interpretation of Statistically Significant Findings*

Code	Task	Gender	Group <sup>a</sup>	Result <sup>b</sup>
Affirming & Understanding	Relationship	Mothers	YPP+CC	-Less at T1 -More at T2
Affirming & Understanding	Relationship	Mothers	Control	-More at T1 -Less at T2
Watching & Controlling	Conflict	Mothers	CC	-Less at T1 -More at T2
Watching & Controlling	Conflict	Mothers	YPP+CC	-More at T1 -Less at T2
Asserting & Separating	Conflict	Fathers & Mothers	CC	-Less at T1 -More at T2
Asserting & Separating	Conflict	Fathers & Mothers	Control	-More at T1 -Less at T2
Asserting & Separating	Conflict	Fathers & Mothers	YPP+CC	-More at T1 -Less at T2
Asserting & Separating	Relationship	Mothers	Control	-More at T1 -Less at T2
Asserting & Separating	Relationship	Mothers	CC & YPP+CC	-Less at T1 -More at T2
Disclosing & Expressing	Conflict	Mothers	CC	-More at T1 -Less at T2
Disclosing & Expressing	Conflict	Mothers	YPP+CC	-Less at T1 -More at T2
Disclosing and Expressing	Relationship	Fathers	CC	-More at T1 -Less at T2
Disclosing & Expressing	Relationship	Fathers	YPP+CC	-Less at T1 -More at T2

*Note.* <sup>a</sup> The "Control" group received no treatment. Group "CC" received care-coordination only. Group "YPP+ CC" received the Young Parenthood Program counseling sessions and care-coordination services. <sup>b</sup> Time 1 was the baseline assessment completed before 26 weeks gestation. Time 2 was the follow-up assessment completed when the child was six months old.

## CHAPTER 5: Summary and Discussion

The following chapter presents a summary of the results for each of the eleven hypotheses. Research question one explored whether there was an association between “Group” and “Time” for “Affirming and Understanding” interpersonal behaviors for fathers and mothers in the Conflict and Relationship Tasks. Research question two examined whether there was an association between “Group” and “Time” for “Loving and Approaching” interpersonal behaviors for fathers and mothers in the Conflict and Relationship tasks. Research question three explored whether there was an association between “Group” and “Time” for “Nurturing and Protecting” interpersonal behaviors for fathers and mothers in the Conflict and Relationship tasks. Research question four examined whether there was an association between “Group” and “Time” for “Watching and Controlling” interpersonal behaviors for fathers and mothers in the Conflict and Relationship tasks. Research question five explored whether there was an association between “Group” and “Time” for “Belittling and Blaming” interpersonal behaviors for fathers and mothers in the Conflict and Relationship tasks. Research question six examined whether there was an association between “Group” and “Time” for “Asserting and Separating” interpersonal behaviors for fathers and mothers in the Conflict and Relationship tasks. Research question seven explored whether there was an association between “Group” and “Time” for “Disclosing and Expressing” interpersonal behaviors for fathers and mothers in the Conflict and Relationship tasks. Research question eight examined whether there was an association between “Group” and “Time” for “Joyfully Connecting” interpersonal behaviors for fathers and mothers in the

Conflict and Relationship tasks. Research question nine explored whether there was an association between “Group” and “Time” for “Trusting and Relying” interpersonal behaviors for fathers and mothers in the Conflict and Relationship tasks. Research question ten examined whether there was an association between “Group” and “Time” for “Deferring and Submitting” interpersonal behaviors for fathers and mothers in the Conflict and Relationship tasks. Lastly, research question eleven explored whether there was an association between “Group” and “Time” for “Sulking and Scurrying” interpersonal behaviors for fathers and mothers in the Conflict and Relationship tasks.

### **Research Question One**

In the examination of the first research question, there were no significant findings in the conflict task for mothers or fathers. However, significant findings were observed for mothers in the relationship task. During the relationship task, mothers who received the YPP displayed more frequent “Affirming and Understanding” interpersonal behaviors at Time 2, while the mothers in the control group were observed to show less of this behavior at Time 2. The results of the mothers in the control group were consistent with previous studies which found that mothers experience a quicker and more significant decline in relationship satisfaction and communication than expectant fathers (Cowan & Cowan, 2000; Doss et al., 2009). In contrast, the mothers who received the YPP were able to prevent the decrease in empathic and understanding interactions towards their partner in spite of the experience of transitioning to motherhood.

This finding is central to the goals of the YPP, which aims to foster a positive co-parenting alliance between couples.

### **Research Question Two**

There were no significant findings in the examination of “Loving and Approaching” interpersonal behaviors between mothers and fathers in the conflict or relationship tasks. It is possible that the examination of this type of interpersonal behavior, which communicates the highest degree of warmth towards the other partner, may have been impacted by other factors such as the couple’s relationship status. For example, the participants of this study were not required to be in an intact romantic relationship. As such, a high degree of warmth in the interpersonal behavior may not have been as impacted as others areas of communication.

### **Research Question Three**

There were no significant findings in the examination of “Nurturing and Protecting” interpersonal behaviors between mothers and fathers in the conflict or relationship tasks. It had been posited that both mothers and fathers in the YPP could demonstrate more frequent “Nurturing and Protecting” interpersonal behaviors than would be expected at the post-assessment, however, this was not observed. It was also hypothesized that the decline in the quality of the co-parenting relationship would be observed through the examination of this type of interpersonal behavior. However, it is possible that some characteristics of the participants, such as their age or developmental stage, could have impacted their

demonstration of this type of behavior. Additionally, this construct, which communicates teaching and guidance of the other partner, may not accurately capture the critical components of positive or negative communication styles between adolescent parenting partners.

#### **Research Question Four**

There was no significant finding in the examination of fathers' responses during the conflict task regarding interpersonal behaviors that are "Watching and Controlling." However, there was a significant finding observed in the responses of mothers during the conflict task. Mothers showed significantly more "Watching and Controlling" interpersonal behaviors at Time 2 than would be expected if the constructs of gender, time, and group were independent. Interpersonal behaviors that are "Watching and Controlling" are neutral, meaning they are neither warm nor hostile. However, this type of interpersonal behavior involves telling the other partner what to do or monitoring the other partner's behavior. Interpersonal behaviors that are "Watching and Controlling" would not be conducive to the fostering of a positive co-parenting alliance. Given that participants in the Care-Coordination group did not receive the counseling sessions focused on increasing warmth and decreasing hostility, this finding could be due to the expected decline in healthy communication that occurs during the transition to parenthood. In contrast, mothers in the YPP group demonstrated the opposite pattern where significantly less "Watching and Controlling" behaviors were observed at the follow-up assessment. This finding lends support for the hypothesis that the YPP intervention could assist with the prevention of the

deteriorations of the relationship between mothers and fathers as they transition to parenthood.

### **Research Question Five**

There were no significant findings in the examination of “Belittling and Blaming” interpersonal behaviors between mothers and fathers in the conflict or relationship tasks. It is possible that this result could have been impacted by the small sample of observed interactions of this type between mothers and fathers. The less frequent use of this type of interaction may have been due to less demonstration of this type of behavior while in a clinical setting. During the analysis of the frequency of this type of behavior in mothers, a  $p$  value of 0.010 was found during the conflict task. It is possible that if less hypotheses were examined, and less comparisons were drawn from this study, that this result would have been a significant finding at the  $p$  level of 0.05. Given the interest in examining several types of interpersonal interactions in this study, which required the exploration of several hypotheses, this finding was not significant at the appropriate level of study.

### **Research Question Six**

The results from research question six were similar to those in research question four. Mothers and fathers in the Care-Coordination group displayed significantly more “Asserting and Separating” interpersonal behavior at Time 2 than would be expected if gender, time, and group were independent. This type of interpersonal behavior, a neutral code, focuses on neither warmth nor hostile

communication. Instead, it involves a focus on asserting one's own thoughts or beliefs. Since participants in the Care-Coordination group receive support in seeking out resources based on their own needs, this increased ability to identify and communicate individual needs is consistent with some of the goals of this intervention. However, since this group did not receive the counseling sessions focused on increasing warmth, the focus of the interaction remained on the individual, rather than on the needs of the couple or family system as a whole. In contrast, the mothers in the control group were observed to show significantly fewer "Asserting and Separating" behaviors at Time 2. Studies have found that mothers experience a shift in focus from self to the needs of the baby or the family (Darvill, Skirton, & Farrand, 2010). This finding suggests that for mothers, the experience of motherhood contributes to a decrease in assertive or separating interpersonal behaviors due to this transition.

### **Research Question Seven**

The final areas of significant findings came from the examination of research question seven regarding "Disclosing and Expressing" interpersonal behaviors. The results of this analysis found that mothers in the conflict task and fathers in the relationship task who were randomized into the Care-Coordination group were observed to show significantly less "Disclosing and Expressing" behaviors at Time 2 than would be expected if gender, time, and group were independent. This interpersonal behavior falls within the warmth side of the SASB complex. Since participants in the Care-Coordination group did not participate in counseling sessions focused on increasing warmth, this finding

could be due to the expected decline in healthy communication that occurs during the transition to parenthood. The opposite pattern was observed for mothers in the YPP group during the conflict task and fathers in the YPP group in the relationship task. In these cases, participants in the YPP group demonstrated significantly more frequent “Disclosing and Expressing” interpersonal behaviors at the post-assessment than would be expected. This finding lends support to the goal of the YPP of strengthening the communication between mothers and fathers throughout the transition to parenthood.

### **Research Question Eight**

There were no significant findings in the examination of “Joyfully Connecting” interpersonal behaviors between mothers and fathers in the conflict or relationship tasks. It had been posited that both mothers and fathers in the YPP could demonstrate more frequent “Joyfully Connecting” interpersonal behaviors than would be expected at the post-assessment, however, this was not observed. It was also hypothesized that participants in the control and care-coordination groups would demonstrate a decline in the quality of the co-parenting relationship through less frequent “Joyfully Connecting” interactions at post-assessment. The lack of significant findings in this analysis may be attributed to the high-risk nature of the study participants. Adolescents who become pregnant report a higher incidence of dysfunctional dynamics in their family of origin. These dysfunctional family dynamics reportedly include poor communication and a lower perception of emotional support from their parents (Jaffee et al., 2001; Pereira, 2005). Consequently, adolescent females who

perceive a low degree of emotional support from their parents may seek this validation from romantic partners. However, adolescent fathers endorse significantly greater behavioral, psychological, and educational difficulties than their peers who do not father children (Coley & Chase-Lindale, 1998). Thus, although the adolescent partner may desire to provide emotional support and to be involved in a co-parenting process, they often do not possess the skills or resources to learn how to positively engage with the adolescent mothers (Carlson, McLanahan, & Brooks-Gunn, 2008).

### **Research Question Nine**

There were no significant findings in the examination of “Trusting and Relying” interpersonal behaviors between mothers and fathers in the conflict or relationship tasks. It had been posited that both mothers and fathers in the YPP would demonstrate more frequent “Trusting and Relying” interpersonal behaviors than would be expected at the post-assessment. However, this higher incidence of “Trusting and Relying” interpersonal behaviors was not observed. It was also hypothesized that the expected deterioration of the co-parenting relationship may be observed through the observation of less frequent “Trusting and Relying” interpersonal behaviors than would be expected at post-assessment for participants in the control and care-coordination groups. This hypothesis was also not supported by the findings of this research question. Thus, there was no evidence for the existence of a relationship between the variables of gender, time, and group for “Trusting and Relying” interpersonal behaviors.

### **Research Question Ten**

There were no significant findings in the examination of “Deferring and Submitting” interpersonal behaviors between mothers and fathers in the conflict or relationship tasks. It had been posited through implementation of the YPP, participants would be able to prevent the expected decline in the quality of the co-parenting relationship. As such, it was posited that both mothers and fathers in the YPP could demonstrate less frequent “Deferring and Submitting” interpersonal behaviors than would be expected at the post-assessment. However, there was no support for this hypothesis. Additionally, it was hypothesized that the decline in the quality of the co-parenting relationship would be observed through an increase in “Deferring and Submitting” interpersonal behaviors for participants in the control and care-coordination groups. This hypothesis was also not supported by the findings of this research question. Thus, there was no evidence for the existence of a relationship between the variables of gender, time, and group for “Deferring and Submitting” interpersonal behaviors.

### **Research Question Eleven**

There was no evidence for the existence of a relationship between the variables of gender, time, and group for “Sulking and Scurrying” interpersonal behaviors across the conflict or relationship tasks. As previously mentioned, it had been posited that through a focus on strengthening the co-parenting skills, the YPP could prevent the expected decline in the quality of the relationship

between mothers and fathers. It was posited that both mothers and fathers who were randomized into the YPP group would demonstrate less frequent “Sulking and Scurrying” interpersonal behaviors than would be expected at the post-assessment. However, there was no support for this hypothesis. Additionally, it was hypothesized that the decline in the quality of the co-parenting relationship would be observed through an increase in “Sulking and Scurrying” interpersonal behaviors for participants in the control and care-coordination groups. This hypothesis was also not supported by the findings of this research question.

### **Results Summary**

In spite of the challenges faced by adolescent parents, this study demonstrates that it is possible to demonstrate some improvement in the quality of interpersonal interactions that are “Affirming and Understanding” and “Asserting and Separating” through an intervention during the transition to parenthood. Nonetheless, there are several limitations to the findings of this study, which will be further detailed in the next section.

### **Limitations**

There were several limitations to this study that can inform the direction of future research. The models through which this program was developed are largely based on prior work with White adult populations. Oftentimes, the data from prior studies are founded on adult couples who are also married. The participating adolescents in the current study were generally neither married nor

White. As this model is not directly comparable to populations of adolescents in relationships, it is possible that the model is not a good fit for the population.

Second, the study protocol required that participants respond to the “Conflict Task” prior to the “Relationship Task.” When comparing the two prompts, the “Conflict” task involved the discussion of negative content while the “Connection” task yielded positive information about the strengths in the relationship. Given the standardization of the order of the discussion prompts, the negative content of the first prompt had the potential to impact the quality of interactions observed during the second interaction. For example, if a couple were to engage in an argument during the first prompt, the couple may identify less positive traits of the relationship or partner than if the order of the prompt were to be reversed.

Third, approximately 38 percent of the initial study sample did not complete the Time 2 assessment. It is possible that the qualities of the interpersonal behavior in these couples impacted the willingness or ability of the couple to complete a second assessment. For example, if a couple was significantly hostile at Time 1, it is possible that this couple may not interact with one another after the birth of the baby. Since it was a requirement for both the mother and father to complete the assessment, this degree of hostility may not have been assessed through the study as it was designed.

Lastly, the sample from which the SASB coding system was developed was largely European-American. It is possible that additional factors relating to

culture may cause varying demonstrations of positive behaviors such as warmth and independence. For example, if a culturally or linguistically diverse couple endorses non-mainstream views on gender expectations or the display of warmth around strangers, it is possible that they may be coded more negatively than what is reflected in their day-to-day interactions. One expected contribution of the current study is that it will lead to a better understanding of potential cultural influences on interactions between couples, and refine interaction models for use with this population.

### **Implications for School Psychologists**

Due to the severe implications that young parenthood has on the development of the adolescent and on the child, continued development of prevention/intervention programs is critical to the field. In school psychology, the negative impacts on the academic functioning and emotional well-being of the parenting adolescents cause concern for the possibility for the teen to succeed in a school setting. Additionally, future impacts on the child's development could affect academic and emotional development. As such, a focus on the creation of a supportive environment for the child will likely benefit the parenting adolescents as well. Thus, the development and implementation of a study built around evidence-based methods will continue to strengthen the evidence based techniques available for use with diverse populations.

Schools may serve as ideal locations for intervention implementation due to the ability for school practitioners to engage pregnant or expecting teens on a

daily basis. Through collaborative efforts, adolescents can be regularly engaged and monitored by multiple service providers such as psychological, academic, and nursing staff in the schools. Service providers in the school also have the ability to coordinate the changing academic and mental health needs of expectant students. Additionally, if schools develop strong partnerships with community-based resources, expectant teens can be assisted in navigating such complex systems as medical providers, public aid, and specialized adolescent-focused groups.

Lastly, it remains critical to increase the availability of evidence based interventions (EBI) in the field of school psychology. EBIs are those that are founded in strong research practices, undergo rigorous evaluation at multiple points throughout the implementation process, and are, “intended to optimally increase the skills, competencies, or outcomes in targeted areas” (Stoiber, 2012). Students who receive mental health treatment most often receive these services while in the school setting. However, mental health service providers in the schools are typically not implementing EBIs (Walker, 2004). The deficiency of EBIs in the schools can be attributable to limited accessibility to EBIs as well as stark differences between schools and clinical research settings. In addition, available clinical research often provides inadequate consideration for how mediating or moderating factors contribute to the implementation of clinically supported interventions in the school settings. Though this study was not conducted in the school setting, it is posited that the techniques used throughout can be utilized in a traditional academic environment.

### **Future Directions**

The study of co-parenting intervention, especially for adolescent mothers and fathers, remains a critical area of research. Additional areas of research are elucidated through this examination of the YPP. First, as the YPP is delivered with the intention to improve outcomes for the couple and their child, it would be helpful to further examine the interaction of parents with their children. This could occur through assessments in the quality of attentiveness, warmth, and support for the child across different stages of the child's development. Second, as researchers have recommended that co-parenting interventions extend past the childbirth experience, it would be beneficial to extend to dose of the intervention (Klerman, 2004). Third, as a large portion of this study sample was Latino (and some were Spanish-speaking), it is necessary for later research to explore how cultural factors may impact the quality of interpersonal interactions between young couples.

### **Conclusion**

The purpose of this study was to examine whether the quality of interpersonal behaviors could be changed in a sample of pregnant adolescent mothers and expectant fathers. The goal of the intervention was to decrease the incidence of hostile interpersonal behaviors and to increase the frequency of warm interpersonal behaviors. This study attempted to fill a gap in current literature regarding the analysis of the co-parenting relationship between diverse adolescents. This study also provides information about the co-parenting

relationship, even when the partners are not in a committed romantic relationship. It is hoped that the results of this study can be used to extend the available research that addresses the co-parenting relationship of adolescents. The importance of creating healthy relationships between co-parenting couples is evident for ensuring positive parenting practices with their children. School psychologists have the opportunity to provide direct intervention to the pregnant/expectant couple, while also encouraging the creation of a healthy environment for future youth.

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## Appendix A:

## Sample SASB Coding Sheet

Couple to Code	52	Subject	Mom	Dad	Task	Conflict	Relationship	
Time	1	2	Coder	CP	Minute	1	Time	1:27
Code	Simple (S)	Total S	Physical (P)	Total P	Code	Notes		
1-1					1-1			
1-2					1-2			
1-3					1-3			
1-4		10			1-4			
1-5	I	1			1-5			
1-6					1-6			
1-7					1-7			
1-8					1-8			
2-1					2-1			
2-2					2-2			
2-3	II	2			2-3			
2-4					2-4			
2-5					2-5			
2-6					2-6			
2-7					2-7			
2-8					2-8			
	Complex	Total C	Physical Complex	Total P				
2-1/1-3					2-1/1-3			
2-1/1-4					2-1/1-4			
2-1/1-5					2-1/1-5			
2-1/1-6					2-1/1-6			
2-1/2-4					2-1/2-4			
2-1/2-6					2-1/2-6			
2-2/1-2					2-2/1-2			
2-2/1-3					2-2/1-3			
2-2/1-4					2-2/1-4			
2-2/1-5					2-2/1-5			
2-2/1-6					2-2/1-6			
2-2/2-6					2-2/2-6			
2-4/1-5					2-4/1-5			
2-6/1-5					2-6/1-5			
2-8/2-5					2-8/2-5			
1-2/1-3					1-2/1-3			
1-2/1-4					1-2/1-4			
1-2/1-5					1-2/1-5			
1-2/1-6					1-2/1-6			
1-2/1-8					1-2/1-8			
1-3/1-4					1-3/1-4			
1-3/1-5					1-3/1-5			
1-3/1-6					1-3/1-6			

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**Appendix B:**


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# Melissa Hernandez

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## EDUCATION

- University of Wisconsin-Milwaukee** 2008  
*Ph.D. in Educational Psychology, expected May 2015* -Present
- Concentration: School Psychology  
 Advisor: Karen Callan Stoiber, Ph.D.  
Dissertation: Changing the Quality of Interpersonal Behaviors Between Pregnant Adolescents and Expectant Fathers: An Analysis of a Co-parenting Intervention
- University of Wisconsin-Milwaukee** 2011  
*Certificate in Trauma Counseling*
- University of Wisconsin-Milwaukee** 2009  
*Masters of Science in Educational Psychology*
- Concentration: School Psychology  
Master's Thesis: Early English Language Literacy in Spanish-Speaking English Language Learners
- Florida International University** 2008  
*Bachelor of Arts with Honors*
- Major: Psychology  
 Minor: Religious Studies  
 Honors Thesis: Metric Equivalence of the Childhood Anxiety Sensitivity Index

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## LANGUAGES

Speaking, reading, and writing fluency in **English** and **Spanish**.

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## CLINICAL EXPERIENCE

- Advocate Illinois Masonic Medical Center** 2014-Present  
**Behavioral Health Services** Chicago, IL  
 Clinical Therapist

- Provide 28+ hours of weekly individual, family and couples psychotherapy with children, adolescents, young adults, and adults. Lead facilitator for Spanish Parenting Group and process group for children who have witnessed domestic violence, divorce, loss. Population includes a racially, culturally and religiously diverse population in Chicago Illinois.
- Provide seven hours of weekly supervision to extern students, lead Professional Development seminar for APA pre-doctoral interns, and participate in one hour of monthly consultation group with colleagues.

**Advocate Illinois Masonic Medical Center**

2013-2014

**Behavioral Health Services**

Chicago, IL

Psychology Fellow

- Provided 22+ hours of weekly individual, family and couples psychotherapy with children, adolescents, young adults, and adults. Lead facilitator for Spanish Parenting Group and process group for children who have witnessed domestic violence, divorce, loss. Population includes a racially, culturally and religiously diverse population in Chicago Illinois.
- Received two hours weekly of supervision, provided two hours of weekly supervision to extern students, and participated in one hour of monthly consultation to review cases with colleagues.

**Advocate Illinois Masonic Medical Center**

2012-2013

**Behavioral Health Services**

Chicago, IL

Clinical Psychology Intern

- Completed requirements of an APA-certified pre-doctoral internship.
- Provided 750 hours of individual, family and couples psychotherapy with children, adolescents, young adults, and adults. Completed rotations in the Emergency Room and in the OB/GYN clinic, facilitated parenting and adult substance abuse groups.
- Advocated for clients via interactions with the Department of Children and Family Services and the school system.

**Milwaukee Young Parenthood Study**

2011-2012

Bilingual Counselor

Milwaukee, WI

- Delivered counseling sessions in Spanish and English to teen couples.
- Received regular supervision in individual and group format.
- Collaborated with multiple community health clinics, participated in recruitment and outreach activities with community partners, and translated clinical tools into Spanish.

**Family Options Counseling**

2010-2011

Psychology Practicum Student

Milwaukee, WI

- Co-facilitated group therapy for youth with anger management issues.
- Provided individual therapy for youth who display inappropriate sexual behaviors, sexual abuse victimization, and anger management issues.
- Conducted therapy sessions and intakes in English and Spanish.
- Received supervision in group and individual formats.

- Wheaton Franciscan Healthcare** 2010-2012  
Psychology Practicum Student Racine, WI
- Conducted outpatient assessments for youth with emotional and behavioral concerns.
  - Provided individual therapy sessions to youth enrolled in partial hospitalization program.
  - Facilitated group therapy with inpatient youth.
  - Served as intake interviewer at walk-in outpatient pediatrics center for psychological referrals (some translation from Spanish to English).
  - Participated in weekly individual and group supervision activities with practicum students and interns.

- La Escuela Fratney & Audubon Middle School** 2009-2010  
**Milwaukee Public Schools** Milwaukee, WI  
School Psychology Practicum Student
- Promoted mental health services by conducting psycho-educational assessments, consulting with teachers and parents, facilitating individual counseling services, presenting curriculum surrounding bullying and sexual abuse prevention, performing reviews and evaluations of ongoing interventions, and facilitating family involvement in Spanish.
  - Intervention and counseling was closely supervised by licensed psychologist.

- Bruce Guadalupe Community School** 2011  
Group Therapy Co-Facilitator Milwaukee, WI
- Provided students with on-site group counseling services surrounding bullying prevention, assertiveness training, and social skills training.

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## TEACHING EXPERIENCE

- Futura Language Professionals** 2009-2011  
Spanish Teacher Milwaukee, WI
- Conducted three intermediate Spanish language classes to groups of children ranging in age from first through fifth grade.
  - Presented lessons involving intermediate vocabulary and beginning conversational techniques. Classes ranged from 10-14 participants each week.

- Summit Educational Association** 2008  
Tutor Milwaukee, WI
- Tutored bilingual children in grades 6-9 individually in math, science, English, history and Spanish.
  - Helped students complete assignments (papers, discussion questions, math problems and science experiments) and prepared them for final exams through practice worksheets and tests.
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## RESEARCH EXPERIENCE

- Young Parenthood Project & Project Health** 2009-2012  
**Center for Urban Population Health** Milwaukee, WI  
 Research Team Member
- Participated in program planning and selection of measures. Verified Spanish-language translation of measures. Administered surveys to high school students in group format.
  - Conducted statistical analyses regarding impact of poverty on at-risk youth.
- Project EMERGE** 2008-2009  
 Research Project Assistant Milwaukee, WI
- Administered literacy assessments to preschoolers in Spanish and English and completed data entry. Translated testing materials into Spanish. Oversaw “family library” locations where parents borrowed books on a weekly basis from program sites. Tutored seven children on a weekly basis.
  - Conducted classroom observations and evaluations for analyses of intervention treatment integrity.
- Research Team Member** 2008-2009  
 School of Education  
 University of Wisconsin-Milwaukee  
Advisor: Azara L. Santiago-Rivera, Ph.D.
- Assisted with quantitative research projects, presentations and research proposal writing.
- Child Anxiety and Phobia Program** 2006-2008  
 Research Assistant  
Director: Wendy Silverman, Ph.D.
- Assisted with client assessments, data entry, and phone intakes. Conducted phone follow-up assessments, assisted with in-vivo exposure sessions, and conducted independent research.
- Research Mentorship** 2006-2008  
 NIMH Mid-Career Development Award  
 Awarded to Dr. Wendy Silverman  
Objective: To train and mentor Hispanic females in the field of psychological research.  
Responsibilities: Served as confederate in child treatment and research.
- The African American Biculturalism Project** 2006-2007  
 A collaboration between FIU and Stanford University  
 Research Assistant
- Obtained certification to work with human subjects, assisted student participants in completion of research trials, monitored and maintained research atmosphere during sessions.

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## PUBLICATIONS AND PROFESSIONAL PRESENTATIONS

- Hernandez, M.**, Lemke, M., Zusevics, K. & Florsheim, P. (2012). *Perception of poverty in at-risk youth*. To be presented at the annual meeting of the National Association of School Psychologists, Philadelphia, PA.
- Hernandez, M.**, Bocanegra, J., Van Grinsven, L., and Callan, G. L. (2012). *Examining the state of diversity research*. To be presented at the annual meeting of the National Association of School Psychologists, Philadelphia, PA.
- Bocanegra, J., Gubi, A., & **Hernandez, M.** (2011). Unpacking diversity recruitment: Thinking beyond phenotypic parity. *From Science to Practice*, Summer Issue, 26-29.
- Hernandez, M.**, Van Grinsven, L., Callan, G. L., & Stoiber, K. (2011, August). *Predictors of drop-out risk in African-American youth*. Presented at the annual meeting of the American Psychological Association, Washington, D.C.
- Drumm, H., & **Hernandez, M.** (2011, August). *Adolescent social desirable responding to sensitive questions: An analysis of mode and setting*. Presented at the annual meeting of the American Psychological Association, Washington, D.C.
- Van Grinsven, L. M., **Hernandez, M.**, Callan, G. L., & Stoiber, K. (2011, August). *The impact of small learning communities on drop-out risk in urban youth*. Presented at the annual meeting of the American Psychological Association, Washington, D.C.
- Hernandez, M.**, Lemke, M., Florsheim, P., & Zusevic, K. (2011, April). *Public health in public schools: Preliminary results for the Project Health Program*. Presented at the annual meeting of the Wisconsin Public Health Association, Appleton, WI.
- Brumm-Larson, J., Gubi, A., **Hernandez, M.**, & Newell, M. (2010, March). *Improving awareness and understanding through multicultural graduate student organizations*. Presented at the annual meeting of the National Association of School Psychologists, Chicago, IL.
- Santiago-Rivera, A., Rico, M., Chavez-Korell, S., Benson, G., DeRose, T., Illes, R., Palreddy, S., Reyes, W., Lira, E., **Hernandez, M.**, & Xiong, I. (2009, August) *The impact of age, gender and income on familismo and acculturation among Latinos*. Poster session presented at the annual meeting of the American Psychological Association, Toronto, ON.
- Illes, R., Santiago-Rivera, A., Chavez-Korell, S., Reyes, W., Rico, M., Lira, E., Palreddy, S., Benson, G., DeRose, T., & **Hernandez, M.** (2009, August). *Exploring the Relationship between Quality of Life, Physical Health and Depressive Outcomes*

*Among Latino Elders.* Poster session presented at the annual meeting of the American Psychological Association, Toronto, ON.

Marin, C. E., Rey, Y., Nichols-Lopez, K., **Hernandez, M.**, Silverman, W. K. (2009, August). *The Childhood Anxiety Sensitivity Index: Measurement equivalence in Latino youth.* Poster session presented at the annual meeting of the American Psychological Association, Toronto, ON

Muniz-Leen, A.M., Nichols-Lopez, K., Marin, C. M., Rey, Y., **Hernandez, M.**, Silverman, W.K. (2007, October). *Anxiety sensitivity's facets in relation to anxious and depressive symptoms.* Poster session presented at the annual meeting of the American Academy of Child & Adolescent Psychiatry, Boston, MA.

### COMMUNITY LEADERSHIP AND INVOLVEMENT

<b>Crianza Con Cariño-The Nurturing Program</b> Walker's Point Youth and Family Services Co-facilitator	2011 Milwaukee, WI
<b>Multicultural Connections for School Psychologists</b> University of Wisconsin-Milwaukee Co-president	2008-2011
<b>Multicultural Graduate Student Association</b> University of Wisconsin-Milwaukee Co-President	2009-2011
Multicultural Connections for School Psychologists <b>Book Club Facilitator</b>	2009-2011
<ul style="list-style-type: none"> <li>Facilitated monthly group discussions on issues surrounding diversity as depicted in the novels, <u>Unequal Childhoods: Class, Race, and Family Life</u>, <u>The Spirit Catches You and You Fall Down</u>, and <u>The American Dream: Three Women, Ten Kids, and a Nation's Drive to End Welfare</u></li> </ul>	
<b>Student Representative</b> UWM chapter of the National Association of School Psychologists	2010-2011
<b>Assistant Student Representative</b> UWM chapter of the National Association of School Psychologists	2009-2010

### ACADEMIC HONORS AND AWARDS

Advanced Opportunities Fellow, University of Wisconsin-Milwaukee 2010-2014

Chancellor's Award Recipient, University of Wisconsin-Milwaukee	2008-2010
Grant recipient	2009
University of Wisconsin's Institute on Race and Ethnicity's campus book seminars. Grant provides books to club participants who discuss literature involving issues of diversity.	
National Hispanic Scholarship, Florida International University	2005-2008
Presidential Scholarship, Florida International University	2005-2008
Academic Merit Tuition Waiver, Florida International University	2005-2008
Member of Phi Beta Kappa	2008
Graduate of The Honors College at FIU	2008
Member of Psi Chi, National Honor Society in Psychology	2006-2008
Member of The National Society of Collegiate Scholars	2008
Member of Phi Kappa Phi	2008
Member of Gamma Epsilon Phi, Honors College Honor society	2008
Member of The National Scholars Honors Society	2008
National Hispanic Scholar	2005

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### **PROFESSIONAL AFFILIATIONS**

American Psychological Association (APA), Graduate Student Affiliate

National Latino Psychological Association (NLPA), Student Affiliate

National Association of School Psychologists (NASP), Student Affiliate

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