

INTERGENERATIONAL TRANSMISSION OF RELATIONSHIP FUNCTIONING  
DURING THE TRANSITION TO PARENTHOOD

A Thesis

by

KATHRYN CARHART

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

MASTER OF SCIENCE

December 2008

Major Subject: Psychology

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Approved by:

Chair of Committee, Brian Doss  
Committee Members, Jeffrey Liew  
Steve Rholes  
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## ABSTRACT

Intergenerational Transmission of Relationship Functioning

During the Transition to Parenthood. (December 2008)

Kathryn Carhart, B.A., University of Connecticut

Chair of Advisory Committee: Dr. Brian Doss

The current study examined whether pre-birth risk factors mediate the relation between family of origin risk factors and couples' relationship functioning after birth. Participants in the present study were 132 heterosexual couples who had their first child during the course of a larger, longitudinal study (Laurenceau et al., 2004).

Results showed several significant mediation effects for both mothers and fathers. Additionally, for fathers, family-of-origin factors did not appear to directly influence their transition to parenthood, but were related to functioning before birth. For mothers, family-of-origin risk factors appeared to both directly and indirectly influence their relationship functioning after the birth of a child.

Information on how pre-birth functioning risk factors mediate family of origin risk factors to the transition to parenthood is useful to psychologists who wish to intervene and assist at risk couples through the transition. This study contributes to the literature by illustrating a more complete picture of which individuals may be at risk during the transition to parenthood, which will allow psychologists to tailor their interventions to those it will help most.

## DEDICATION

To my family: Mommy, Daddy, Becca and Christopher

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## INTRODUCTION

### *Impact of the Transition to Parenthood*

The transition to parenthood is well known for its impact on couples- both individually and as a unit. This particular transition comes with a vast number of changes which occur literally overnight and thus both individuals in the couple (and their relationship) are put under a large amount of stress. How couples are able to navigate through this difficult period is critical, because it can have far reaching consequences for each of their own individual functioning, their relationship, their family's development and the development of their child (Cowan & Cowan, 2000).

### *Impact on the Individual*

The transition to parenthood has been noted to impact individual functioning in a variety of ways. Increasing fatigue during pregnancy and after birth makes it very difficult for couples to adapt to their new roles as parents (Eleck, Hudson & Fleck, 2002). Expectations about gender roles may also impact individual functioning. Women appear to experience a larger number of symptoms of depression when there is more of a discrepancy between a woman's expected and actual perception of the division of labor (Cowan & Cowan, 1998). Additionally, many new parents are dealing with new sources of stress including navigating the fathers' involvement in family tasks, dealing with the consequences of difficulties in forming an equal balance of work between the partners, and trying to come to decisions and deal with their choices about balancing work and family (Cowan & Cowan, 2000). Parents also must try to do all this

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This thesis follows the style of *Journal of Personality and Social Psychology*.

navigating in fairly isolated circumstances, as their social network usually declines over the transition and the lack of support can make these additional burdens more difficult to bear (Cowan & Cowan, 2000). While couples may become fairly isolated from friends (Bost, Cox, Burchinal & Payne, 2002) and co-workers (Cowan & Cowan, 1998), becoming parents often initiates renewed or increased contact with partners' own parents. Often this increased contact can lead to conflict within each partner, between the partners and between the generations (Cowan & Cowan, 1998). Consistent with this idea, Bost and colleagues found that new parents who had larger family networks adjusted to the transition to parenthood better; however, new parents who had the most frequent contact with their families fared worse.

Researchers have also noted that parents, especially younger parents, tend to struggle with self-esteem across this transition. It seems that for younger mothers the drop tends to occur between pregnancy and six months after birth, increasing slowly after that point to reach its previous baseline level. For younger fathers the decline in self-esteem occurs just as mothers are starting to feel better about themselves- between six and eighteen months post-birth (Cowan & Cowan, 2000). Some possible reasons for this decline in the mother are issues with body image after pregnancy and birth (Antonucci & Mikus, 1988). For both mothers and fathers, discovering new negative aspects of themselves may also play a role in declining self-esteem during this time. It should be noted, however, that increases in self-esteem have also been reported and that different experiences with parenting may play a role in whether an increase or decrease in self-esteem is experienced (Antonucci & Mikus).

Moreover, symptoms of depression increase during this period. Specifically, the incidence of baby blues in women after giving birth soars, with some studies showing that up to 50% of women experience these symptoms (Cowan & Cowan, 1998).

Additionally, up to 10% of mothers develop symptoms of depression that are so serious that they begin to impede in daily functioning (Cowan & Cowan).

### *Impact on the Children*

The way in which couples are able to handle this big transition also has a lasting impact on their children's functioning. Studies have found a positive relationship between marital quality, and parent-child relationships (Erel & Burman, 1995) and secure parent-child attachment bonds (Goldberg & Easterbrooks, 1984). Marital conflict can also damage children's psychological functioning and their relationships with both siblings and peers (Davies & Cummings, 1994; Stocker & Youngblade, 1999).

Moreover, parents' relationship difficulties can have effects on their children's later intellectual and social adjustment (Cowan and Cowan, 1998). Additionally, marital quality is related to parenting style, with higher marital quality being associated with a more positive parenting style (Goldberg & Easterbrooks; Belsky, Youngblade, Rovine & Volling, 1991). Parenting styles, in turn, are related to their children's later psychological well being. One study found that parents' harsh parenting positively predicted adult female children's depression, while parents' supportive parenting negatively predicted adult male children's depression (Simons, Beaman, Conger & Chao, 1993).

### *Impact on the Couple's Relationship*

The increased stress and tension brought about by this transition can also spill over into the couple's relationship. Numerous studies show that marital satisfaction declines significantly during the transition to parenthood for both women and men (Belsky & Pensky, 1988; Belsky & Rovine, 1990; Cowan & Cowan, 2000). Furthermore, both African American and White couples have shown the same pattern of decreasing marital satisfaction and increasing marital conflict during this period (Crohan, 1996). Some researchers believe that the decline in satisfaction might be partially accounted for by the wife's perception that the romantic cohesiveness has weakened (Belsky, Spanier & Rovine, 1983). This perception may be due to the greater responsibilities and burdens in childcare and housework that are placed on the mother during the transition. Additionally, studies have shown that couples' characterization of their relationship as "romantic," feelings of love, and observed affection all decline over the transition, while their characterization of their relationship as a "partnership" and the frequency of conflicts increase (Belsky & Pensky; Belsky et al.). One characteristic of depression in particular, social withdrawal, may also contribute to the decline in couples' relationship functioning (Glade, Bean & Vira, 2005). In fact, one study showed that in families where the mother was suffering from post-partum depression, their partners reported that the environment in the home was very tense and they felt pressured to avoid starting an argument with their spouse (Boath, Pryce & Cox, 1998). Additionally, the frequency of couples' participation in leisure activities together declines (Belsky et al.), while time spent together with the baby increases (Huston & Vangelisti, 1995).

Another possible reason for the decline in satisfaction is that most women do more housework and childcare than their partners do (Cowan & Cowan, 1998; Huston & Vangelisti, 1995). This imbalance, especially if it was not anticipated, is related to a couples' dissatisfaction (Cowan & Cowan, 2000). Across the transition, wives also report a dramatic decline in the levels of reciprocity in household tasks with their husbands, while husbands actually report an increase in the level of reciprocity with their wives (Bost et al., 2002). Also, for both women and men, it has been demonstrated that the more traditional the division of labor is, the more unhappy the individual is with their marital relationship (Cowan & Cowan, 1998).

The sexual relationship of couples is also affected during this period, with reports of sexual activity declining throughout pregnancy, dropping to almost no activity directly after the birth of the baby, and then gradually increasing back up to normal levels throughout the first year of the baby's life (Pacey, 2004). Some reasons for this decline include physical recovery from the birth, sleep deprivation, decreased amount of time alone together, and psychological changes in the individual's sense of self and self-esteem (Pacey; Gianotten, 2007).

Finally, another potential difficulty that couples face is adding an entirely new dimension to their relationship: the co-parenting relationship. For both men and women, the partner/lover aspect of their identity is reduced as the parent portion becomes more dominant (Cowan & Cowan, 1998). However, researchers have noted that it can be very difficult for both partners to agree on different aspects of child-rearing, often much more

so than they ever anticipated (Cowan & Cowan), making it difficult to incorporate this new dimension into their relationship as a whole.

*Understanding Variability in the Impact of the Transition to Parenthood*

Although the transition to parenthood can impact couples in each of these domains (individual functioning, child development, relationship functioning), the current study will focus primarily on changes couples experience in their relationship with one another. While most studies have found that marital satisfaction declines over the transition to parenthood, some researchers have argued that this transition is not the crisis that other researchers have made it out to be. Several studies have shown that parents report only minor difficulties in adjusting to the transition to parenthood (Hobbs, 1965; Hobbs & Cole, 1976; McDermid, Huston & McHale, 1990). Lindahl, Clements and Markman (1998) compared couples who underwent the transition to parenthood to childless couples and found that there was no difference in declines in marital satisfaction between the two groups. Even in studies which tout the transition as detrimental to the couple, it is often the case that there are many couples within the sample that do not decline in satisfaction and often a few which even show an increase in satisfaction (Lewis, 1988; Belsky & Rovine).

Because not all couples show a significant decline in satisfaction, it is important to identify the factors which may place certain couples at more risk than others for difficulties in getting through this transition. Using the same sample as the present study, Doss, Rhoades, Stanley, and Markman (in press) demonstrated that the birth of the first child brings relatively sudden deterioration in both positive and negative aspects

of relationship functioning for mothers and fathers. Importantly, several relationship functioning variables showed variability in *how much* parents changed after the birth. The current study focused on further examining the variability in this sample to identify the family-of-origin risk factors, adaptive processes and nature-of-birth stressors which predict the variability in these relationship changes. Additionally, this study also examined how these factors may work together to exert this influence.

One approach used to conceptualize variability in couples' reactions to important life transitions is the Vulnerability-Stress-Adaptation model (Karney & Bradbury, 1995). This model views changes in relationship quality as a result of three variables: *enduring vulnerabilities*, *stressful circumstances* and *adaptive processes*. An enduring vulnerability is a trait that individuals bring with them into their relationships. These traits can increase a couple's risk of experiencing stressful circumstances and of adapting poorly to them. Examples of an enduring vulnerability would be attachment style, experiences in previous relationships and family-of-origin experiences. For couples experiencing the transition to parenthood, the birth of the first child would be viewed as a stressful event; however, the way in which couples experience this stressful event would vary depending on a number of individual, relationship, and birth characteristics. In the current study these characteristics will be referred to as "nature-of-birth stressors." Some examples of a nature-of-birth stressor are a mother's depression, low family income, and a child born shortly after the couple gets married. Finally, an adaptive process can include various relationship functioning variables (e.g., relationship confidence, negative communication) and refers to a couple's ability to

adapt to the stressful circumstances they are facing. For the current study, we have narrowed this model down to focus only on the transition to parenthood; this can be viewed in the appendix (Figure 1).

There has been an abundance of research identifying which specific enduring vulnerabilities (e.g., Perren, Von Wyl, Burgin, Simoni & Von Klitzing, 2005; Bouchard, 2005), nature-of-birth stressors (e.g., Kurdek, 1991; Matthey, Barnett, Ungerer & Waters, 2000) and relationship adaptations (e.g., Wallace & Gottlib, 1990; Grote & Clark, 2001) may place a couple at risk for relationship deterioration during their transition to parenthood. However, there have been only a few studies which have looked at how these different types of factors work together in influencing a couple's adjustment to parenthood (Rholes, Simpson, Campbell & Grich, 2001; Simpson & Rholes, 2002).

### *Enduring Vulnerabilities*

Enduring vulnerabilities are one type of risk factor to the transition to parenthood that has been examined. These factors include individual variables that each partner has brought with them into their current relationship, which can increase the likelihood that they will encounter stressful circumstances and have difficulties adapting to them. Although vulnerabilities can include variables such as attachment style and previous relationship experiences, the current study will focus on family-of-origin risk factors.

Studies have found that the perceived health of one's family of origin can be a factor in differentiating who will successfully transition to parenthood. It has been shown that, for both men and women, perceived health in one's family of origin and



similarity in spouses' perceptions of family health, are both positively related to marital satisfaction several months after the birth of their child (Lane, Wilcoxon & Cecil, 1988; Lane & Wilcoxon, 1989). In addition, individuals who report a more negative relationship between their parents also report more negative changes in their own marital adjustment across the transition to parenthood, which include decreases in satisfaction (Cowan & Cowan, 2000; Perren et al., 2005) and communication (Perren et al., 2005). The results have been mixed, however, on whether these family-of-origin experiences impact both partners (Perren et al.) or men only (Cowan & Cowan).

#### *Nature-of-Birth Stressors*

Recent studies have suggested that individual functioning during pregnancy may impact both relationship and individual functioning after birth. For example, level of the mother's depression during pregnancy has been found to be negatively related to their spouse's marital satisfaction and positively related to both their and their spouses' attachment insecurity after birth (Feeney, Alexander, Noller, & Hohaus, 2003). Additionally, parents' pre-birth depressive symptoms predict the amount of depressive symptoms several months after their child is born (Cowan & Cowan, 2000; Hock, Schirtzinger, Lutz & Widaman, 1995; Perren et al., 2005; Matthey et al., 2000).

Low self-esteem is another variable that has been found to predict poorer functioning in the years after birth (Cowan & Cowan, 2000). In addition, men's psychological distress during pregnancy has been found to predict both their own and their wives' perception that the wives were "unfairly burdened" with their workload

after the baby was born; this perception of unfairness, in turn, predicted later psychological distress of both spouses (Grote, Clark, & Moore, 2004).

Even though many couples believe that the division of labor will be fairly equal, it often ends up being fairly traditional. This can result in the mother feeling resentful of the extra work and can subsequently create tension between the partners (Cowan & Cowan, 2000). Parents' unmet expectations about parenthood, including expectations about their relationship with their partner, their physical health, and expectations about maternal competence and satisfaction, have been shown to be associated with a decrease in marital satisfaction (Kalmuss, Davidson & Cushman, 1992; Harwood, McLean, & Durkin, 2007). In addition, negative expectations have been shown to be related to lower co-parenting cohesion and co-parenting solidarity scores (McHale & Rotman, 2007).

Other factors that have been shown to be related to increased risk of difficulties over the transition to parenthood are whether or not the pregnancy was planned, and whether or not the couple is simply cohabiting, rather than married. Couples who have unplanned pregnancies have been shown to experience more of a decline in their marital quality than couples who had planned pregnancies (Cox, Paley, Burchinal & Payne, 1999). Moreover, women who had experienced depression after the birth of their baby were shown to be more likely than non-depressed women to have had experienced an unplanned pregnancy (Campbell, Cohn, Flanagan, Popper & Meyers, 1992). Additionally, women who cohabit with their partner experience more declines in social

and psychological functioning compared to married or single parents (Woo & Raley, 2005).

Younger couples (Moss, Bolland, Foxman & Owen, 1986) also experience greater declines in marital satisfaction during the transition to parenthood. One possible reason why age might be associated with changes in marital quality is that it brings about problematic couple behaviors. One study found that for both women and men, younger age predicted an increase in their partner's experience of conflict across the transition (Belsky & Rovine, 1990).

Shorter duration of a couples' relationship at the time of birth also appears to be a risk factor for difficulty in adjusting to the transition to parenthood; although, the literature is somewhat mixed. Couples whose length of marriage is shorter at the time of birth (Moss et al., 1986) see more of a decline in their marital satisfaction across the transition. Furthermore, Belsky and Rovine (1990) found that longer duration of a couples' relationship at birth predicted fewer increases in conflict and fewer decreases in husband's descriptions of love. However, O'Brien and Peyton (2002) did not find a significant relation between duration of a couples' relationship and changes in relationship functioning after birth.

Lower levels of education have also been found to predict a greater increase in marital distress for both spouses across the transition (Kurdek, 1991). More specifically, it has been shown that the wife's lower level of education predicts an increase in their partner's experience of conflict across the transition, while the husband's lower level of education predicts a decrease in their own experiences of love and ambivalence across

the transition (Belsky & Rovine, 1990). Additionally, studies have found that a lower level of income predicts an increase in the husbands' experiences of conflict and ambivalence, and predicts an increase in wives' experiences of conflict (Belsky & Rovine, 1990). However, there appears to be some discrepancy over how income level may influence parents across the transition. O'Brien and Peyton (2002) found no relation between income and post-birth marital intimacy; while, Twenge, Campbell and Foster (2003) found that couples from high socioeconomic classes experience more relationship dissatisfaction during the transition than couples from lower classes.

#### *Adaptive Processes*

Adaptive processes refer to a couples' ability to adapt to stressful circumstances in their environment and can include a variety of relationship functioning variables (Karney & Bradbury, 1995). The pre-birth level of marital quality has been shown to be the "single best predictor" of marital quality after birth (Wallace & Gottlib, 1990, pg. 27). Studies have also found that parents' pre-marital levels of marital satisfaction positively predicted their levels of co-parenting satisfaction (Van Egeren, 2004) and how successfully the parents can integrate their child into the family (Lewis, Owen & Cox, 1988).

Another factor related to the couples' relationship that have been found to be related to difficulties in the transition to parenthood is relationship support levels. Women who are unhappy with the support they receive during pregnancy from their partner have reported more symptoms of depression after the birth of their baby (Collins, Dunkel-Schetter, Lobel & Scrimshaw, 1993).

Numerous studies have also found that higher levels of both negative communication and conflict predict deterioration of relationship functioning after birth (e.g., Cox et al., 1999; Kluwer & Johnson, 2007). For example, one study found that both spouses' experiences with marital conflict during pregnancy positively predicted that wives were "unfairly burdened" with the division of labor after birth. This perception of the wife being "unfairly burdened" was related to marital conflict and dissatisfaction for the wives at a later time point (Grote & Clark, 2001). Moreover, while psychological aggression has not been examined in a transition to parenthood sample (to my knowledge), it has been shown to negatively impact couple relationships within the general population (O'Leary, 1999).

Relationship confidence also appears to be related to couple functioning, although findings have been mixed on whether its impact is positive or negative. In the general couple literature, studies have shown that individuals with higher levels of relationship confidence have fewer negative interactions with their partners and lower levels of depression (Whitton et al., 2007). However, overly confident expectations about one's relationship can predict larger declines in satisfaction over time (McNulty & Karney, 2004). Furthermore, in the transition to parenthood literature, Doss et al. (in press) found that higher levels of relationship confidence before birth were related to larger increases in conflict severity for both partners, larger increases in poor conflict management for mothers, and smaller decreases in relationship satisfaction for fathers after birth.

*Relationship between Enduring Vulnerabilities and Nature-of-Birth Stressors/Adaptive Processes*

Research has also uncovered that there are indeed links between family-of-origin risk factors and the more proximal risk factors: nature-of-birth stressors and adaptive processes. These links are the first line of evidence that indicate that these more proximal risk factors for difficulties in adjusting to the transition to parenthood may mediate the relationship between enduring vulnerabilities and complications during this transition.

*Effect of Family of Origin on Adaptive Processes*

Studies have shown that parental divorce predicts poorer marital outcomes for women and that this relationship has been shown to be mediated by aggression (Story, Karney, Lawrence & Bradbury, 2004). Similarly a positive relationship between parental divorce and couples' divorce has been demonstrated, and this relationship has been shown to be mediated by interpersonal behavior difficulties and is strongest for couples in which the woman or both partners came from divorced families (Amato, 1996).

One study found that both parental divorce and marital quality of individuals' parents were both related to "couple instability" in individuals. However, this relationship did not hold for couples in which there was low stress in the relationship and was a supportive relationship between the partners (Hetherington, 2003). Higher levels of parental conflict have been found to be associated with higher levels of individuals' own marital conflict. In particular parental displays of "jealousy, appearing domineering, getting angry easily, being critical, being moody and not talking to their

spouse” were the behaviors which were found to be most highly related to marital conflict in their children (Amato & Booth, 2001).

#### *Effect of Family of Origin on Nature-of-Birth Stressors*

Several studies have found that parental conflict was negatively related to individuals’ psychological well being as adults. In families of origin with high conflict between the parents before divorce, individuals had higher levels of psychological well-being than individuals whose parents never divorced. However, in families of origin with low conflict between the parents before divorce, individuals had lower levels of psychological well-being than individuals whose parents never divorced (Wigle & Parish, 2001; Amato, Loomis & Booth, 1995).

Family-of-origin risk factors are also related to other stressful circumstances for couples. One study showed that, for women, parental changes, such as divorce, separation and re-marriage, increase the risk of early parenthood (Woodward, Fergusson & Horwood, 2006). Additionally, difficulties in one’s family of origin are related to socioeconomic functioning for couples. Ross and Mirowsky (1999) found that adults, whose parents had divorced before they reached adulthood, had fewer years of education, lower socioeconomic status and a lower household income.

#### *Current Evidence for Mediation*

There has been a large amount of research identifying enduring vulnerabilities, nature-of-birth stressors and adaptive processes, which act as risk factors for difficulties in navigating the transition to parenthood. However, there has been minimal research investigating the potential mediating role of nature-of-birth stressors and adaptive

processes in the relation between enduring vulnerabilities and adjustment after birth. The existing research, however, suggests that some of the enduring vulnerabilities may indeed work through the more proximal factors to influence adjustment during the parenting transition.

Studies looking at the relationship between attachment and marital quality have found that social support may mediate this relationship. Researchers have shown that change in perception of support from pregnancy to six months post-partum, mediates the relation between attachment and marital adjustment (Rholes et al., 2001; Simpson & Rholes, 2002; Simpson, Rholes, Campbell, Wilson & Tran, 2002). However, no studies to date have examined how nature-of-birth stressors or adaptive processes may mediate the relation between family-of-origin risk factors and functioning during the transition to parenthood.

Mediation analyses would further our understanding of *why* family-of-origin experiences play a role in how couples navigate through the transition to parenthood, by allowing us to identify specifically how these experiences are influencing couples as they are making their way through this transition. This information will also be useful for those who attempt to intervene and assist at-risk couples through the transition. Researchers have already determined that the transition to parenthood is a prime time to intervene with couples (Cowan & Cowan, 1995). Our study will contribute to the literature by illustrating a more complete picture of which individuals may be at risk, allowing psychologists to pinpoint their interventions to those it will help the most.



## OBJECTIVES

As reviewed in the introduction, the importance of couple functioning during the transition to parenthood is important for individual, relationship, and child functioning. However, while the previous research has identified and illustrated these relationships, it has not yet captured the full picture. In particular, the possibility that there are more proximal risk factors (nature-of-birth stressors and adaptive processes) that mediate the relation between family-of-origin risk factors and adjustment after birth has not been adequately examined. These further analyses would allow us to identify whether or not these enduring vulnerabilities influence the transition to parenthood by working partially or fully through these more proximal risk factors. If mediators were successfully identified, they could also be targeted by interventions during pregnancy.

In the current study, several enduring vulnerabilities, all focusing on family-of-origin variables, were examined: parental divorce, parental domestic violence, parental conflict and parental happiness. Nature-of-birth stressors included: duration of marriage, income, depression, and education. Adaptive processes included: relationship confidence, psychological aggression, poor conflict management and negative communication. The post-birth functioning variables examined in the current study included: relationship adjustment, relationship satisfaction and conflict intensity.

### *Objective 1*

Objective 1 is to confirm that family-of-origin risk factors are related to nature-of-birth stressors and adaptive processes.

*Objective 2*

Objective 2 is to confirm that nature-of-birth stressors and adaptive processes, after controlling for family-of-origin risk factors, are related to post-birth functioning across the transition to parenthood.

*Objective 3*

Objective 3 is to use mediational analyses to assess whether family-of-origin risk factors are mediated by nature-of-birth stressors or adaptive processes to impact the transition to parenthood.

## METHOD

### *Participants*

Participants included 132 heterosexual couples who were previously selected to be part of a larger study designed to look at the effectiveness of a premarital dysfunction prevention program. Couples were recruited from religious organizations and were selected to be a part of the larger study if they were either engaged to be married or planning their first marriage. Couples were selected to be a part of the current study if they had their first child at some point throughout this eight year assessment period. All participants came from the Denver metropolitan area and their mean age at the start of the study was 26.38 years old (SD = 4.42). At the start of the study their average years of education was 15.63 (SD = 1.89) and their median income range was \$20,000-\$29,999. The ethnic composition of the sample was 89.8% White, 8% Latino, and 2.2% of other ethnicity/race.

### *Procedure*

Couples in this larger study participated in one of three conditions: an empirically based program presented by university clinicians, an empirically based program presented by religious clergy or one of several naturally occurring premarital programs. Couples participating in the empirically based programs attended three sessions (12 hours total) of pre-marital education, while couples participating in the naturally occurring premarital programs received the routine care given by their religious clergy to all couples preparing to wed in the church. Previous analyses (Doss et al., in

press) showed that the intervention did not have a significant impact on the post-birth shape or magnitude of change for any of the variables included in the current study.

Couples in the study completed a premarital assessment (which occurred both before the premarital intervention and before the couples' marriage), an assessment shortly after the premarital intervention and then a follow up assessment each year for 8 years after the intervention occurred. During each assessment couples completed a variety of individual and relationship functioning self-report measures (which they completed separately) and also completed a 10-15 minute videotaped problem-solving task.

For the present study, measures of interest (described below) were selected from the couples' larger assessments. To assess for family-of-origin risk factors, measures from the initial assessment will be used, since variables were not expected to change over time. To assess the nature-of-birth stressors and adaptive processes, the value at the last assessment completed before birth was used. Except where noted below, all measures were administered at all time points.

### *Measures*

#### *Demographics*

This form collected a variety of demographic information, including: gender, education, income, and length of current marital relationship. The form also assessed four aspects of the individual's family-of-origin: parental divorce, parental happiness, parental conflict and parental domestic violence. Demographic data was collected only at the first assessment.

### *Individual Functioning*

*Center for Epidemiological Studies Depression Scale (CESD; Radloff, 1977).*

The CESD is a 20-item measure used to measure levels of depression. It has been shown to have both strong reliability and validity (Ciarlo, Shern, Tweed & Kirkpatrick, 1992). This measure had strong internal consistency in our current sample for both men ( $\alpha = .80$ ) and women ( $\alpha = .86$ ).

### *Relationship Functioning*

*Marital Adjustment Scale (MAT; Locke & Wallace, 1959).* The MAT is an 18-item measure used to assess marital adjustment. Participants are asked to rate their more general relationship satisfaction as well as more specific relationship variables, such as their desire to spend time with their partner and whether or not they have thoughts about leaving their current relationship. The MAT has been shown to have acceptable reliability and validity in previous samples (Crane, Allgood, Larson & Griffin, 1990). However, in the current sample internal consistency was lower than found in previous studies ( $\alpha = .60$  at the pre-intervention assessment and  $\alpha = .67$  at the 5<sup>th</sup> year follow up).

*The Interactional Dimensions Coding System (IDCS; Julien, Markman & Lindahl, 1989; Kline, Julien et al., 2004).* The IDCS is a coding system used to assess positive and negative communication patterns from couples' discussions of their relationship problems. In the current study the IDCS was used to code the couples' videotaped problem-solving task. Our study showed that intercoder reliability for the IDCS was strong (Median = .87; Kline, Julien et al.). The positive communication scale was made up of items such as communication skills, support/validation, problem solving

and positive affect. Internal consistency was high for both men and women ( $\alpha = .90$  and  $\alpha = .88$  respectively). The negative communication scale was made up of items such as withdrawal, denial, conflict, dominance and negative affect. Again internal consistency was high for both men and women ( $\alpha = .88$  and  $\alpha = .86$  respectively).

*Minor Psychological Aggression Subscale of the Revised Conflict Tactics Scale (RCTS; Straus, Hamby, Boney-McCoy & Sugarman, 1995).* The Minor Psychological Aggression Subscale of the RCTS consists of 8 items and assesses the extent to which partners engage in psychological assaults (e.g., verbal insults) on one another. Research have shown that this subscale has acceptable internal reliability ( $\alpha = .79$ ) and that the RCTS as a whole shows evidence of having both construct and discriminant validity (Straus et al.).

*Confidence Scale (Stanley, Hoyer & Trathen, 1994; Whitton et al., 2007).* The Confidence Scale is a 10-item measure used to assess relationship confidence, or whether or not an individual feels that they and their partner, as a couple, can handle their relationship effectively enough to stay together. In the current study internal consistency was high for both women and men ( $\alpha = .83$  and  $\alpha = .79$  respectively). This measure was not used at the 1<sup>st</sup> year follow up.

*Communication Danger Signs Scale (CDSS; Stanley & Markman, 1997).* The CDSS is an 8-item scale used to measure how individuals report managing conflict. In previous samples it has shown acceptable validity and reliability (Stanley, Whitton & Markman, 2004). In the current study only seven items were used and internal consistency was high for both men and women ( $\alpha = .74$  and  $\alpha = .71$  respectively).

*Marital Agendas Protocol (MAP; Notarius & Vanzetti, 1983)*. The MAP is a 16-item measure used to assess conflict severity and relationship problems. In previous samples it has demonstrated both strong reliability and discriminant validity. In the current study, internal consistency was high for both men and women ( $\alpha = .75$  and  $\alpha = .70$  respectively).

## ANALYSES

### *Statistical Models*

A best-fitting model of change over time was fit for each gender's data for each of the dependent variables (Doss et al., in press). Twelve different models of change over time were used to determine which model fit each gender's data on each variable best. These authors fit each model separately, rather than selecting which effects were significant, to maximally explain not only the mean level of change, but also the variability of that change. These models can be viewed in the Appendix (Figure 2) and are from a manuscript currently in press (Doss et al). These twelve models can be grouped into four groups: Group 1 represented a pattern of no change after birth, Group 2 represented a pattern of sudden change after birth, Group 3 represented gradual change after birth and Group 4 represented a pattern of both sudden and gradual changes after birth. Best-fit was determined by calculating values of the Bayesian Information Criterion (BIC; Schwarz, 1978) from the log-likelihood statistic produced for each of the models using Full Maximum Likelihood estimation. Selecting the best-fit model for each gender's data, for each of our variables, allowed us to see whether there was a difference between the pattern of change that was expected after birth, given the individuals' trajectory of change before birth, and the individuals' actual pattern of change after birth. The best fitting models selected for each variable can be viewed in the Appendix (Figure 3).



### *Mediation*

While Baron and Kenny's (1986) causal steps for testing mediation has been the most widely used test for mediation in the literature, there have been several studies which have raised important concerns about the statistical power of this approach. For example, in order to test for complete mediation and to attain a .80 level of power with a medium effect size, the sample size of a study must be at least 397 (Fritz & MacKinnon, 2007). In particular, when the direct effect of a family-of-origin risk factor on post-birth functioning adjusting for the more proximal risk factor was small, the current study would not have had adequate power to detect these effects. Therefore, alternative pathways were used to test for mediation. Specifically, I tested the significance of indirect effects by using the PRODCLIN2 program (MacKinnon, Fritz, Williams & Lockwood, 2005), which tests for mediation by creating confidence intervals from the distribution of the product of two indirect effects (Fritz & MacKinnon, 2007). Given the sample size of 132 couples, according to Fritz and MacKinnon I should have had sufficient power to detect a medium effect. These researchers recommend a sample size of at least 74 to be able to attain a .80 level of power with a medium effect size present.

### *Statistical Equations*

To replicate and expand previous research, the first two study objectives were analyzed using hierarchical linear modeling to assess whether our variables of interest predicted varying levels of change over time for individuals. In order for the intercepts of these equations to represent the average level of a particular variable at the time of birth, the time of individuals' assessments were centered around the year of birth of their

first child. To test the first study objective (determining whether family-of-origin risk factors predict nature-of-birth stressors and adaptive processes; Path A), Equation 1 was used. For level 1,

$$Y_{(Proximal\ Risk\ Factor)} = (husband)_i[\pi_{h0i} + \pi_{h1i}(Family-of-Origin\ Risk\ Factor)] + (wife)_i[\pi_{w0i} + \pi_{w1i}(Family-of-Origin\ Risk\ Factor)] + e_i \quad (1)$$

and for level 2:

$$\pi_{h0i} = \beta_{h00} + u_{h0i}$$

$$\pi_{h1i} = \beta_{h10} + u_{h1i}$$

$$\pi_{w0i} = \beta_{w00} + u_{w0i}$$

$$\pi_{w1i} = \beta_{w10} + u_{w1i}$$

To test the second study objective (Path B) I used a multivariate, two-level model where estimates of change over time were calculated within individuals at Level 1, and between individuals at Level 2. Specifically this model illustrated whether nature-of-birth stressors and adaptive processes, after controlling for family-of-origin risk factors, predicted individual and relationship functioning after birth (Path B). Modeling change for men and women separately and simultaneously has been recommended by Raudenbush, Brennan, and Barnett (1995) as a way to allow separate variances and covariances for both genders.

It should be noted that the specific predictors included in Level 1 of Equation 2 depended on which model was chosen as the best fit for each variable. For example, Equation 2 is presented here using the best fitting model equations of the relationship satisfaction variable, which has both a linear change over time as well as a sudden shift

after birth. Other variables which had fewer or more components in their best-fitting model were modified accordingly. To test path B, level 1:

$$Y_{(Post-Birth Functioning)} = (\text{husband})_{ii}[\pi_{h0i} + \pi_{h1i} (\text{time}_{linear}) + \pi_{h2i} (\text{level})] \\ + (\text{wife})_{ii}[\pi_{w0i} + \pi_{w1i} (\text{time}_{linear}) + \pi_{w2i} (\text{level})] + e_{iti} \quad (2)$$

and for level 2:

$$\pi_{h0i} = \beta_{h00} + \beta_{h01}(\text{Family-of-Origin Risk Factor}) + \beta_{h02}(\text{Nature-of-birth stressor/Adaptive Process}) + u_{h0i}$$

$$\pi_{h1i} = \beta_{h10} + \beta_{h11}(\text{Family-of-Origin Risk Factor}) + \beta_{h12}(\text{Nature-of-birth stressor/Adaptive Process}) + u_{h1i}$$

$$\pi_{h2i} = \beta_{h20} + \beta_{h21}(\text{Family-of-Origin Risk Factor}) + \beta_{h22}(\text{Nature-of-birth stressor/Adaptive Process}) + u_{h2i}$$

$$\pi_{w0i} = \beta_{w00} + \beta_{w01}(\text{Family-of-Origin Risk Factor}) + \beta_{w02}(\text{Nature-of-birth stressor/Adaptive Process}) + u_{w0i}$$

$$\pi_{w1i} = \beta_{w10} + \beta_{w11}(\text{Family-of-Origin Risk Factor}) + \beta_{w12}(\text{Nature-of-birth stressor/Adaptive Process}) + u_{w1i}$$

$$\pi_{w2i} = \beta_{w20} + \beta_{w21}(\text{Family-of-Origin Risk Factor}) + \beta_{w22}(\text{Nature-of-birth stressor/Adaptive Process}) + u_{w2i}$$

Finally, to test our third objective, that the effects of family-of-origin risk factors on the transition to parenthood are mediated by nature-of-birth stressors or adaptive processes, Equation 3 was used.

$$z^2 = \frac{\alpha\beta}{\sqrt{\alpha^2\sigma_\beta^2 + \beta^2\sigma_\alpha^2}} \quad (3)$$

In Equation 3,  $\alpha$  is the value of the regression coefficient obtained from Equation 1 (nature-of-birth stressor or adaptive process predicted from family-of-origin risk factor) and  $\beta$  is the value of the level 2 regression coefficient of interest obtained from Equation 2 (nature-of-birth stressor or adaptive process predicting change after birth after controlling for the family-of-origin risk factor). Values of  $z'$  were compared to empirically-derived distributions (rather than the normal distribution used by the Sobel test) as recommended by MacKinnon, Lockwood, Hoffman, West & Sheets (2002).

## RESULTS

### *Direct Effects: Path C*

#### *Family of Origin Predicting Post-Birth Change*

Parental divorce ( $b = -3.28$ ;  $t(112) = -2.30$ ;  $p < .05$ ), parental conflict ( $b = -0.82$ ;  $t(112) = -1.99$ ;  $p < .05$ ), and lower levels of parental happiness ( $b = 0.69$ ;  $t(112) = 2.03$ ;  $p < .05$ ) in mothers' family of origin predicted larger declines in relationship satisfaction (Table 1). For fathers, family-of-origin variables were not predictive of changes in relationship functioning after birth. While relatively few direct effects were significant, Baron and Kenny's requirement that the direct pathway be significant before examining potential mediators of that effect has been criticized for substantially reducing the statistical power of tests for mediation (Fritz & MacKinnon, 2007). Therefore, this study sought to test for mediation by using an alternative approach, testing the significance of indirect effects, which would provide sufficient power to detect a medium effect given the sample size of this study (Fritz & MacKinnon).

### *Indirect Effect: Path A*

The first objective of the current study was to examine whether functioning in one's family of origin predicted characteristics of the birth or adaptive processes in couples' lives before birth. Simultaneous regression models, using either the nature-of-birth stressors or couples' pre-birth adaptive processes as outcome variables and family-of-origin characteristics as predictor variables, were used to answer this question.

### *Family of Origin Predicting Stressful Nature of Birth*

Results indicated that several characteristics of the family of origin were predictive of the stressful nature of the birth for both mothers and fathers (Table 2). Specifically for mothers, parental violence predicted shorter duration of marriage before birth ( $b = -0.43$ ;  $t(119) = -2.00$ ;  $p < .05$ ). Fathers' parental divorce ( $b = -1.36$ ;  $t(117) = -3.05$ ;  $p < .01$ ) and lower levels of parental happiness ( $b = 0.31$ ;  $t(116) = 2.93$ ;  $p < .01$ ) both predicted lower levels of income before birth. Additionally parental conflict ( $b = 0.06$ ;  $t(108) = 2.64$ ;  $p < .05$ ) in fathers' family of origin predicted higher levels of depression before birth.

### *Family of Origin Predicting Adaptive Processes*

Results showed that there were also several family-of-origin variables that predicted adaptive processes for parents (Table 2). Specifically, lower levels of relationship confidence before birth was predicted by parental divorce for mothers ( $b = -0.19$ ;  $t(113) = -2.05$ ;  $p < .05$ ) and by parental violence for fathers ( $b = -0.12$ ;  $t(108) = -2.71$ ;  $p < .01$ ). Fathers' parental conflict predicted both higher levels of psychological aggression ( $b = 0.33$ ;  $t(108) = 3.69$ ;  $p < .001$ ) and poor conflict management ( $b = 0.05$ ;  $t(108) = 2.08$ ;  $p < .05$ ). Additionally, lower levels of parental happiness for fathers ( $b = -0.04$ ;  $t(116) = -2.48$ ;  $p < .05$ ) predicted higher levels of poor conflict management.

### *Indirect Effect: Path B*

The study's second objective was to examine whether nature-of-birth stressors or couples' pre-birth adaptive processes could predict post-birth changes in relationship functioning. To predict post-birth changes, multilevel analyses were performed with the

Hierarchical Linear Modeling Program (HLM 6.03; Raudenbush, Bryk, Cheong & Congdon, 2004), while controlling for family-of-origin characteristics. To minimize the number of analyses conducted, nature-of-birth stressors or adaptive process variables were only examined as possible mediators if they were shown (in Path A) to be at least somewhat related ( $p < .20$ ) to a family-of-origin characteristic in the previous analyses.

#### *Stressful Nature-of-Birth Predicting Post-Birth Change*

Several stressful characteristics of the birth predicted changes in couples' post-birth functioning. Specifically for mothers, longer duration of marriage before birth, while controlling for both parental violence ( $b = -0.64$ ;  $t(106) = -2.60$ ;  $p < .05$ ) and parental happiness ( $b = -0.61$ ;  $t(106) = -2.53$ ;  $p < .05$ ), predicted smaller increases in conflict severity. For fathers, longer duration of marriage before birth, while controlling for parental violence, predicted smaller drops in satisfaction ( $b = 0.73$ ;  $t(106) = 2.22$ ;  $p < .05$ ) and adjustment ( $b = 1.36$ ;  $t(106) = 2.57$ ;  $p < .05$ ), and smaller increases in conflict severity ( $b = -0.68$ ;  $t(106) = -2.56$ ;  $p < .05$ ) after birth. Additionally, fathers' higher levels of income, controlling for parental happiness, predicted smaller declines in their satisfaction after birth ( $b = 1.61$ ;  $t(85) = 2.10$ ;  $p < .05$ ).

#### *Adaptive Processes Predicting Post-Birth Change*

Couples' adaptive processes also predicted changes in relationship functioning after birth; however, in all cases, the direction of prediction was the opposite of that hypothesized<sup>1</sup>. Mothers' higher levels of relationship confidence, controlling for both

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<sup>1</sup> This pattern, where couples doing better before birth show larger increases in conflict severity after birth, may be a result of the nature of analyses which separated out gradual ongoing change in the relationship from the sudden changes attributable to birth. To examine this hypothesis, change in conflict severity after birth *without* separating out sudden and gradual changes was explored in four types of post-hoc analyses.

parental divorce ( $b = 3.90$ ;  $t(90) = 2.31$ ;  $p < .05$ ) and parental happiness ( $b = 3.42$ ;  $t(90) = 2.07$ ;  $p < .05$ ), predicted greater post-birth increases in conflict severity. Similarly, fathers' higher levels of relationship confidence, controlling for parental violence ( $b = 5.38$ ;  $t(90) = 2.33$ ;  $p < .05$ ) and parental conflict ( $b = 4.94$ ;  $t(90) = 2.21$ ;  $p < .05$ ), predicted larger increases in their reported conflict severity. Additionally fathers' higher levels of poor conflict management, controlling for parental violence ( $b = -8.76$ ;  $t(90) = -2.67$ ;  $p < .05$ ), parental conflict ( $b = -9.30$ ;  $t(90) = -2.87$ ;  $p < .01$ ), and parental happiness ( $b = -8.63$ ;  $t(90) = -2.68$ ;  $p < .01$ ), all predicted smaller increases in conflict severity.

### *Mediation*

Mediation analyses were conducted using the PRODCLIN2 program (MacKinnon, Fritz, Williams & Lockwood, 2005), which tests for mediation by creating confidence intervals from the distribution of the product of two indirect effects (Fritz & MacKinnon, 2007).

### *Impact of Parental Violence*

The impact of parental violence on post-birth changes in conflict severity was mediated by mothers' duration of marriage ( $CI_{.95} = 0.01, 0.68$ ) and fathers' level of

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Specifically, a single linear term was fit for the post-birth period and all analyses reported in the manuscript were repeated. First, as expected, fathers ( $r = .22$ ), but not mothers ( $r = -.01$ ), who reported more conflict severity before birth reported larger linear increases in conflict severity after birth. Second, however, the unexpected pattern held when predicting conflict severity from all three adaptive processes (relationship confidence for both fathers and mothers, and poor conflict management for fathers), with the highest-functioning individuals reported the greatest linear increases in conflict severity after birth. Third, prediction analyses were examined while controlling for the level of conflict severity at birth; the unexpected pattern still held for all three adaptive process predictors, with the individuals showing the highest-functioning at birth showing the largest linear increases in conflict severity post-birth. Fourth, prediction analyses were examined while controlling for the significant family-of-origin variables identified above. In all cases, the opposite-as-expected pattern held, with the highest-functioning individuals reporting the greatest linear increases in conflict severity after birth. Therefore, across analyses it does not appear that separating out sudden and gradual changes contributed to the unexpected results.



relationship confidence ( $CI_{.95} = -1.44, -.07$ ). Specifically, mothers' parental violence predicted shorter duration of marriage before birth, and shorter duration of marriage predicted greater increases in conflict severity. Fathers' parental violence predicted lower levels of relationship confidence before birth, and these lower levels of relationship confidence predicted fewer increases in conflict severity after birth.

#### *Impact of Parental Divorce*

Mothers' parental divorce impacted post-birth changes in conflict severity through levels of confidence before birth ( $CI_{.95} = -1.89, -0.02$ ). Specifically, parental divorce predicted lower levels of relationship confidence before birth and these lower levels of relationship confidence predicted fewer increases in conflict severity post-birth. For fathers, impact of parental divorce on post-birth changes in relationship adjustment was mediated through level of income before birth ( $CI_{.95} = -4.68, -0.01$ ). Parental divorce predicted lower levels of income at birth, and these lower levels of income at birth predicted greater declines in relationship adjustment after birth.

#### *Impact of Parental Happiness*

The impact of parental happiness in fathers' family of origin on changes in conflict severity after birth was mediated by levels of poor conflict management before birth ( $CI_{.95} = 0.04, 0.71$ ). Lower levels of parental happiness predicted higher levels of poor conflict management before birth, and these higher levels of poor conflict management predicted fewer increases in conflict severity after birth. Additionally, impact of fathers' parental happiness on change in relationship adjustment post-birth was mediated by level of income before birth ( $CI_{.95} = 0.04, 1.18$ ). Lower levels of parental

happiness predicted a lower level of income at birth, and in turn a lower level of income predicted larger declines in relationship adjustment after birth.

#### *Impact of Parental Conflict*

Fathers' parental conflict impacted post-birth changes in conflict severity through levels of poor conflict management before birth ( $CI_{.95} = -1.09, -0.03$ ). Parental conflict predicted higher levels of poor conflict management before birth, and these higher levels of poor conflict management predicted fewer increases in conflict severity post-birth.

#### *Comparison of Direct and Mediated Effects*

Finally, it should be noted that no mediators were found for the significant direct effects (path "c") of mothers' parental divorce, violence, or happiness on changes in their post-birth relationship satisfaction. Additionally, although several significant mediators were found for both mothers and fathers, in no case were the direct effects in those mediator analyses significant. Implications of these findings will be discussed below.

## DISCUSSION

### *Direct Effects of the Family of Origin on the Transition to Parenthood*

Previous literature suggests that the family of origin may have a substantial impact on relationship functioning after the birth of the first baby for men (e.g., Cowan & Cowan, 2000) or for both men and women (e.g., Lane, Wilcoxon & Cecil, 1988; Perren, Von Wyl, Burgin, Simoni & Von Klitzing, 2005). Indeed, to our knowledge, no published studies have found *no* effect of the family of origin on relationship functioning during the transition to parenthood. In the current study, family-of-origin risk factors predicted poorer functioning after birth for mothers. Specifically, divorce, conflict and lower levels of happiness in mothers' family of origin all predicted larger declines in their relationship satisfaction after birth. Fathers' family of origin, however, appeared to have no direct impact on their relationship functioning after birth. These findings appear to be consistent with the more general literature (i.e., not confined to a transition to parenthood sample) which has indicated that family of origin may especially influence women's relationship functioning (e.g., Amato, 1996; Story, Karney, Lawrence & Bradbury, 2004). However, they appear to add even more variability to the mixed findings of the transition to parenthood literature.

To further explore this variability in findings, this study also sought to identify the *mechanisms* by which family-of-origin risk factors impacted couples' functioning during the transition to parenthood. Previous studies have not examined mediators of the impact of the family of origin on relationship adjustment after birth. However, identification of these mechanisms not only provides theoretical information about *how*

family-of-origin factors impact couples, but it also provides targets for couple interventions during pregnancy. In the present study, mediation analyses were conducted for variables of interest regardless of the statistical significance of the direct effect since research has demonstrated that the statistical approach for examining mediators of direct effects often has inadequate power to detect effects (Fritz & MacKinnon, 2007).

### *Mediation*

Previous studies have demonstrated the impact family-of-origin dysfunction can have on relationship functioning, both within the general couple population as well as with couples transitioning to parenthood. The results of the present study indicate that, while the transition to parenthood is a stressful time in couples' lives that may exacerbate relationship problems, many of the associations between poor functioning in the family of origin and couples' relationship difficulties are apparent even before the baby is born. These specific findings are discussed in more detail below.

### *Relation of Family of Origin with Hypothesized Mediators*

*Family of origin predicting stressful nature of birth.* Consistent with previous literature which has demonstrated that family-of-origin risk factors increase the likelihood of stressful socioeconomic and individual functioning factors (e.g.- McLeod, 1991; Ross & Mirowsky, 1999; Amato & Sobolewski, 2001), several family-of-origin risk factors predicted a stressful nature of the birth for both mothers and fathers before birth. Parental divorce and lower levels of relationship happiness in one's family of origin were related to lower levels of income for fathers before birth. Additionally,

parental conflict predicted higher levels of depression among fathers before birth. Similar to another study which demonstrated that experiencing “parental changes” (i.e., separation, divorce, remarriage) increases the risk of early parenthood for women (Woodward, Fergusson & Horwood, 2006), present results showed that, for mothers, parental violence predicted shorter duration of marriage before the birth of their child. Therefore, it appears that dysfunction in the family of origin may impact offsprings’ future relationships by making it more likely that they will enter into a marriage with a multitude of external risk factors.

*Family of origin predicting adaptive processes.* Family-of-origin risk factors also predicted lower levels of relationship functioning at birth for mothers and fathers. Mothers’ parental divorce and fathers’ parental violence both predicted lower levels of relationship confidence before birth. Echoing previous studies which have demonstrated that parents’ marital discord is positively related to offspring’s marital discord (Amato & Booth, 2001), fathers’ parental conflict predicted both higher levels of psychological aggression and poor conflict management before birth. Additionally, lower levels of parental happiness predicted higher levels of poor conflict management for fathers. Overall these results are consistent with the more general relationship literature which has demonstrated that parental divorce and marital quality are associated with poorer marital outcomes and marital instability in couples’ own relationships (Story, Karney, Lawrence & Bradbury, 2004; Hetherington, 2003). Not only do children of lower functioning or divorced families contend with a variety of external risk factors, but their

parents' relationship functioning also appears to have a direct impact on their relationships.

To date only one other study has demonstrated a link between family-of-origin variables and pre-birth marital quality in a transition to parenthood sample. Lane, Wilcoxon & Cecil (1988) demonstrated that having higher levels of perceived healthiness in one's family of origin was related to higher levels of satisfaction in men before birth. The present study has deconstructed this more broadly defined result, to pinpoint the specific family-of-origin variables which are impacting particular relationship quality variables in couples before birth.

#### *Relation of Mediators with Changes in Relationship Functioning after Birth*

*Nature of birth factors as mediators.* In this study, mothers' violence in the family of origin predicted shorter duration of marriage before birth, and shorter duration of marriage predicted greater increases in post-birth conflict severity. Fathers' parental divorce predicted lower levels of income at birth, and these lower levels of income at birth predicted greater declines in relationship adjustment after birth. Additionally, fathers' lower levels of parental happiness predicted a lower level of income at birth, and in turn a lower level of income predicted larger declines in relationship adjustment after birth.

*Adaptive processes as mediators.* Surprisingly, although several types of adaptive processes were found to be significant mediators, the relations between pre-birth functioning and changes in post-birth functioning were all in unexpected directions, with lower levels of functioning before birth predicting higher levels of functioning after

birth. Specifically, fathers' lower levels of parental happiness predicted higher levels of poor conflict management before birth, however these higher levels of poor conflict management predicted fewer increases in conflict severity after birth. Similarly, parental conflict predicted higher levels of poor conflict management before birth for fathers, but these higher levels of poor conflict management predicted fewer increases in conflict severity post-birth. Post-hoc analyses indicated the unexpected pattern cannot be attributed to the nature of our analyses which examined post-birth change by separating out both gradual and sudden changes.

Unlike the present results, which controlled for family-of-origin variables, Doss et al. (in press) found that higher levels of poor conflict management were related to increases in conflict severity using the same sample. Thus, the relation between poor conflict management before birth and conflict severity post-birth initially appears to be consistent with hypotheses; however, when controlling for family of origin variables, the direction of this relation reverses. This pattern of results may indicate that fathers are showing fewer declines in functioning over the transition to parenthood because they have already experienced important declines in relationship functioning even before birth.

In addition, results indicated that fathers' parental violence predicted lower levels of relationship confidence before birth; however these lower levels of relationship confidence predicted fewer increases in conflict severity after birth. For mothers, parental divorce predicted lower levels of relationship confidence before birth, but these lower levels of relationship confidence predicted fewer increases in conflict severity

post-birth. Similar to our results which additionally controlled for family-of-origin factors, Doss et al. (in press) found that higher levels of relationship confidence before birth predicted larger increases in conflict severity after birth. As Doss et al. pointed out, it may be that having high relationship expectations (which may not be realistic) can actually be a risk factor to the transition to parenthood. While this possibility has not been previously studied in a transition to parenthood sample, at least one study has shown that having high, but unrealistic, expectations about one's relationship predicted steeper declines in relationship satisfaction (McNulty & Karney, 2004).

*Lack of mediators for significant direct effects.* It is also notable that no mediators were found to explain the direct effects found between family-of-origin risk factors and functioning after birth. It is likely that there may be other variables which could act as potential mediators that this study did not examine. The co-parenting relationship, for example, is one such variable which has been identified as an important piece of the family dynamic (Feinberg, 2002). It has been shown to be related to couples' relationship outcomes (e.g., Belsky & Hsieh, 1998; Schoppe, Mangelsdorf & Frosch, 2001) and could act as the link between functioning in family of origin and relationship functioning after the birth of a child for women. Additionally, relationship support has been shown to mediate the relation between other long-lasting risk factors, such as attachment style, and relationship functioning in couples during the transition to parenthood (Rholes, Simpson, Campbell & Grich, 2001; Simpson & Rholes, 2002; Simpson, Rholes, Campbell, Wilson & Tran, 2002). Perception of support from one's



partner may be another potential mechanism by which family-of-origin risk factors impact relationship functioning over the transition to parenthood.

#### *Differing Results by Gender*

It is interesting to note that while several direct effects between family-of-origin factors and post-birth functioning were found, significant results were only demonstrated for mothers. It appears that, for men, family-of-origin factors do not appear to directly influence their transition to parenthood, but instead these factors are related to a more stressful nature of birth and also impact fathers' relationship functioning before birth. For mothers, family-of-origin risk factors appear to both directly and indirectly influence their relationship functioning after the birth of a child.

One potential reason for this different pattern of results by gender is that women in the current study not only showed larger sudden changes in post-birth functioning than did men, but they also showed more variability in these changes. Given this initial difference, there may have simply been more power to detect the predictors of these changes for women.

Another potential reason for the gender difference is that women tend to take on the majority of the parenting responsibilities, oftentimes to an even greater extent than either parent had anticipated (Cowan & Cowan, 2000). It could be that given this imbalance, new mothers may need to rely more on their family-of-origin experiences to help them navigate through these new responsibilities than men do. For mothers, this time of increased stress (Eleck, Hudson & Fleck, 2002), self-evaluation (Antonucci & Mikus, 1988) and emotional upheaval (Cowan & Cowan, 2000) may make them

particularly susceptible to the impact of family-of-origin risk factors on their relationship functioning.

### *Implications for Intervention*

These results have implications for how to intervene with individuals and couples who have experienced dysfunction within their family of origin. For women, the period after the birth of their first baby seems to be a prime time to intervene, since it appears to be a critical period in which family-of-origin factors may have an important impact. In contrast, for men, an intervention conducted prior to the birth of their first child may be most beneficial, since at least some (if not all) of the impact of family-of-origin risk factors influence relationship functioning prior to the birth of the child. Women may also benefit from these interventions before birth, as some of the impact of family dysfunction is also experienced in their relationships prior to the birth of a child. Most of these individuals are already experiencing difficulties in their relationship; however the transition to parenthood appears to exacerbate at least some of these difficulties over time.

Therefore it appears that an intervention for pregnant couples with difficult family-of-origin histories should include a mix of both treatment and prevention. Treatment of couples with family-of-origin risk factors should target couples' relationship problems which have already developed before birth, while prevention work should attempt to inoculate couples, primarily women, against problems that may arise after birth. Treatment may want to focus on highlighting realistic expectations about couples' relationships and about how the relationship may be impacted by the transition

to parenthood. It might also focus on treating poor conflict management in these couples, since couples with family-of-origin risk factors have already seen increased levels of poor conflict management before birth. In order to address some of the external stressors that these couples appear to be facing, treatment can also include discussions about financial stress and budgeting. Prevention work should help prepare couples, but especially women, for the possibility of drops in relationship satisfaction after birth and should teach these couples strategies to buffer these declines.

#### *Limitations and Future Directions*

There are several limitations of this study which should be taken into consideration. First the majority of individuals were Caucasian and had high levels of education. In addition all participants were recruited from a religious organization and participated in a pre-marital education program. Future studies should be conducted to replicate these results in a more representative sample.

A second limitation was that the larger study was not designed to focus on the transition to parenthood, but to examine relationship functioning over time. Therefore the timing of the pre-birth assessment varied up to one year among couples. This introduces additional variability into the prediction analyses and may have reduced the power to find significant results. Future studies should attempt to examine questions of family of origin and mediation in a study designed to focus on the transition to parenthood period alone.

Additionally, while attempts were made to assess pre-birth relationship functioning in a comprehensive manner, some variables which could have a potentially

significant impact on mediating the relation between family-of-origin risk factors and relationship functioning post-birth were not included. Therefore, it is possible that there are certain family-of-origin risk factors which do not impact relationship functioning until the transition to parenthood or important mediators that were not examined in the present study. Future studies should attempt to examine additional mediators, such as the co-parenting relationship or relationship support in order to clarify this possibility.

Finally, it is important to note that retrospective reports of family-of-origin variables were used. It is possible that couples who are currently in more dysfunctional marriages might be more likely to remember their parents' marriage as more dysfunctional. However, retrospective reports of family-of-origin functioning is the current norm in the couples' literature (e.g., Cowan & Cowan, 2002; Story, Karney, Lawrence & Bradbury, 2004). Future studies may want to focus on using a more longitudinal sample in order to gather direct reports of parents' marital functioning.

## CONCLUSION

Overall this study has demonstrated that, while for women family-of-origin risk factors may directly impact relationship functioning over the transition to parenthood, much of the impact of family-of-origin risk factors has been felt prior to the birth of the couples' first child. Identification of these pre-birth mechanisms has both theoretical and intervention-based implications. It appears that treating current relationship difficulties, focusing on conflict management and relationship expectations, in addition to helping prepare couples for further difficulties brought on by the stresses of parenthood, might be an effective form of intervention in couples with dysfunction in their family of origin. Future research should focus on replicating results in a more representative sample, while examining additional mechanisms of impact.

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APPENDIX

Table 1  
Family-of-Origin Variables predicting Changes after Birth

Dependent Variables	Parental Divorce			Parental Conflict			Parental Violence			Parental Happiness		
	<i>b</i>	<i>SE(b)</i>	<i>t</i>	<i>b</i>	<i>SE(b)</i>	<i>t</i>	<i>b</i>	<i>SE(b)</i>	<i>t</i>	<i>b</i>	<i>SE(b)</i>	<i>t</i>
<i>Mothers</i>												
Relationship Adjustment	-1.59	3.29	-0.48	-0.40	0.95	-0.42	-0.47	1.12	-0.42	0.49	0.77	0.63
Relationship Satisfaction	-3.28*	1.42	-2.30	-0.82*	0.41	-1.99	-0.47	0.48	-0.99	0.69*	0.34	2.03
Conflict Intensity	0.68	1.45	0.47	0.51	0.42	1.21	0.10	0.52	0.20	-0.02	0.35	-0.06
<i>Fathers</i>												
Relationship Adjustment	-1.40	2.93	-0.48	-0.85	1.14	-0.75	-0.54	1.54	-0.35	0.11	0.75	0.15
Relationship Satisfaction	-1.27	1.42	-0.89	-0.21	0.56	-0.37	-0.57	0.83	-0.69	0.50	0.36	1.39
Conflict Intensity	-2.01	1.62	-1.24	0.72	0.61	1.19	-0.84	0.80	-1.06	0.24	0.41	0.57

Note. \*  $p < .05$ ; \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 2  
*Family-of-Origin Variables Predicting Adaptive Process and Nature of Stressful Event*

<i>Dependent Variables</i>	<i>Parental Divorce</i>		<i>Parental Conflict</i>		<i>Parental Violence</i>		<i>Parental Happiness</i>			
	<i>b</i>	<i>SE(b)</i>	<i>t</i>	<i>b</i>	<i>SE(b)</i>	<i>t</i>	<i>b</i>	<i>SE(b)</i>	<i>t</i>	
<i>Mothers</i>										
<i>Nature of Event</i>										
Duration of mar.	0.65	0.56	1.16	-1.03	-0.43*	0.22	-2.00	0.22	0.14	1.61
Income	-0.06	0.43	-0.15	-0.60	0.12	0.17	0.69	0.11	0.11	1.00
Depression	-0.01	0.07	-0.08	1.22	0.02	0.03	0.69	-0.02	0.02	-1.02
Education	0.09	0.36	0.25	-1.55	-0.20	0.14	-1.46	0.02	0.09	0.22
<i>Adaptive process</i>										
Poor Conf. Man.	0.07	0.06	1.05	0.84	-0.01	0.03	-0.23	-0.01	0.02	-0.36
Psych. Aggress.	0.33	0.25	1.32	1.45	0.03	0.10	0.27	-0.04	0.06	-0.62
Neg. Obs. Comm.	0.11	0.22	0.49	0.85	-0.08	0.09	-0.91	-0.04	0.05	-0.74
Confidence	-0.19*	0.09	-2.05	0.69	0.00	0.04	-0.00	0.03	0.02	1.36
<i>Fathers</i>										
<i>Nature of Event</i>										
Duration of mar.	0.51	0.55	0.93	-0.35	-0.41	0.30	-1.34	-0.07	0.14	-0.49
Income	-1.36**	0.45	-3.05	-1.62	-0.37	0.26	-1.41	0.31**	0.12	2.93
Depression	0.00	0.06	0.05	2.64	0.06	0.03	1.74	-0.00	0.01	-0.14
Education	-0.56	0.42	-1.33	-0.78	-0.32	0.23	-1.35	-0.03	0.12	-0.26
<i>Adaptive process</i>										
Poor Conf. Man.	-0.03	0.06	-0.41	2.08	0.06	0.04	1.79	-0.04*	0.02	-2.48
Psych. Aggress.	-0.11	0.25	-0.46	3.69	0.16	0.14	1.09	-0.10	0.06	-1.64
Neg. Obs. Comm.	-0.19	0.22	-0.85	1.17	-0.05	0.12	-0.40	0.04	0.05	0.82
Confidence	0.02	0.08	0.29	-1.98	-0.12**	0.04	-2.71	0.01	0.02	0.76

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

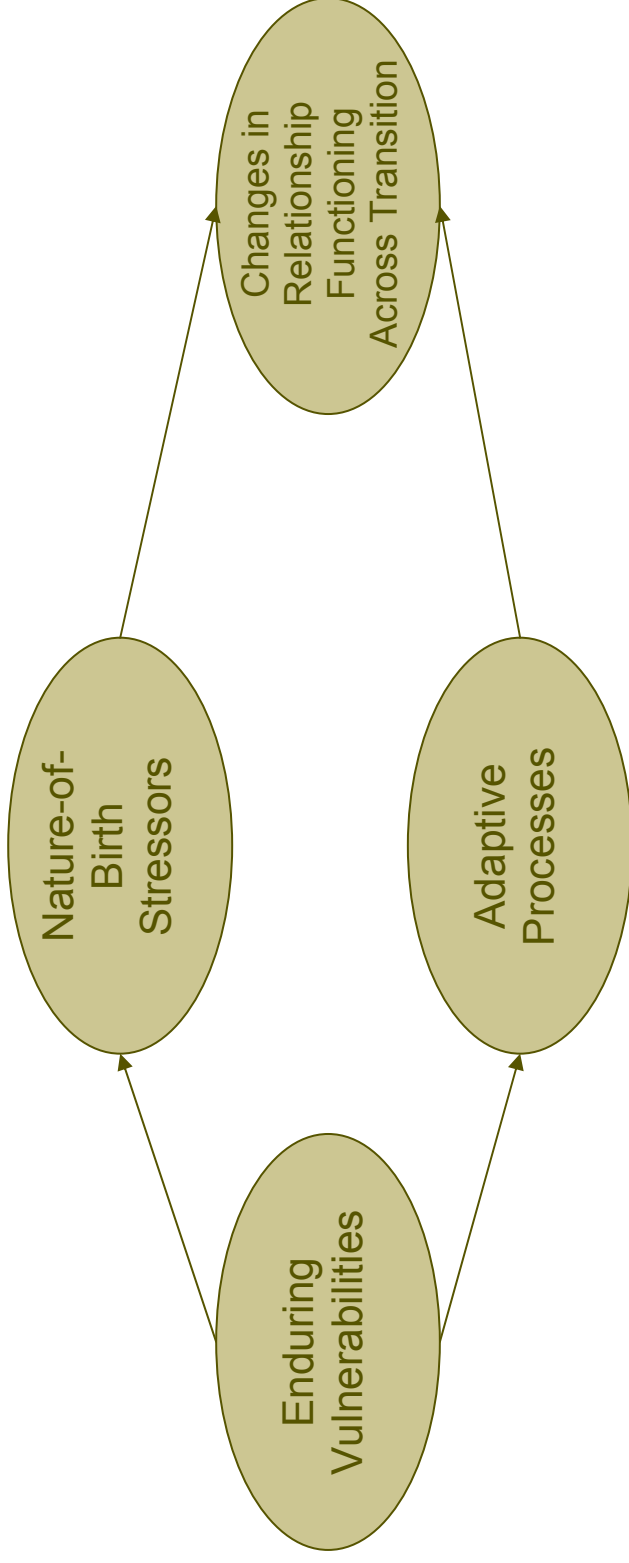


Figure 1. Vulnerability-Stress-Adaptation Model (Kamey & Bradbury, 1995) narrowed to focus on transition to parenthood period

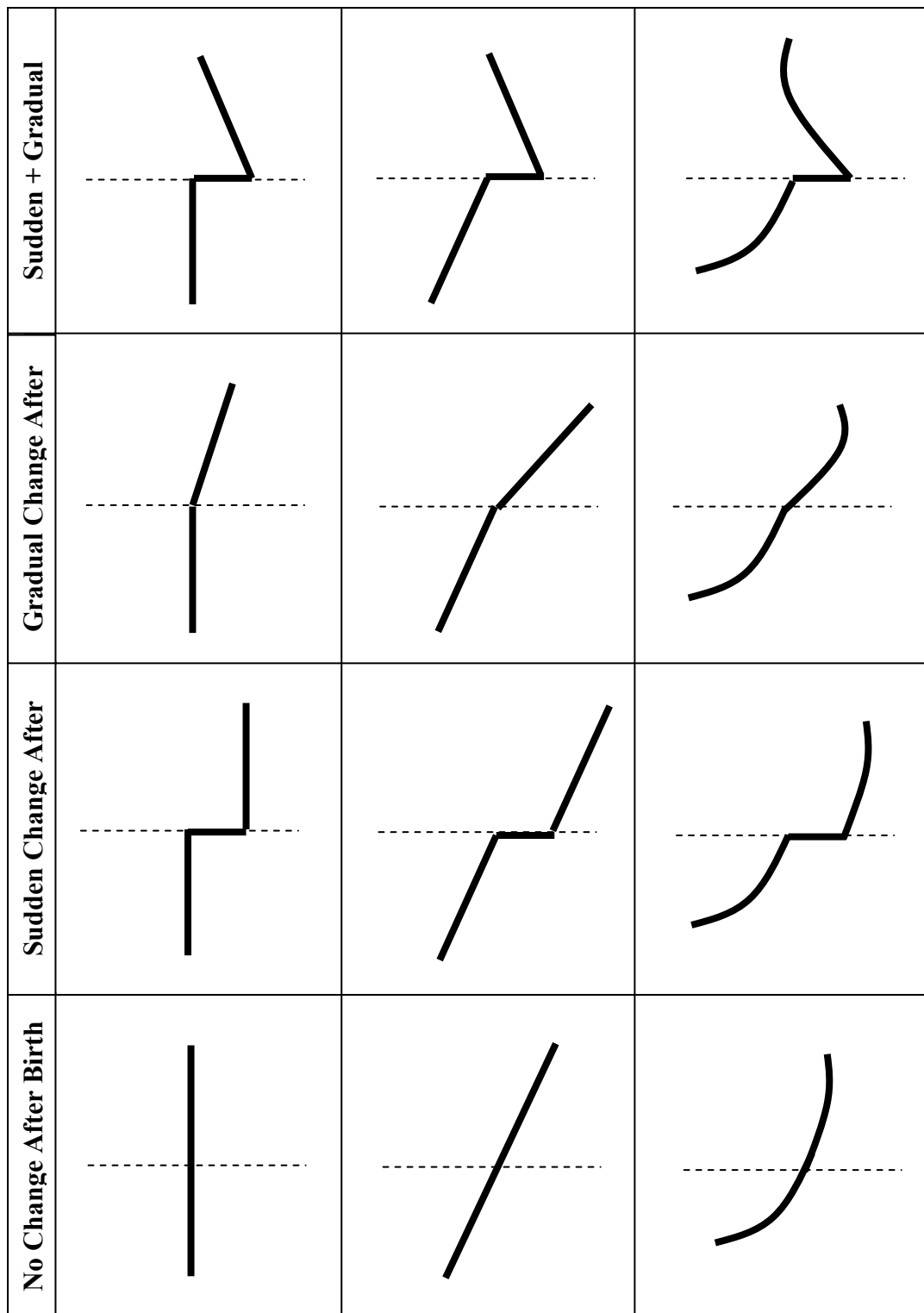


Figure 2. Potential models of change over time.

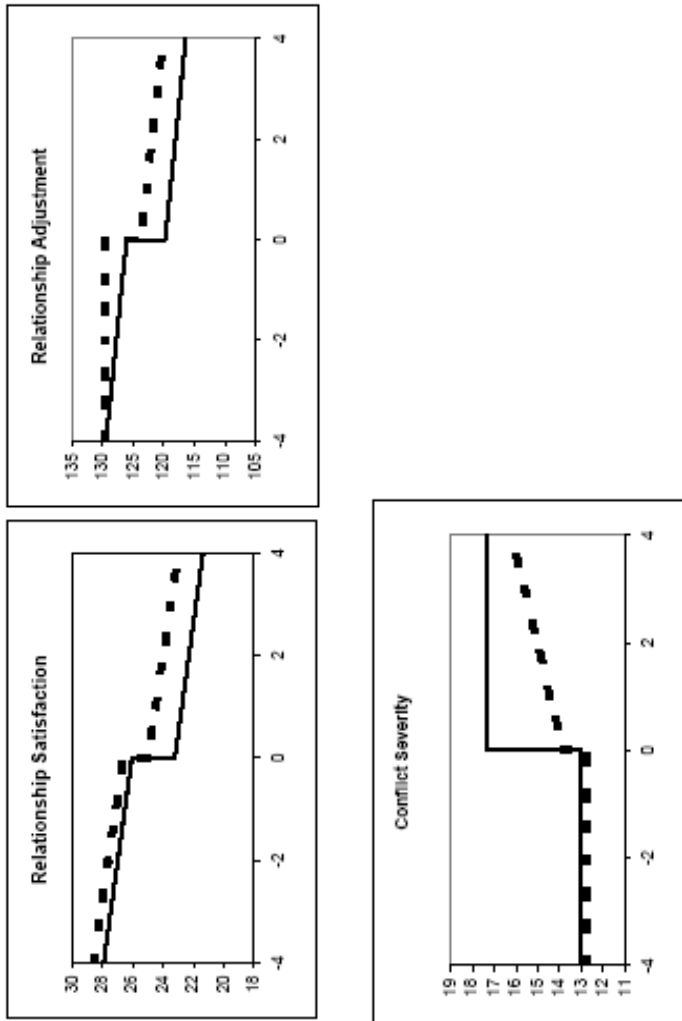


Figure 3. Best fitting models selected for each variable. The solid lines represent estimated change for women and the dotted lines represent estimated change for men.

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