

PATHWAYS LINKING DEPRESSIVE SYMPTOMS, FINANCIAL STRESS,
CONSTRUCTIVE CONFLICT, AND COPARENTING ALLIANCE IN UNMARRIED,
LOWER-INCOME MOTHERS AND FATHERS

by

Mahek Nirav Shah

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As members of the Master’s Committee, we certify that we have read the thesis prepared by:

Mahek Nirav Shah

Titled:

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Melissa Curran

Melissa Curran

Date: 05/03/2024

Melissa Barnett

Melissa Barnett

Date: 04/30/2024

Olena Kopystynska

Olena Kopystynska (May 1, 2024 10:02 PDT)

Olena Kopystynska

Date: 05/01/2024

Final approval and acceptance of this thesis is contingent upon the candidate’s submission of the final copies of the thesis to the Graduate College.

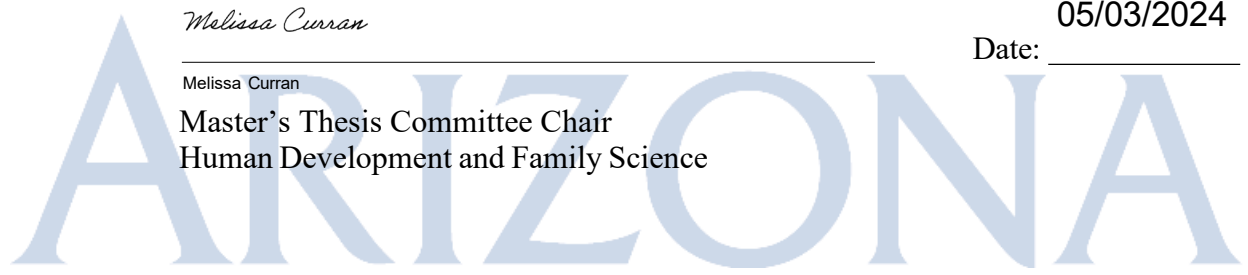
I hereby certify that I have read this thesis prepared under my direction and recommend that it be accepted as fulfilling the Master’s requirement.

Melissa Curran

Melissa Curran

Master’s Thesis Committee Chair
Human Development and Family Science

Date: 05/03/2024



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Dedication

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Abstract

Following an adapted version of the vulnerability stress adaptation model (VSA), data from the Building Strong Families project was used to examine how primarily unmarried, low-income mothers and fathers who bring in vulnerabilities in the form of depressive symptoms and experience stressors such as financial stress adapt their relationship, particularly their constructive conflict and coparenting alliance across the transition to parenthood. The sample consisted of racially diverse, low-income parents who were primarily unmarried at the conception of their child (N= 3,027 couples). All study variables were measured when children were 36 months of age. Some results were in line with theory, including that for both mothers and fathers, higher depressive symptoms were associated with lower constructive conflict and lower coparenting alliance and for mothers only, higher depressive symptoms were associated with lower constructive conflict via higher financial stress. Other findings were not in line with the theory, including that mothers' depressive symptoms were not significantly associated with mothers' coparenting alliance via mothers' financial stress. I discuss the patterns of findings, how they support or depart from theory, and include implications of the study findings, including that researchers are encouraged to continue to use adaptations of the VSA, and to especially focus on depressive symptoms as a vulnerability and relationship constructs, such as constructive conflict and coparenting alliance, as adaptive processes – as the examination of these study constructs will serve as valuable knowledge that can inform prevention and intervention efforts during their transition to parenthood.

Keywords: couples, transition to parenthood, vulnerability-stress-adaptation model, gender differences

Introduction

Becoming a parent is often a joyous transition for many individuals; however, the transition to parenthood is also accompanied by many challenges (Doss & Rhoades, 2017; Kluwer, 2010). For relational partners, the transition to parenthood can be a challenging time as each partner brings in their own set of enduring vulnerabilities (or factors that each individual brings into their relationship) and faces their own set of stressors (or the situations or circumstances that relational partners experience), while learning adaptive processes, or the ways individuals address individual or relational difficulties and transitions, including the dual roles of partners and parents (Karney & Bradbury, 1995; Kluwer, 2010). It is important to note that the transition to parenthood for relational partners involves the experiences of both mothers and fathers (Mickelson & Biehle, 2017; Mickelson & Marcussen, 2023).

The current study examines enduring vulnerabilities, external stressors, and adaptive processes (VSA; Karney & Bradbury, 1995) for both fathers and mothers in the Building Strong Families (BSF) dataset, which is a federally funded intervention project focused on relationship skills education for low-income and primarily unmarried couples at baseline (hereafter referred to as primarily unmarried couples throughout the thesis) who started the study expecting their first child together (Hershey et al., 2013). Specifically, I conceptualize depressive symptoms as an enduring vulnerability, financial stress as the stressor, and both constructive conflict and coparenting alliance as the adaptive processes. The study of enduring vulnerabilities, stressors, and adaptiveness for mothers and fathers during the transition to parenthood is an important one for all parents, including the mothers and fathers who start the transition to parenthood as primarily unmarried and low-income. For these individuals who are primarily unmarried and low-income, the transition to parenthood is quite challenging as they experience higher levels of

depressive symptoms and living conditions difficulties such as housing-related stress due to their financial conditions (Nomaguchi & Milkie, 2020). Furthermore, individuals who are primarily unmarried and low-income often engage in high levels of conflict where communication is poor with their other parent (Kluwer, 2010; Nomaguchi & Milkie, 2020). However, it is important to note that there is some evidence that even though there are more opportunities for conflict, most of the conflict is constructive (Kopystynska et al., 2017). Further, primarily unmarried, low-income individuals often have a difficult time forming a supportive coparental relationship (McHale & Sirotkin, 2019). Considering these struggles, it is extremely important to look at primarily unmarried, low-income couples when studying the transition to parenthood (Guzzo & Hayford, 2020; Nomaguchi & Milkie, 2020; Rose-Greenland & Smock, 2013).

Conceptual Framework

The Vulnerability Stress Adaptation (VSA) model presented by Karney and Bradbury (1995) presents a framework for understanding couple dynamics by centering and exploring the relationships between enduring vulnerabilities, external stressors, and adaptive processes that would influence relationship quality and relationship stability. The VSA suggests that partners who bring enduring vulnerabilities to their relationships and partners who bring external stressors to their relationships may directly engage with each other in ways that are maladaptive or low in adaptive processes (Karney & Bradbury, 1995). Furthermore, partners with enduring vulnerabilities are also more likely to face increased external stressors, that through this indirect pathway, undermine the ways in which they adaptively engage with their partner (adaptive processes) (Karney & Bradbury, 1995). Lastly, the VSA posits that the way partners engage in adaptive processes has a bidirectional association with relationship quality which then in turn influences relationship stability (Karney & Bradbury, 1995).

In this present study, an adapted VSA model is particularly used to understand how enduring vulnerabilities and external stressors are directly and indirectly linked to adaptive processes (Karney & Bradbury, 1995). Karney and Bradbury (1995) discuss vulnerabilities as characteristics, traits, and personal and childhood experiences that a person brings to their couple relationship therefore, for my study, depressive symptoms fit the conceptualization of vulnerability. Furthermore, the decision to include depressive symptoms as an enduring vulnerability in this study is also driven by Hammen's (1991) research that highlights that depressed individuals often generate stressful circumstances that individuals and couples then encounter in their relationship together and that these two factors must be studied together. This association by Hammen (1991) lends support to the idea that enduring vulnerabilities such as depressive symptoms and stressors – should be studied together (Karney & Bradbury, 1995). After enduring vulnerabilities, comes the construct of external stressors which Karney and Bradbury (1995) refer to as stressful life events that have the potential to increase negative interactions between couples. Karney and Bradbury (1995) discuss income and economic stress and thus financial stress, particularly difficulty paying bills and rent, fits the conceptualization of a stressor. Connecting the enduring vulnerability of depressive symptoms to financial stress is also underscored by the research of Wadsworth and Achenbach (2005) who highlight that individuals with psychological challenges such as depression are less likely to have economic stability which, in turn, increases stress by increasing difficulties in renting a home and paying utility bills. Lastly, Karney and Bradbury (1995) explain the idea of adaptive processes as behaviors that help couples deal with the challenges of their lives, hence, we consider coparenting alliance and constructive conflict as adaptive processes for this study. Coparenting alliance is defined as the ability of relational partners to work as a team in their roles as parents

(Berger & Carlson, 2020; Holmes et al., 2020; Schoppe-Sullivan & Fagan, 2020). Constructive conflict is defined as conflict that is respectful, and less emotionally charged, where the focus is the issue of the disagreement, and there is increased willingness to apologize when accountable and hence is a healthier conflict management strategy (Bergman et al., 2016; van Eldik et al., 2020).

Vulnerability – Depressive Symptoms

In parents, low income and higher depressive symptoms are connected (Bamishigbin et al., 2017; Siefert et al., 2007; Smythe et al., 2022). Individuals with depressive symptoms often experience challenges, including in how they manage to interact with others such as relational partners (Du Rocher Schudlich et al. 2011). Du Rocher Schudlich et al. (2015, 2019) showed that an increase in paternal depressive symptoms was associated with a decrease in constructive conflict in fathers. Furthermore, parents with higher depressive symptoms had worse coparenting quality than those with lower depressive symptoms (McDaniel & Teti, 2012; Tissot et al., 2017). In addition, depressive symptoms are seen to disrupt interactions between individuals such that people with higher depressive symptoms interact with their partner in a manner that ends up alienating them (Coyne, 1976) or communicate in a manner that is avoidant and disengaging (Barry et al., 2019) – this aspect of depressive symptoms makes it worthwhile to further understand its relationship with constructive conflict and coparenting alliance. While most research shows that higher depressive symptoms are associated with lower constructive conflict and lower coparenting alliance, most of this work is done with married couples. Looking at the studies using the BSF sample that consists of primarily unmarried, low-income parents, depressive symptoms have been examined as the main study constructs in some studies (Barnett et al., 2021; Curran et al., 2021; Lee et al. 2023; Li et al., 2019) and as a control variable in other

studies (Kopystynska et al., 2017; Kopystynska et al., 2020); however not all of them examine the associations that this study aims to look at. To elaborate on some relevant findings, Curran et al. (2021) did not find any significant associations between mothers' and fathers' depressive symptoms at 15 months after childbirth and mothers' and fathers' coparenting alliance at 36 months after childbirth. Further, Kopystynska et al. (2020) saw that fathers with higher depressive symptoms had lower levels of coparenting alliance; however depressive symptoms were a control variable here. Hence, there is a need for more research to understand the nature of these relationships in low-income, primarily unmarried couples – a contribution of this study.

Low-income couples report greater mental challenges and higher financial strain than high-income couples (Maisel & Karney, 2012) which warrants the study of depressive symptoms and financial stress together in low-income couples. Given that mental health can also be looked at through a lens of selection that contributes to financial stress (Muntaner et al., 2004), it is important to look at the link from depressive symptoms to economic hardship. Muntaner et al. (2013) review several studies to find mixed evidence for the idea that mental health challenges precede economic challenges depending on the population being studied. Using the Fragile Families and Child Wellbeing (FFCW) dataset whose sample consists of a large proportion of unmarried, low-income couples transitioning to parenthood, Williams and Cheadle (2016) provide some evidence. The study shows that higher depressive symptoms after childbirth are associated with higher levels of economic hardship as the parent with higher levels of depressive symptoms have reduced their financial contributions to the household (Williams & Cheadle, 2016).

Specific to gender differences, in both studies by Du Rocher Schudlich et al. (2015, 2019), maternal depressive symptoms were not associated with constructive conflict for fathers

and mothers; further paternal depressive symptoms were not associated with maternal constructive conflict. Furthermore, although, Tissot et al. (2017) show that higher depressive symptoms predict poorer coparenting, most of this association comes from the variance of maternal depressive symptoms. Lastly, mothers with higher depressive symptoms after the birth of the child faced higher levels of economic hardship; however, this was not true for fathers perhaps because fathers may be protected by having the breadwinner role be a part of the identity of a father (Williams & Cheadle, 2016).

Stressor – Financial Stress

Financial stressors, including difficulty in paying bills, are common for those who are primarily unmarried and low-income. Unmarried low-income new parents experience financial stressors (such as difficulty paying rent or utilities) (Nomaguchi & Milkie, 2020). Unmarried mothers face challenges maintaining housing due to economic challenges such as low income (Oh et al., 2021). Furthermore, low-income parents face issues with their living conditions and housing insecurity (Thornock et al., 2013) and also face challenges renting a house and face an increased risk of eviction (Nomaguchi & Milkie, 2020).

Not only do low-income couples face financial stress, but this financial stress is also associated with challenges in their relationship as a couple. Low-income new parents highlight that two salient challenges in their relationship lie around money, such as paying bills and not having enough funds for the baby, and housing, such as not having enough resources and struggling to make ends meet (Jackson et al., 2016; Waller, 2008). Low-income couples are also more likely to identify financial struggles as the core challenge in their relationship (Trail & Karney, 2012). Karney et al. (2018) sums up these aforementioned points by highlighting that

financial challenges in the lives of low-income couples create environments that are not supportive of their relationship which is a primary reason that they face relational challenges.

Looking at how external stress especially economic hardship impacts relationships, Neff and Karney (2017) suggest that higher economic hardship hinders constructive responses in marriages. Additionally, when faced with financial stress, parents, especially fathers, may choose to prioritize financial security rather than their relational goals such as constructive conflict (Summers et al., 2019). Further, low-income couples believe that having a steady job is a requirement for a successful marriage (Trail and Karney, 2012) which further highlights how low-income individuals prioritize financial and relational goals. Additionally, McHale and Sirotkin (2019) note that fatherhood programs often include unmarried low-income fathers as they struggle to form a supportive coparental alliance with the mothers. Furthermore, the primarily unmarried, low-income BSF couples that participated in the intervention did not significantly improve their coparenting alliance and constructive conflict (Wood et al., 2014). However, when looking at how financial difficulties at 15 months are associated with coparenting alliance at 36 months in the BSF dataset, there were no significant relationships found (Curran et al., 2021). Therefore, it would be important to look at whether financial difficulties are associated with coparenting alliance and constructive conflict cross-sectionally (at 36 months) rather than across time in the BSF dataset. Additionally, financial stress is time-sensitive and may carry-over into their relationships within this same time frame; hence, there is an argument to be made that financial stress and its associations with constructive conflict and coparenting alliance should be assessed at the same time points vs at different time points. (See Kopystynska et al. (2022) for a similar argument about time and spillover specific to the constructs of interparental conflict and parent-child relationship). Further, a primary reason that

relationship skills programs do not greatly improve relationship outcomes for low-income couples is that their primary relational challenge revolves around financial distress (Karney et al., 2018); thus, it is important to examine how financial stress is associated with relationship processes like constructive conflict and coparenting alliance.

Adaptive Processes - Constructive Conflict and Coparenting Alliance

Constructive conflict is a conflict that is respectful, and less emotionally charged, where the focus is the issue of the disagreement, and there is increased willingness to apologize when accountable (Bergman et al., 2016; van Eldik et al., 2020). Due to the healthy nature of constructive conflict in terms of conflict management, it has been at the forefront of many couple-relationship and family-strengthening interventions (Cummings & Schatz, 2012; Wood et al.; 2014), which is relevant to the current study as BSF included a couple-relationship and family-strengthening intervention component. The intervention by Cummings and Schatz (2012) was seen to increase constructive conflict behaviors across a diverse socioeconomic sample. In the BSF dataset, Kopystynska et al. (2017) found that around 75% of low-income, primarily unmarried parents have both parents that engage in constructive conflict. Even though research shows the importance of constructive conflict including in couple-relationship and family-strengthening interventions (e.g., Cummings & Schatz, 2012), most studies have focused on destructive conflict (Curran et al., 2021; Pech et al, 2020) or child development outcomes (Kopystynska et al., 2020).

Coparenting alliances are the ability of relational partners to work as a team to support versus undermine each other's roles as parents (Schoppe-Sullivan & Fagan, 2020). Forming a high-quality coparenting alliance is among the key tasks during the transition to parenthood (Schoppe-Sullivan & Fagan, 2020). Because the coparenting alliance is neither solely a partner

relationship nor solely a parental relationship, forming a strong coparental alliance is important and adaptive for partners who are transitioning to becoming parents as they must learn the value of having the presence of each other, and work through challenges together even if it is for the sake of their child and hopefully establish a more positive relationship (Fagan & Palkovitz, 2011). Hence, coparenting alliance has a unique place in family-strengthening interventions, especially in unmarried, low-income families - Holmes et al. (2020) conducted a meta-analysis of 24 experimental and quasi-experimental studies of fatherhood and coparenting intervention programs for low-income, unmarried fathers where their participation in intervention improved their coparenting. One of the key reasons that coparenting alliances become stronger through such interventions is that parents learn how to better interact with each other – this is especially true for fathers as they learn to improve the quality and frequency of their communication with their child’s mothers (Holmes et al., 2021). Therefore, as individuals work on their coparenting alliance in order to parent better together, their couple relationship also improves (Holmes et al., 2021). However, building a strong coparenting alliance is often difficult for unmarried parents (McHale & Sirotkin, 2019) as indicated by interventions such as Parents and Children Together that did not improve coparenting (Avellar et al., 2018). Therefore, it is important to understand the factors that contribute to forming a coparenting alliance, especially in low-income, primarily unmarried mothers and fathers – a contribution of this study.

Current Study

Through this review of the literature, it was apparent that this area of research still has some gaps that need to be addressed. The present study helps address some of the gaps by examining how primarily unmarried, low-income mothers and fathers who bring in vulnerabilities in the form of depressive symptoms and experience stressors such as financial

stress adapt their relationship, particularly their constructive conflict and coparenting alliance across the transition to parenthood. The overarching question is how do low-income, primarily unmarried mothers and fathers who bring in vulnerabilities in the form of depressive symptoms and experience stressors such as financial stress adapt their couple relationship particularly their constructive conflict and coparenting alliance (Research Question 1)? Guided by the VSA, I have two hypotheses that would help us answer the overarching question. Firstly, for both mothers and fathers, higher depressive symptoms should be associated with lower constructive conflict and lower coparenting alliance (Hypothesis 1). Secondly, for both mothers and fathers, higher depressive symptoms should be associated with lower constructive conflict and lower coparenting alliance via higher financial stress (Hypothesis 2). Lastly, because both mothers and fathers are in the model, we also aim to look at for whom these associations would be significant – since the nature of this question is exploratory, no hypotheses are made (Research Question 2).

Method

Participants

For the present study, data was used from the Building Strong Families (BSF) Project (Dion et al., 2008; Hershey et al., 2013), which was facilitated by Mathematica Policy Research, Inc. The BSF project aimed at providing relationship-strengthening education and training to low-income, primarily unmarried couples who were expecting their first child together or had their biological child who was less than 3 months of age. Couples were recruited from a variety of sources such as public health clinics, hospitals, and prenatal programs from eight sites across the US. To be eligible, couples were required to be romantically involved at some point during their time together, expecting their first baby, unmarried when the baby was conceived, without a history of intimate partner violence, 18 years or older, and both willing to participate.

The BSF collected data at three time points (wave 0 – baseline, wave 1 – approximately when the child was 15 months, and wave 2 – approximately when the child was 36 months). At wave 0, demographic information such as parent’s race/ethnicity, education level, and annual income were collected. The subsequent waves focus on other aspects such as the couple's relationship. The present study focuses on wave 2 (N = 3,027 couples) which is approximately 36 months post-intervention in which the focus is on the core study variables of mothers’ and fathers’ depressive symptoms, financial stress, coparenting alliance, and constructive conflict. The inclusion criteria are that at least one partner should have data on each variable (core variables and control variables).

Measures

Depressive Symptoms

Depressive symptoms are measured using the 12-item short version of the Center for Epidemiological Studies Depression Scale (CESD; Ross et al., 1983). It is measured on a 4-point Likert scale from 1 (rarely or none of the time) to 4 (most of the time) where fathers and mothers indicated the frequency of the feeling described in each statement. Example items include, “I had trouble keeping my mind on what I was doing” and “I was bothered by things that usually don’t bother me”. The mothers' and fathers’ scores were averaged separately to create each parent’s composite score for depressive symptoms (Mothers’ Cronbach’s $\alpha = .88$ and Fathers’ Cronbach’s $\alpha = .86$).

Financial Stress

Financial stress is measured using a 3-item binary measure (0 = no, 1 = yes) where fathers and mothers indicate whether they had difficulty paying their bills. Items include, “You

were evicted from your home or apartment because you could not pay the rent or mortgage”, “You had service turned off by the water, gas, or electric company, or the oil company would not deliver oil because you could not afford to pay the bill”, and “You could not pay the full amount of rent or mortgage that was supposed to pay”. Each parent’s score on financial stress was summed separately to create mothers’ and fathers’ scores of financial stress such that higher numbers reflected higher financial stress. Cronbach’s α s were not calculated for this scale as it only included binary items (Spiliotopoulou, 2009).

Coparenting Alliance

Coparenting Alliance was assessed using a 10-item subset from the Parenting Alliance Inventory (PAI; Abidin & Brunner, 1995). Fathers and mothers indicated their agreement on each statement using a 5-point Likert scale going from 1 (strongly agree) to 5 (strongly disagree). Example item includes, “My child’s other parent and I are a good team”. The scale was recoded such that higher scores reflect a higher coparenting alliance. The mothers' and fathers’ scores were averaged separately to create each parent’s composite score for coparenting alliance (Mothers’ Cronbach’s $\alpha = .96$ and Fathers’ Cronbach’s $\alpha = .96$).

Constructive Conflict

Constructive Conflict was assessed using an 8-item inventory that measured constructive conflict behaviors and how often they occur (Hershey et al., 2008). It was measured on a 4-point Likert scale from 1 (often) to 4 (never) and was reverse-coded for higher values to reflect higher constructive conflict. Example item includes, “During arguments, we are good at taking breaks when we need them”. Each parent’s scores were averaged separately to create mothers’ and

fathers' composite scores for constructive conflict (Mothers' Cronbach's $\alpha = .90$ and Fathers' Cronbach's $\alpha = .87$).

Control variables

At wave 0, a series of binary variables were created to indicate BSF intervention group (0 = control group, 1 = treatment group), education level (0 = lower than high school degree, 1 = high school degree or equivalency), multipartner fertility (0 = no children with other partners, 1 = have children with other partners), and employment status (0 = not working, 1 = working). For race/ethnicity at wave 0, three dummy codes were created (a four-category nominal variable) with Non-Hispanic White as the reference group (Hispanic vs. Non-Hispanic White, Non-Hispanic Black vs. Non-Hispanic White, and other race/ethnicity vs. Non-Hispanic White). For annual income at wave 0, an eight-category ordinal variable was created ranging from 0 (no income) to 7 (\$35,000 or above) with higher scores indicating higher levels of income. At wave 2 (36 months), a binary variable was created for the father's residential status (0 = not residing with the father, 1 = residing with the father).

Intervention status was included as a control variable as interventions that focus on couple-relationship and family-strengthening have been seen to improve constructive conflict behaviors (Cummings & Schatz, 2012) and coparenting between partners (McHale & Sirotkin, 2019). The rationale for adding race/ethnicity, annual income, education level, employment status, and multipartner fertility is that these constructs are commonly included in samples such as the BSF (e.g., primarily unmarried and low-income). For example, socioeconomic disadvantage is predictive of both nonmarital and multipartnered fertility for both men and women (Guzzo & Hayford, 2020). Further, the rationale for including race/ethnicity, annual income, and education level as control variables was that they have been related to interparental

relationships and coparenting (Broderick et al., 2019). Further, multipartner fertility and employment status were added as control variables given their inclusion in studies with unmarried parents and associations with the coparental relationship (Goldberg & Carlson, 2015; McHale & Sirotkin, 2019). Lastly, father's residential status was included as a control variable given its inclusion in studies of fathers (Kopystynska et al., 2022; Lee et al., 2020; McHale & Sirotkin, 2019) for example, for families who do not live together (termed as non-coresidential families), father involvement in coparenting children varied – sometimes it diminished over time, sometimes it remained stable, and sometimes it was reinvigorated over time (McHale & Sirotkin, 2019).

Psychological distress at wave 0 was measured using the 6-item short form of the Kessler Psychological Distress Scale (Kessler et al., 2002). A 5-point Likert scale ranging from 1 (all of the time) to 5 (none of the time) was used to measure how often fathers and mothers experienced feelings of worthlessness, sadness, and hopelessness. The scale was recoded such that higher scores reflect a higher psychological distress. Each parent's scores were averaged separately to create mothers' and fathers' composite scores for psychological distress (Mothers' Cronbach's $\alpha = .71$ and Fathers' Cronbach's $\alpha = .70$). Psychological distress is included as a control variable to not only account for the idea that psychological support is an important aspect that individuals turn toward their partners for during the transition to parenthood (Schoppe-Sullivan et al., 2016), but also as it has been found to be related to interparental conflict and coparenting alliance (Curran et al., 2021).

Relationship quality at wave 0 was measured using an 8-item scale that looked at various aspects of relationships such as conflicts, trust, and doing ordinary things. A 4-point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree) asked fathers and mothers to reflect on

the extent to which they agreed with the statements of the scale. Example items include, “You and mother/father enjoy doing ordinary things together” and “Mother/Father shows love and affection toward you”. The scale was recoded such that higher scores reflect a higher relationship quality. Each parent’s scores were averaged separately to create mothers’ and fathers’ composite scores for relationship quality (Mothers’ Cronbach’s $\alpha = .81$ and Fathers’ Cronbach’s $\alpha = .81$). Relationship quality was added as a control variable as it has been found to be associated with the coparenting relationship (e.g., higher relationship quality was associated with higher coparenting; Broderick et al., 2019; Fagan & Palkovitz, 2011). More information about the control variables is in Table 1.

Data Analytic Plan

For the current study, path analysis and multigroup analysis were used to examine the research questions and hypothesis using the package lavaan in R (v 4.2.2). The conceptual model is outlined in Figure 1. Model fit was assessed using the chi-square test statistics, Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and Comparative Fit Index (CFI). According to Kline (2016), a good model fit is when we have a non-significant chi-square test (suggesting that the implied covariance matrix does not differ significantly from the observed covariance matrix), RMSEA and SRMR values are equal to or less than .05 (.08 for acceptable fit), and CFI values are larger than .95. Missing data was handled using a combination of proration and Full Information Maximum Likelihood (FIML) (Wu et al., 2022).

Results

Preliminary Analysis

All significant correlations were in expected directions. All zero-order correlations and descriptive statistics of study variables are in Table 2. Here, I briefly note relevant correlations for the study variables. Mothers' depressive symptoms were significantly negatively correlated with mothers' coparenting alliance ($r = -.21, p < .01$) and mothers' constructive conflict ($r = -.31, p < .01$) and significantly positively correlated with mothers' financial stress ($r = .22, p < .01$). Mothers' financial stress was significantly negatively correlated with mothers' coparenting alliance ($r = -.08, p < .01$) and mothers' constructive conflict ($r = -.14, p < .01$). Fathers' depressive symptoms were significantly negatively correlated with fathers' coparenting alliance ($r = -.21, p < .01$) and fathers' constructive conflict ($r = -.27, p < .01$) and significantly positively correlated with fathers' financial stress ($r = .15, p < .01$). Fathers' financial stress was significantly negatively correlated with father's coparenting alliance ($r = -.05, p < .01$) and fathers' constructive conflict ($r = -.09, p < .05$).

Missing Data

Patterns of missingness were examined, which revealed that missingness in the study variables and control variables ranged from 0% to 12.4% (see Table 3 for missing data percentages for all variables). For the variables for which the means needed to be computed, proration with the threshold of 20% of item responses missing was used to handle missing data (Wu et al., 2022). Little's missing-completely-at-random (MCAR) test was performed on the whole sample which suggested that the patterns of missingness were not MCAR ($p < .001$). Therefore, additional tests which were performed on mothers and fathers separately revealed that missingness was related to coparenting alliance and constructive conflict along with the control variables of race/ethnicity and relationship quality, indicating that the data was missing not at random (MNAR). Specifically, mothers' coparenting alliance was higher in the non-missing

group ($M = 4.31$) than in the missing group ($M = 3.51$), $t(713.49) = 14.56, p < .001$. Similarly, fathers' coparenting alliance was higher in the non-missing group ($M = 4.50$) than in the missing group ($M = 4.19$), $t(1,063.30) = 9.29, p < .001$. Additionally, mothers' constructive conflict was higher in the non-missing group ($M = 3.17$) than in the missing group ($M = 3.01$), $t(515.67) = 3.89, p < .001$. Similarly, fathers' constructive conflict was higher in the non-missing group ($M = 3.29$) than in the missing group ($M = 3.05$), $t(1,022.20) = 7.39, p < .001$. Furthermore, with the control variables, mothers' relationship quality was higher in the non-missing group ($M = 3.28$) than in the missing group ($M = 3.19$), $t(1,295.40) = 4.53, p < .001$. Similarly, fathers' relationship quality was higher in the non-missing group ($M = 3.35$) than in the missing group ($M = 3.30$), $t(1,358.60) = 2.33, p = .020$. In regard to race/ethnicity, compared to White mothers, Black/African-American mothers have a higher value in the missing group ($M = .59$) than the non-missing group ($M = .54$), $t(1,359.60) = -2.18, p = .030$. Further, compared to White mothers, other race/ethnicity mothers have a lower value in the missing group ($M = .21$) than the non-missing group ($M = .27$), $t(1,453.80) = 3.41, p < .001$. Similarly, compared to White fathers, other race/ethnicity fathers have a lower value in the missing group ($M = .26$) than the non-missing group ($M = .22$), $t(1,423.20) = 2.48, p = .013$. Missing data was handled using FIML as FIML is an appropriate missing data estimation technique to use when data are MNAR, as long as the missing data are not more than 70% missing (Xiao & Bulut, 2020). Therefore, missing data was handled using a combination of proration and FIML (Wu et al., 2022).

Primary Analysis

To examine the research questions and the associated hypotheses, a path analysis (see Figure 1) along with a multigroup analysis for parental gender was tested using the package lavaan in R (v 4.2.2). To test for indirect effects of associations through financial stress (see

Figure 1), the normal theory approach (Sobel test) was used which is a conservative approach to test indirect effects (Jose, 2013) allowing me to be more cautious in my analysis. The multigroup analysis was performed in several steps (Kline, 2016). Model fit was assessed using the Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and Comparative Fit Index (CFI). According to Kline (2016), a good (or acceptable) model fit is when the RMSEA and SRMR values are equal to or less than .05 (.08 for acceptable fit), and CFI values are larger than .95.

First, a baseline model with no constraints across parental gender for all paths was tested. The fit indices suggested that the model had an acceptable fit, $\chi^2(128) = 1,444.30, p < .001$; RMSEA = .06, 90% CI [.06, .06]; SRMR = .05; CFI = .80. Second, a model was tested where all paths were constrained to be invariant across parental gender (mothers and fathers). This model had an acceptable fit, $\chi^2(133) = 1,465.55, p < .001$; RMSEA = .06, 90% CI [.06, .06]; SRMR = .05; CFI = .80. Third, the baseline model with no constraints was compared with the invariant model which had all paths constrained across parental gender. The chi-square difference test was significant ($p < .001$), suggesting that paths differ by parental gender and should be freely estimated (RQ2). Since the multigroup analysis was performed in several steps, the results are outlined in Table 5. As it is valuable to look at mothers and fathers separately (RQ2), the results of the baseline model are as follows and also outlined in Table 4 and Figure 2.

Mothers

H1: Higher depressive symptoms should be associated with lower constructive conflict and lower coparenting alliance

Mothers' depressive symptoms were negatively associated with mothers' coparenting alliance ($\beta = -.15, p < .001$) and mothers' constructive conflict ($\beta = -.25, p < .001$), providing support for H1 for mothers.

H2: Higher depressive symptoms should be associated with lower constructive conflict and lower coparenting alliance via higher financial stress

Mothers' depressive symptoms were positively associated with mothers' financial stress ($\beta = .21, p < .001$), and mothers' financial stress was in turn negatively associated with mothers' constructive conflict ($\beta = -.06, p < .001$) and not significantly associated with mothers' coparenting alliance ($\beta = -.03, p = .111$). The direct effect of mothers' depressive symptoms on mothers' coparenting alliance ($\beta = -.14, p < .001$) and mothers' constructive conflict ($\beta = -.24, p < .001$) revealed negative associations. The indirect effect was tested using the normal theory methodology (Sobel test). The indirect effect of the relationship between mothers' depressive symptoms and mothers' coparenting alliance through mothers' financial stress was not present ($ab = -.01, Z = -1.580, p = .114$). The indirect effect of the relationship between mothers' depressive symptoms and mothers' constructive conflict via mothers' financial stress was present ($ab = -.02, Z = -3.505, p < .001$). This provides partial support for H2 for mothers.

Regarding the control variables, higher levels of mothers' relationship quality were associated with higher mothers' coparenting alliance ($\beta = .24, p < .001$) and higher mothers' constructive conflict ($\beta = .22, p < .001$). Further, compared to white mothers, other race/ethnicity mothers showed higher mothers' coparenting alliance ($\beta = .09, p < .001$) and higher mothers' constructive conflict ($\beta = .08, p = .001$). Lastly, for mothers who had a high school degree or equivalent (vs. those with lower than high school degrees), results showed lower mothers' coparenting alliance ($\beta = -.07, p < .001$) and lower mothers' constructive conflict ($\beta = -.05, p = .002$).

Fathers

H1: Higher depressive symptoms should be associated with lower constructive conflict and lower coparenting alliance

Support for H1 for fathers was found as fathers' depressive symptoms was negatively associated with fathers' coparenting alliance ($\beta = -.09, p < .001$) and fathers' constructive conflict ($\beta = -.20, p < .001$).

H2: Higher depressive symptoms should be associated with lower constructive conflict and lower coparenting alliance via higher financial stress

Fathers' depressive symptoms were positively associated with fathers' financial stress ($\beta = .15, p < .001$), and fathers' financial stress was in turn negatively associated with fathers' constructive conflict ($\beta = -.03, p = .047$) and not significantly associated with fathers' coparenting alliance ($\beta = -.01, p = .572$). Negative associations were found between fathers' depressive symptoms and fathers' coparenting alliance ($\beta = -.09, p < .001$) and fathers' constructive conflict ($\beta = -.19, p < .001$) respectively when direct effects were tested. The normal theory method (Sobel test) was used for testing indirect effects. The indirect effect of the relationship between fathers' depressive symptoms and fathers' coparenting alliance through fathers' financial stress was not present ($ab = -.002, Z = -0.564, p = .573$). The indirect effect of the relationship between fathers' depressive symptoms and fathers' constructive conflict via fathers' financial stress was also not present ($ab = -.01, Z = -1.933, p = .053$). This provides no support for H2 for fathers.

Regarding the control variables, higher levels of fathers' relationship quality were associated with higher fathers' coparenting alliance ($\beta = .21, p < .001$) and higher fathers' constructive conflict ($\beta = .20, p < .001$). Furthermore, as compared to White fathers,

Black/African-American fathers ($\beta = .07, p = .007$) and other race/ethnicity fathers ($\beta = .07, p = .003$) showed higher fathers' co-parenting alliance. Similarly, as compared to White fathers, other race/ethnicity fathers showed higher fathers' constructive conflict ($\beta = .09, p < .001$). Additionally, fathers' multipartner fertility was positively associated with fathers' constructive conflict ($\beta = .04, p = .022$), that is fathers who reported instances of multipartner fertility (vs. fathers who did not report multipartner fertility) had higher fathers' constructive conflict. Further, compared to non-residential fathers, residential fathers reported higher fathers' coparenting alliance ($\beta = .10, p < .001$) and higher fathers' constructive conflict ($\beta = .10, p < .001$). Lastly, higher levels of fathers' annual income were associated with lower fathers' coparenting alliance ($\beta = -.05, p = .006$).

Discussion

Using an adapted version of the vulnerability stress adaptation (VSA) model by Karney and Bradbury (1995), the main goal of this study was to examine how primarily unmarried, low-income mothers and fathers who bring in vulnerabilities in the form of depressive symptoms and experience stressors such as financial stress adapt their relationship, particularly their constructive conflict and coparenting alliance across the transition to parenthood. To address this overarching research question, two hypotheses and an exploratory research question about the role of parental gender in the proposed relations were tested. The research questions were examined using the BSF sample which comprises racially and ethnically diverse, low-income couples who are primarily unmarried when they become parents together for the first time.

Hypothesis 1 proposed that higher depressive symptoms should be associated with lower constructive conflict and lower coparenting alliance for both mothers and fathers and full support was found for this hypothesis. These findings align with prior research which also suggests

parents with higher depressive symptoms have poorer coparenting than parents with lower depressive symptoms (McDaniel et al., 2012; Tissot et al., 2017). Further, these findings correspond with Du Rocher Schudlich et al. (2015, 2019) as higher paternal depressive symptoms are associated with lower constructive conflict behaviors and also extend these findings to mothers. Additionally, these findings add support to the idea that individuals with depressive symptoms experience challenges in engaging with their relationships (Du Rocher Schudlich et al., 2019). Apart from this, the current study's findings are also in line with the propositions of the VSA as Karney and Bradbury (1995) talk about how vulnerabilities are associated with adaptive processes. For example, in a paper including 10 longitudinal studies of over 1,000 married couples, McNulty et al (2021) found patterned associations between constructs operationalized as vulnerabilities (e.g., attachment avoidance) and constructs operationalized as adaptive processes (e.g., levels of cooperation between relational partners during behavioral exchanges). Beyond what has been studied in married couples like the samples noted by McNulty et al., (2021), the findings from the current study add to this literature in terms of depressive symptoms as a vulnerability as well as coparenting as an adaptive process for primarily unmarried parents who transition to parenthood together for the first time, and the associations between these two constructs.

Hypothesis 2 proposed that higher depressive symptoms should be associated with lower constructive conflict and lower coparenting alliance via higher financial stress for both mothers and fathers. Partial support is found for these hypothesized relations as higher depressive symptoms are associated with lower constructive conflict via higher financial stress only for mothers. This finding is in line with previous research that highlights that higher depressive symptoms are associated with higher financial stress for primarily unmarried low-income

mothers (Curran et al., 2021; Williams & Cheadle, 2016). This finding also lends support to the idea of the mental health selection lens (Muntaner et al., 2004) which suggests that individuals with mental health challenges experience economic hardship as they find it difficult to obtain and maintain their jobs which in turn makes it difficult to make ends meet. Additionally, the positive association between depressive symptoms and financial stress for mothers found in the current study aligns with Hammen (1991) as the association suggests that depressed individuals generate stressful circumstances underscoring the propositions of the VSA as Karney and Bradbury (1995) talk about how vulnerabilities are associated with stressors. Furthermore, the current study's finding about the negative association between financial stress and constructive conflict is in line with the VSA as Karney and Bradbury (1995) propose that stressors are associated with adaptive processes and with previous research as noted by Neff and Karney (2017) that economic hardship is often associated with a reduction in constructive responses to relational problems. Also, this association adds to the overarching idea that for low-income couples and parents, salient relational challenges lie around financial struggles (Jackson et al., 2016; Trail & Karney, 2012). Lastly, another reason that financial stress mediates the relationship between depressive symptoms and constructive conflict for mothers as found in the current study is that finances are often a major source of conflict in couple relationships (Papp et al., 2009). Hence it may be difficult for mothers to disentangle financial stress and constructive conflict making these conflictual relationships difficult and this carry-over is more likely given associations between conflict and money. For example, compared to nonmoney issues, relational conflicts about money were more pervasive, problematic, and recurrent, and remained unresolved, despite including more attempts at problem-solving (Papp et al., 2009).

The other hypothesized relationships for hypothesis 2 were not significant. These findings are not in line with the VSA, which suggests enduring vulnerabilities such as depressive symptoms that partners bring in contribute to stressful life events such as financial stress which operates on adaptive processes such as coparenting alliance and constructive conflict. Firstly, mothers' depressive symptoms were not significantly associated with mothers' coparenting alliance via mothers' financial stress. Apart from the idea that this finding is not in line with the VSA, this finding is also unexpected as prior research has seen low-income primarily unmarried mothers who have higher depressive symptoms experience higher financial stress (Curran et al., 2021; these data were specific to the BSF), and mothers who face higher financial strain are associated with having poorer coparenting quality (Riina & Feinberg, 2018; these data were not specific to the BSF but instead about married parents surveyed over time during their child's adolescence). A potential reason for this unexpected finding is that mothers may not be focused on their coparenting relationship if they are experiencing vulnerabilities like depressive symptoms (Barry et al., 2019) and stressors like financial stress (Neff & Karney, 2009) as these aforementioned experiences can make individuals withdraw, alienate, or reduce their involvement with their partners (Barry et al., 2019; Neff & Karney, 2009). Another potential explanation could be that mothers may be skilled at compartmentalizing their roles as parents and partners (Davies et al., 2009; Stevenson et al., 2014), such that mothers may be able to separate their parenting role from their relational role, hence there is little to no carry-over from their experiences of depressive symptoms and financial stress to their coparenting alliance. With being said, why this thesis finding differs from the literature is still not fully understood, underscoring the importance of these study constructs to continue to be studied in samples such as the BSF (e.g., primarily low-income and unmarried).

Secondly, fathers' depressive symptoms were not significantly associated with fathers' constructive conflict via fathers' financial stress. Along with the idea that this finding is not in line with the VSA, it is also unexpected as previous research has seen parents, including fathers, who have high depressive symptoms experience high financial stress (Paat, 2011; these data were specific to the FFCWS dataset which has mostly unmarried parents at baseline). It may be that fathers, and especially low-income fathers, prioritize financial security as part of their identity and role in the family system (Summers et al., 2019). Thus, it would seem that fathers who face higher financial strain would have experienced lower constructive conflict. Both these findings from the thesis differ from the literature and could potentially be understood through a process similar to sentiment override (Hawkins et al., 2002; Weiss, 1980). To unpack this possibility, it could be that what is happening is that an individual's assessment of their relational adaptive process of coparenting and constructive conflict behaviors with their partner may be more dependent upon their sense of well-being (in this case, depressive symptoms or financial stress or a combination) than their actual well-being. This being said, why the finding from the thesis specific to this pattern differ is still not understood emphasizing once again the need for these study constructs to be studied in samples with the BSF, other partners transitioning to parenthood, and other relational partners during varying life events (e.g., transition to marriage) or developmental stages of parenthood (e.g., coparenting infants, young children, and youth).

A third finding that was not in line with the VSA was that fathers' depressive symptoms were not significantly associated with fathers' coparenting alliance via fathers' financial stress. This unexpected finding could possibly be due to the nature of the participants and how they engage in forming a coparenting alliance (McHale & Sirotkin, 2019). In unmarried, low-income families, the father is often excluded from coparenting such that either the father struggles to

have a healthy relationship with the mother to be a part of the coparenting alliance or the father is viewed as plus one which is fathers are viewed as helpful but not essential (McHale & Sirotkin, 2019). One reason that fathers may struggle to engage in their coparenting relationship could stem from their relationship quality with their partner as relationship quality has an indirect effect via father engagement (Fagan & Palkovitz, 2011). This indirect path is seen in the thesis as mothers' and fathers' relationship quality are positively associated with mothers' and fathers' coparenting alliance, respectively, indicating that lower relationship quality may be an explanation for why fathers could be excluded from the coparental relationship.

Another reason that fathers may find it hard to engage in a coparenting relationship is that approximately half the time fathers are not in regular contact with the children or do not live with the children (McHale & Sirotkin, 2019), and this could be a possible reason for the finding in the current study as 17% of the fathers in the current study were not residential. Add to this that the study of coparenting by unmarried fathers and mothers is still relatively new; for example, it was only in the early 1990s that fatherhood programs emerged in the wake of welfare reform to encourage men to take on greater connections in the lives of their children (McHale & Sirotkin, 2019). Thus, what we know about studies that include both mothers and fathers from low-income and primarily unmarried families is still growing. Thus, with the father often having a complex position in the coparenting alliance in unmarried and low-income families, this could be a potential explanation for fathers' stress not mediating the association between fathers' depressive symptoms and fathers' coparenting alliance. Further, it is possible that economically disadvantaged fathers, when faced with financial stress must focus and prioritize managing finances rather than forming a coparenting alliance, and/or mothers engage in more gatekeeping behavior when in a financially stressful situation or low-income families (Jamison et al. 2017;

LeBaron et al., 2020). To further unpack this idea, because our sample consists of primarily low-income and unmarried mothers and fathers, mothers may engage in higher gatekeeping behavior as they perceive their relationship with the father as less stable and may think of the father's involvement as being contingent on access to financial resources which may in turn force fathers to focus more on finances and less on building relationships (Schoppe-Sullivan & Altenburger, 2019).

Further exploring potential reasons why three of the hypothesized indirect associations for hypothesis 2 were not significant, it is important to look at the measure of the indirect effect variable, which in the current study is financial stress. (To note, I used the term mediating variable here. However, as my analyses are cross-sectional, the more appropriate term to use here would be that of an indirect effect variable). The importance of looking at the mediating variable is highlighted by Jose (2013) in his book on doing statistical mediation and moderation. In this book (Jose, 2013), there is a tenet that explains that both the independent variable to the mediating variable "a" path and the mediating variable to the dependent variable "b" path need to be significant for researchers to be able to begin finding a significant indirect effect. This tenet thus suggests that the mediating variable carries the effect and the importance of paying attention to the mediating variable. Therefore, looking at the mediating variable in the current study - financial stress - this variable is a three-item binary measure that was specifically developed for the BSF study. While this measure has been used in studies such as Curran et al. (2021) as a main study construct and Kopystynska et al. (2020) as a control variable, there is a need for additional research to be done outside the context of the BSF study to further our understanding of the best measures for financial stress, including the need for scale development and validity testing for the construct of financial stress. Also, three-item measures - like the one used in the BSF specific

to financial stress - may pose certain issues around internal consistency (DeVellis, 2017) and some other challenges as noted in Czerwiński and Atroszko (2021) that underscore once again the importance of scale validation and highlight the need to be cautious with the current study's measure of financial stress. Lastly, the current study's measure of financial stress only examined serious financial hardships such as eviction, but the construct of financial stress can account for a host of different concepts such as debt, perceived financial insufficiency, and subjective satisfaction with financial position (Guan et al., 2022) which has also been seen to be associated with relational adaptive processes for example in Dai et al. (2022). With more information about the Dai et al. (2022) study, these authors examined financial distress (in associations with conflict management behaviors via coparenting support) in a sample of couples receiving child welfare services. Their measure of financial distress was an 8-item measure that assessed how worried and overwhelmed each parent felt by their finances, with items including "How stressed are you about your finances?". While the authors included financial stress in their study and analyses, it was not as a mediator. Taken together, in trying to understand the reasoning for the findings of the study that were not significant, it is important to place in context the measure of financial stress as the mediator.

An important part of addressing the overarching research question was the exploratory research question about whether the proposed relations between depressive symptoms, financial stress, constructive conflict, and coparenting alliance varied between mothers and fathers. I found that the magnitude of the proposed relations between depressive symptoms, financial stress, constructive conflict, and coparenting alliance varied between mothers and fathers. This suggests two important aspects: it is important to look at mothers and fathers separately, as opposed to merging them into one entity of parents, to understand each parent's experience and

the degree to which mothers and fathers experience how these aspects affect each other in their lives differs. These varied patterns between mothers and fathers found in the thesis are in line with Karney and Bradbury's (1995) statement of why to include both partners (in their case, husbands and wives of newlywed couples) so that researchers can better understand how each partner can experience certain vulnerabilities and stressors differently or how those vulnerabilities or stressors can affect each partner's relationship differently; these points underscore the usefulness of dyadic data and the importance of each partner's VSA. Specific to transition to parenthood studies, data that considers the experiences of both mothers and fathers (dyadic data) is something that Mickelson and Marcussen (2023) highlighted in their special issue on the transition to parenthood, as still in need of further study. In this way, the use of data from mothers and fathers contributes to the still-needed area of dyadic data during the transition to parenthood, offering an important strength of the current study. Along with acknowledging the presence of differences between mothers and fathers that was just noted in this section, it is important to recognize that model comparison tests (Table 5) reveal parental differences that could be based on differences in the magnitude of associations of the small coefficients that were found for both mothers and fathers (Table 4). Further, it is important to recognize that there is an ability to detect small explained variances as seen in the small R^2 values (Table 4) due to the fairly large sample size (Kline, 2016).

Strengths and Limitations

The current study has several strengths that should be noted. Firstly, our constructs are informed by the VSA (Karney & Bradbury, 1995) hence putting into context how individual characteristics such as depressive symptoms and relational processes such as constructive conflict can be understood through the lens of vulnerabilities, stressors, and adaptive processes

through the transition to parenthood. Secondly, the relational partners included in our sample are relatively understudied: those of low-income and racially/ethnically diverse backgrounds (Curran & Randall, 2023; Williamson et al. 2022). Thirdly, owing to the dyadic nature of the data, the study simultaneously tested the proposed associations for mothers and fathers in one model. Further, the inclusion of the dyadic data allowed for the testing of parental gender differences in the proposed associations. Lastly, the large sample size of 3,027 couples provided the ability to detect small explained variances.

Having discussed the strengths of the study, it is important to acknowledge the limitations.

Firstly, the current study is cross-sectional, therefore preventing us from making any conclusion about causality and directional associations between study variables therefore, the results of the study should be regarded with caution. In the future, it would be beneficial to use longitudinal data to gain an understanding of the directionality of the effects. Secondly, because all the key study variables were assessed at the same time-point of when the child was 36 months of age, we must be cautious of the conclusions and implications drawn from the study about the transition to parenthood as the timing for the transition to parenthood varies. The transition to parenthood is often measured from the prenatal period up to three years postpartum (Belsky & Rovine, 1990; Belsky et al., 1991; Cox & Paley, 1997). Nevertheless, we acknowledge that the couples in the current study may not be together for very long or may experience parental relationship changes ((Barnett et al., 2021), underscoring that vulnerabilities and stressors may change for these families over time. To this point, depressive symptoms measured prenatally, as the child is coming into the lives of the couple, would be a relevant time point to assess vulnerability in a future study. Thirdly, all data are self-reported survey data, which raises challenges such as individuals reporting on the perception of the study construct instead of the objective reality of

the situation. Further, there also might be bias in self-reported data such as lower reporting of being high on depressive symptoms as this has a negative connotation (Hunt et al., 2003). Moreover, as discussed above and by others using the BSF data as main study constructs (Curran et al. 2021), the financial stress variable has its limitations as it consists of only three items and focuses on serious material hardships, such as not being able to pay bills and rent, using a binary scale. Further, some items have low frequency such as the frequencies for the essential service being turned off are 16% and 14% for mothers and fathers respectively. Therefore, in the future, it might be worth looking at a combination of diverse financial stressors such as perceived financial insufficiency (Guan et al., 2022) or financial distress assessed with 8 items (Dai et al., 2022), along with these serious economic hardships. Additionally, it would be useful to have more items to assess financial stress on a continuous scale per the issues raised about the number of items in a scale as discussed earlier (Czerwiński & Atroszko, 2021; DeVellis, 2017). Furthermore, because father residential status was significantly associated with both fathers' coparenting alliance and fathers' constructive conflict in the current study, and authors such as Kopystynska et al. (2022) have found group differences in the association between psychological distress and interparental conflict by father residential status, the role of father residential status in diverse families would be a relevant avenue for future research. Lastly, the normal theory approach (Sobel test) was used to test for indirect effects to take a more cautious way forward, however it is a conservative test (Koopman et al., 2014). In the future, indirect effect testing with bootstrapping should be done to obtain more statistical power (Koopman et al., 2014; MacKinnon et al., 2004).

Conclusions and Implications

Following an adapted vulnerability stress adaptation model, or VSA, a large sample of primarily unmarried low-income mothers and fathers was used to examine how each partner brings in vulnerabilities in the form of depressive symptoms, experiences stressors such as financial stress, and adapts their couple relationship, particularly their constructive conflict and coparenting alliance. Overall, the results provide mixed support for the application of the VSA for our study variables for these mothers and fathers. The current study found full support for the relationship between vulnerabilities and adaptive processes as seen in the two significant findings for hypothesis 1 (i.e., higher depressive symptoms should be associated with lower constructive conflict and lower coparenting alliance for both mothers and fathers). The study found partial support for the relationship between vulnerabilities, stressors, and adaptive processes as seen in the one significant finding for hypothesis 2 (i.e., for mothers, higher depressive symptoms are associated with higher financial stress, which in turn is associated with lower constructive conflict). Taken together, the study suggests that both mothers and fathers who experience high levels of depressive symptoms may find it challenging to adaptively work on their relationships, particularly their ability to coparent and engage in constructive conflict. Particularly, when mothers face high levels of depressive symptoms, they experience higher financial stress which in turn reduces their ability to engage in conflict in a manner that is constructive.

From the findings of the study, firstly, I encourage researchers to continue to use adaptations of the VSA, and to especially focus on depressive symptoms as a vulnerability and relationship constructs, such as constructive conflict and coparenting alliance, as adaptive processes – the examination of these study constructs will serve as valuable knowledge that can inform prevention and intervention efforts during their transition to parenthood. The study

construct of depressive symptoms should be more systematically included in research and addressed in practice and intervention development which is something that Curran et al. (2021) also note. Additionally, as discussed earlier in the discussion section, other researchers have also included depressive symptoms as an important construct to study with parents (e.g., McDaniel et al., 2012 in the study of coparenting). Further, previous research has suggested that new parents are at increased risk for elevated levels of depressive symptoms given parental demands around child-care and time constraints (Umberson et al., 2010), hence warranting a need for efforts to be taken to help parental well-being and therefore their relational well-being.

Secondly, the inclusion of the study construct of coparenting alliance is also a relevant one to include in samples such as BSF, so that both researchers and practitioners can have an understanding of how parents are having discussions and making decisions about their child. As discussed by Holmes et al. (2020) in their meta-analysis of 24 experimental and quasi-experimental studies of fatherhood and coparenting intervention programs for low-income, unmarried fathers were the importance of the construct of coparenting to these parents.

Thirdly, the inclusion of both constructive conflict and coparenting alliance as adaptive processes within the framework of the VSA was useful and a strength of the thesis. Those working with couples such as the parents in the BSF sample can expand how they view adaptive process as often adaptive processes within the BSF have been considered specific to newly married couples who might not be parents (e.g., McNulty et al., 2021). Further, the construct of constructive conflict helps expand how others using the VSA may think about relational conflict (Karney & Bradbury, 1995), as often conflict is often regarded in terms of frequency and severity between relational partners, which should be minimized as much as possible (Braiker &

Kelley, 1978). Thus, the inclusion of constructive conflict offers practitioners an adaptive process by which members of the couple can work toward in terms of goals of the relationship.

Fourth, I would also encourage researchers to continue to explore financial stress as a core relational stressor especially among diverse samples such as the BSF couples using a more diverse measure of financial stress e.g., (Dai et al., 2022; Guan et al., 2022) since previous research has shown that concerns around finances are a relational challenge, especially for low-income couples (Karney et al., 2018; Trail & Karney, 2012). Lastly, for researchers who have dyadic data, testing differences between mothers and fathers is helpful for practitioners to know which patterns are found for both mothers and fathers (e.g., higher depressive symptoms were associated with lower constructive conflict and lower coparenting alliance) vs. what patterns are specific to fathers or mothers rather than both parents (e.g., for mothers only: higher depressive symptoms are associated with higher financial stress, which in turn is associated with lower constructive conflict).

Table 1*Descriptive Statistics for the Control Variables (N = 3,027 couples)*

Variable	Mother	Father
Race/ethnicity (wave 0)		
African American	55.30%	59.46%
White	17.55%	14.11%
Latinx/Hispanic	1.75%	1.42%
Other	25.40%	25.01%
Education level (wave 0)		
No secondary education	32.15%	33.24%
High school diploma	53.24%	49.38%
GED (equivalency)	8.33%	12.40%
Other	6.28%	4.97%
Multipartner fertility (wave 0)		
Have children with other partners	31.75%	29.53%
Employment status (wave 0)		
Working	26.33%	74.60%
On paid parental leave	5.55%	0.13%
Not working	67.86%	25.26%
Income (wave 0)		
No income	22.91%	7.28%
\$1 - \$4,999	33.79%	18.38%
\$5,000 - \$9,999	11.96%	14.74%
\$10,000 - \$14,999	11.26%	19.32%
\$15,000 - \$19,999	6.80%	14.91%
\$20,000 - \$24,999	3.70%	11.73%
\$25,000 - \$34,000	2.58%	8.68%
\$35,000 or above	1.01%	4.97%
Fathers' residential status (wave 2)		
Residential father	-	86.26%
Relationship quality (wave 0): <i>M (SD)</i>	3.25 (.48)	3.34 (.45)
Psychological distress (wave 0): <i>M (SD)</i>	2.02 (.73)	1.90 (.71)

Note: Binary coded variables include multipartner fertility and father residential status, and the

percentages shown here are for the group coded 1.

Table 2*Zero Order Correlations of Study Variables*

Study Variable	n (individuals)		Study Variable				M (SD)	
	M	F	1	2	3	4	M	F
1. Depressive symptoms	2,856	3,026	<i>.14**</i>	<i>.15**</i>	<i>-.27**</i>	<i>-.17**</i>	1.39(.51)	1.36(.48)
2. Financial stress	2,854	3,027	<i>.22**</i>	<i>.24**</i>	<i>-.09*</i>	<i>-.05**</i>	.53(.78)	.50(.77)
3. Constructive conflict	2,653	2,965	<i>-.31**</i>	<i>-.14**</i>	<i>.38**</i>	<i>.65**</i>	3.15(.74)	3.24(.68)
4. Coparenting alliance	2,842	3,027	<i>-.21**</i>	<i>-.08**</i>	<i>.70**</i>	<i>.39**</i>	4.15(.97)	4.42(.69)

Note. Italicized data on the diagonal include bivariate correlations between mothers' and fathers' data. Bivariate correlations for fathers are above the diagonal, and bivariate correlations for mothers are below the diagonal. All study variables are measured when the child was 36 months of age. M= Mothers, F= Fathers. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3*Percentage of Missing Data for Study and Control Variables (N = 3,027 couples)*

Variable	Mother	Father
Depressive symptoms (wave 0)	5.65%	0.03%
Financial stress (wave 2)	5.71%	0%
Constructive conflict (wave 2)	12.35%	2.04%
Coparenting alliance (wave 2)	6.11%	0%
Race/ethnicity (wave 0)	0%	0%
Education level (wave 0)	0.03%	0.93%
Income (wave 0)	5.25%	5.62%
Multipartner fertility (wave 0)	0.43%	0.13%
Employment status (wave 0)	0.26%	0.23%
Psychological distress (wave 0)	0.03%	0.06%
Relationship quality (wave 0)	0.06%	0.03%
Intervention status (wave 0)	0%	0%
Father residential status (wave 2)	-	0%

Table 4*Estimates for Freely Estimated Path Analysis*

	<i>B</i>	<i>SE</i>	β	<i>p</i>	<i>r</i> ²
Mother financial stress					.05
Mother depressive symptoms	.33	.03	.21	<.001	
Mother coparenting alliance					.10
Mother financial stress	-.03	.02	-.03	.111	
Mother depressive symptoms	-.27	.03	-.14	<.001	
Mother psychological distress	.00	.02	.00	.989	
Mother relationship quality	.48	.04	.24	<.001	
Mother multipartner fertility	.07	.04	.03	.059	
Mother employment status	-.03	.04	-.01	.520	
Mother Race/ethnicity (Latinx)	.14	.13	.02	.273	
Mother Race/ethnicity (Black)	-.03	.05	-.02	.532	
Mother Race/ethnicity (Other)	.19	.05	.08	<.001	
Mother education	-.14	.04	-.07	<.001	
Mother income	-.01	.01	-.01	.915	
Mother intervention status	.01	.03	.01	.704	
Mother constructive conflict					.13
Mother financial stress	-.06	.02	-.06	<.001	
Mother depressive symptoms	-.37	.03	-.24	<.001	
Mother psychological distress	.01	.02	.01	.638	
Mother relationship quality	.35	.03	.22	<.001	
Mother multipartner fertility	.05	.03	.03	.090	
Mother employment status	-.04	.03	-.03	.168	
Mother Race/ethnicity (Latinx)	.10	.11	.02	.343	
Mother Race/ethnicity (Black)	-.05	.04	-.03	.148	
Mother Race/ethnicity (Other)	.14	.04	.08	.001	
Mother education	-.09	.03	-.05	.002	
Mother income	-.01	.01	-.03	.141	
Mother intervention status	.01	.03	.01	.785	
Father financial stress					.02
Father depressive symptoms	.24	.03	.15	<.001	
Father coparenting alliance					.07
Father financial stress	-.01	.02	-.01	.572	
Father depressive symptoms	-.13	.03	-.10	<.001	
Father psychological distress	-.01	.02	-.01	.670	
Father relationship quality	.33	.03	.21	<.001	
Father multipartner fertility	.03	.03	.02	.197	
Father employment status	-.01	.03	-.01	.705	
Father Race/ethnicity (Latinx)	.19	.10	.03	.063	

Father Race/ethnicity (Black)	.09	.04	.07	.007	
Father Race/ethnicity (Other)	.11	.04	.07	.003	
Father education	.00	.03	.00	.974	
Father income	-.02	.01	-.05	.006	
Father residential status	.19	.04	.10	<.001	
Father intervention status	.01	.02	.01	.634	
Father constructive conflict					.10
Father financial stress	-.03	.02	-.03	.047	
Father depressive symptoms	-.27	.03	-.20	<.001	
Father psychological distress	-.01	.02	-.00	.868	
Father relationship quality	.30	.03	.20	<.001	
Father multipartner fertility	.05	.03	.04	.022	
Father employment status	-.04	.03	-.03	.158	
Father Race/ethnicity (Latinx)	.11	.10	.02	.265	
Father Race/ethnicity (Black)	.02	.03	.02	.499	
Father Race/ethnicity (Other)	.14	.04	.02	<.001	
Father education	-.02	.03	-.02	.320	
Father income	-.01	.01	-.03	.131	
Father residential status	.20	.04	-.03	<.001	
Father intervention status	-.01	.02	-.01	.724	

Note: Model fit statistics: $\chi^2(128) = 1,444.30$, $p < .001$; RMSEA = .06, 90% CI [.06, .06]; SRMR =

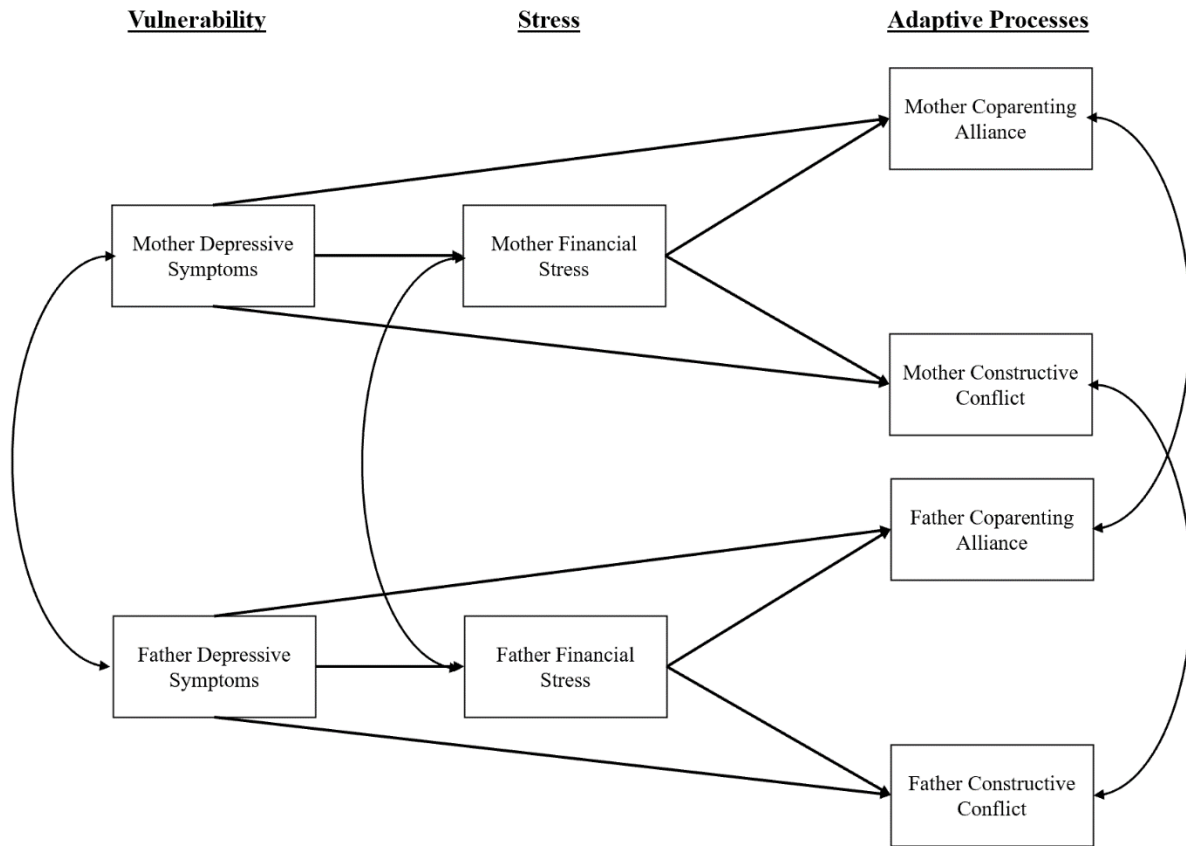
.05; CFI = .80. The key study constructs of depressive symptoms, financial stress, constructive conflict, and coparenting alliance and the control variable of father residential status were measured when the child was 36 months of age. All other control variables were measured at baseline.

Table 5*Model Comparison for Multigroup Analysis*

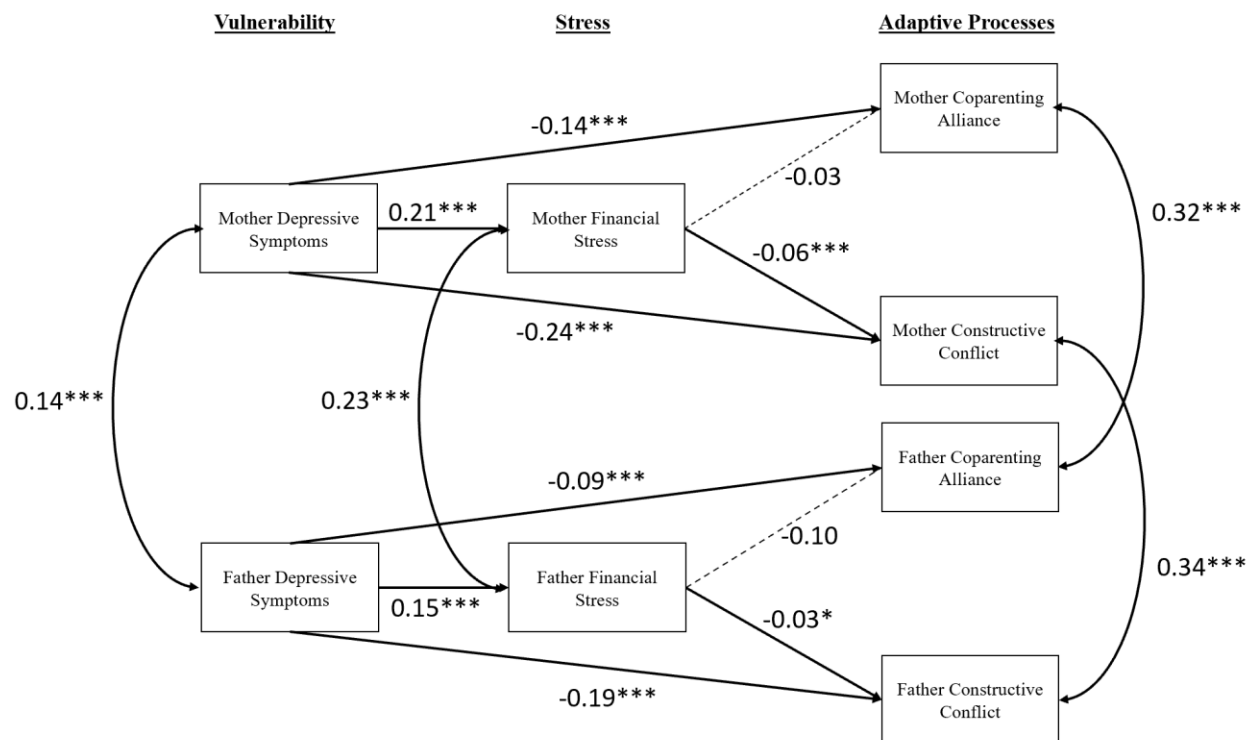
Model	χ^2	df	p	Compared	$\Delta\chi^2$	Δ df	p
M0: Freely estimated model	1,444.30	128	<.001				
M1: Constrained – DS to FS path	1,449.30	129	<.001	M1 - M0	5.00	1	.025
M2: Constrained – FS to CA path	1,445.30	129	<.001	M2 – M0	1.03	1	.308
M3: Constrained - FS to CC path	1,446.80	129	<.001	M3 – M0	2.45	1	.117
M4: Constrained – DS to CA path	1,455.10	129	<.001	M4 – M0	10.78	1	.001
M5: Constrained – DS to CC path	1,452.30	129	<.001	M5 – M0	7.97	1	.005
M6: Fully constrained	1,465.60	133	<.001	M6 – M0	21.25	5	<.001

Note: DS = Depressive symptoms. FS = Financial Stress. CA = Coparenting Alliance. CC =

Constructive conflict. The study constructs of depressive symptoms, financial stress, constructive conflict, and coparenting alliance were measured when the child was 36 months of age.

Figure 1*Conceptual Model*

Note. The study constructs of depressive symptoms, financial stress, constructive conflict, and coparenting alliance were measured when the child was 36 months of age.

Figure 2*Results of the Path Analysis*

Note. Standardized estimates for the path analysis for baseline model (no constraints). Solid lines = significant associations; Dashed lines = non-significant associations. * $p < .05$. ** $p < .01$. *** $p < .001$. The study constructs of depressive symptoms, financial stress, constructive conflict, and coparenting alliance were measured when the child was 36 months of age.

References

- Abidin, R. R., & Brunner, J. F. (1995). Development of a Parenting Alliance Inventory. *Journal of Clinical Child Psychology, 24*, 31–40.
http://dx.doi.org/10.1207/s15374424jccp2401_4
- Avellar, S., Covington, R., Moore, Q., Patnaik, A., & Wu, A. (2018). *Parents and children together: Effects of four responsible fatherhood programs for low-income fathers*. Office of Planning, Research, and Evaluation, Administration for Children and Families. Washington, D.C.: U.S. Department of Health and Human Services.
- Bamishigbin, O. N., Dunkel Schetter, C., Guardino, C. M., Stanton, A. L., Schafer, P., Shalowitz, M., Lanzi, R. G., Thorp, J., Jr., Raju, T., & Community Child Health Network Eunice Kennedy Shriver National Institute of Child and Health Development. (2017). Risk, resilience, and depressive symptoms in low-income African American fathers. *Cultural Diversity and Ethnic Minority Psychology, 23*(1), 70-80. <https://doi.org/10.1037/cdp0000088>
- Barnett, M. A., Paschall, K. W., Kopystynska, O., Warren, S. M., & Curran, M. A. (2021). Pathways linking parental relationship changes, depressive symptoms, and parenting behaviors to young children's development. *Family Relations, 70*(3), 905-920.
<https://doi.org/10.1111/fare.12494>
- Barry, R. A., Barden, E. P., & Dubac, C. (2019). Pulling away: Links among disengaged couple communication, relationship distress, and depressive symptoms. *Journal of Family Psychology, 33*(3), 280. <https://doi.org/10.1037/fam0000507>

- Belsky, J., Youngblade, L., Rovine, M., & Volling, B. (1991). Patterns of marital change and parent–child interaction. *Journal of Marriage and the Family*, 53(2), 487-498.
<https://doi.org/10.2307/352914>
- Belsky, J., & Rovine, M. (1990). Patterns of marital change across the transition to parenthood Pregnancy to three years postpartum. *Journal of Marriage and the Family*, 52(1), 5-19.
<https://doi.org/10.2307/352833>
- Berger, L. M., & Carlson, M. J. (2020). Family policy and complex contemporary families: A decade in review and implications for the next decade of research and policy practice. *Journal of Marriage and Family*, 82(1), 478-507.
<https://doi.org/10.1111/jomf.12650>
- Bergman, K. N., Cummings, E. M., & Warmuth, K. A. (2016). The benefits of marital conflict: Constructiveness and resolution as predictors of positive child outcomes. In D. Narvaez, J. M. Braungart-Rieker, L. E. Miller-Graff, L. T. Gettler, & P. D. Hastings (Eds.), *Contexts for young child flourishing: Evolution, family, and society* (pp. 233–245). New York, NY: Oxford University Press.
<http://dx.doi.org/10.1093/acprof:oso/9780190237790.003.0012>
- Braiker H., Kelley H. H. (1979). Conflict in the development of close relationships. In Burgess R. L., Huston T. L. (Eds.), *Social exchange in developing relationships* (pp. 135–168). Academic Press.
- Broderick, A.V., Brelsford, G.M. & Wadsworth, M.E. (2019) Interparental relationships among low income, ethnically diverse, two-parent cohabiting families. *Journal of Child Family Studies*, 28, 2259–2271. <https://doi.org/10.1007/s10826-019-01442-4>

- Coyne, J. C. (1976). Toward an interactional description of depression. *Psychiatry*, *39*(1), 28-40.
<https://doi.org/10.1080/00332747.1976.11023874>
- Cox, M., & Paley, B. (1997). Families as systems. *Annual Review of Psychology*, *48*(1), 243–267. <https://doi.org/10.1146/annurev.psych.48.1.243>
- Cummings, E. M., & Schatz, J. N. (2012). Family conflict, emotional security, and child development: translating research findings into a prevention program for community families. *Clinical Child and Family Psychology Review*, *15*, 14-27.
<https://doi.org/10.1007/s10567-012-0112-0>
- Curran, M. A., Li, X., Barnett, M., Kopystynska, O., Chandler, A. B., & LeBaron, A. B. (2021). Finances, depressive symptoms, destructive conflict, and coparenting among lower-income, unmarried couples: A two-wave, cross-lagged analysis. *Journal of Family Psychology*, *35*(4), 489–499. <https://doi.org/10.1037/fam0000821>
- Curran, M. A. & Randall, A. K. (2023). Editorial synthesis for 2 in 2023: A collaboration between IARR’s two journals: Recognizing the need for greater inclusivity in relationship science. *Journal of Social and Personal Relationships*, *40*(3), 717-733.
<https://doi.org/10.1177/02654075231154322>
- Czerwiński, S. K., & Atroszko, P. A. (2023). A solution for factorial validity testing of three-item scales: An example of tau-equivalent strict measurement invariance of three-item loneliness scale. *Current Psychology*, *42*(2), 1652-1664.
<https://doi.org/10.1007/s12144-021-01554-5>
- Dai, Y., Futris, T. G., Stanford, W. D., Richardson, E. W., & Koss, K. J. (2022). The association between financial distress, conflict management, and co-parenting support for couples

- receiving child welfare. *Journal of Social and Personal Relationships*, 39(11), 3329-3350. <https://doi.org/10.1177/02654075221096783>
- Davies, P. T., Sturge-Apple, M. L., Weitach, M. J., & Cummings, E. M. (2009). A process analysis of the transmission of distress from interparental conflict to parenting: Adult relationship security as an explanatory mechanism. *Developmental Psychology*, 45(6), 1761–1773. <https://doi.org/10.1037/a0016426>
- DeVellis, R. F. (2017). *Scale development: Theory and applications*. Sage publications.
- Dion, M. R., Hershey, A. M., Zaveri, H. H., Avellar, S. A., Strong, D. A., Silman, T., & Moore, R. (2008). *Implementation of the Building Strong Families program*. Washington, DC: Mathematica Policy Research. <http://dx.doi.org/10.1037/e565612012-001>
- Doss, B. D., & Rhoades, G. K. (2017). The transition to parenthood: Impact on couples' romantic relationships. *Current opinion in psychology*, 13, 25-28. <https://doi.org/10.1016/j.copsyc.2016.04.003>
- Du Rocher Schudlich, T., Jessica, N. W., Erwin, S. E. A., & Rishor, A. (2019). Infants' emotional security: The confluence of parental depression, interparental conflict, and parenting. *Journal of Applied Developmental Psychology*, 63, 42–53. <https://doi.org/10.1016/j.appdev.2019.05.006>
- Du Rocher Schudlich, T., Norman, J., Du Nann, B., Wharton, A., Block, M., Nicol, H., Dachenhausen, M., Gleason, A., & Pendergast, K. (2015). Interparental conflicts in dyadic and triadic contexts: Parental depression symptoms and conflict history predict differences. *Journal of Child and Family Studies*, 24(4), 1047–1059. <https://doi.org/10.1007/s10826-014-9914-7>

- Du Rocher Schudlich, T., Papp, L. M., & Cummings, E. M. (2011). Relations between spouses' depressive symptoms and marital conflict: A longitudinal investigation of the role of conflict resolution styles. *Journal of Family Psychology, 25*(4), 531–540. <https://doi.org/10.1037/a0024216>
- Fagan, J., & Palkovitz, R. (2011). Coparenting and relationship quality effects on father engagement: Variations by residence, romance. *Journal of Marriage and Family, 73*(3), 637–653. <https://doi.org/10.1111/j.1741-3737.2011.00834.x>
- Goldberg, J. S., & Carlson, M. J. (2015). Patterns and predictors of coparenting after unmarried parents part. *Journal of Family Psychology, 29*(3), 416–426. <https://doi.org/10.1037/fam0000078>
- Guan, N., Guariglia, A., Moore, P., Xu, F., & Al-Janabi, H. (2022). Financial stress and depression in adults: A systematic review. *PloS one, 17*(2), e0264041. <https://doi.org/10.1371/journal.pone.0264041>
- Guzzo, K. B., & Hayford, S. R. (2020). Pathways to parenthood in social and family context: Decade in review, 2020. *Journal of marriage and the family, 82*(1), 117–144. <https://doi.org/10.1111/jomf.12618>
- Hammen, C. (1991). Generation of stress in the course of unipolar depression. *Journal of Abnormal Psychology, 100*(4), 555–561. <https://doi.org/10.1037/0021-843X.100.4.555>
- Hawkins M. W., Carrere S., Gottman J. M. (2002). Marital sentiment override: Does it influence couples' perceptions? *Journal of Marriage and Family, 64*(1), 193–201. <https://doi.org/10.1111/j.1741-3737.2002.00193.x>
- Hershey, A., Devaney, B., Wood, R. G., & McConnell, S. (2008). *Building Strong Families (BSF) project data collection, 2005–2008*. Ann Arbor, MI: ICPSR Data Holdings.

- Hershey, A., Devaney, B., Wood, R. G., & McConnell, S. (2013). *Building Strong Families (BSF) Project data collection, 2005–2008*. ICPSR Data Holdings.
- Holmes, E. K., Egginton, B. R., Hawkins, A. J., Robbins, N. L., & Shafer, K. (2020). Do responsible fatherhood programs work? A comprehensive meta-analytic study. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, *69*(5), 967 - 982. <https://doi.org/10.1111/fare.12435>
- Holmes, E. K., Thomas, C., Egginton, B., Leiter, V. K., and Hawkins, A. (2021). The effectiveness of responsible fatherhood programs targeting low-income and non-resident fathers: A qualitative meta-synthesis. In J. Fagan, and J. Pearson (Eds.), *New Research on Programs that Help Low-income Fathers Become Better Parents*. New York: Routledge.
- Hunt, M., Auriemma, J., & Cashaw, A. C. (2003). Self-report bias and underreporting of depression on the BDI-II. *Journal of personality assessment*, *80*(1), 26-30. https://doi.org/10.1207/S15327752JPA8001_10
- Jackson, G. L., Trail, T. E., Kennedy, D. P., Williamson, H. C., Bradbury, T. N., & Karney, B. R. (2016). The salience and severity of relationship problems among low-income couples. *Journal of Family Psychology*, *30*(1), 2–11. <https://doi.org/10.1037/fam0000158>
- Jamison, T. B., Ganong, L., & Proulx, C. M. (2017). Unmarried coparenting in the context of poverty: Understanding the relationship between stress, family resource management, and resilience. *Journal of Family and Economic Issues*, *38*(3), 439–452. <https://doi.org/10.1007/s10834-016-9518-z>.
- Jose, P. E. (2013). *Doing statistical mediation and moderation*. Guilford Press.

- Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, methods, and research. *Psychological Bulletin*, *118*(1), 3–34. <https://doi.org/10.1037/0033-2909.118.1.3>
- Karney, B. R., Bradbury, T. N., & Lavner, J. A. (2018). Supporting healthy relationships in low-income couples: Lessons learned and policy implications. *Policy Insights from the Behavioral and Brain Sciences*, *5*(1), 33–39. <https://doi.org/10.1177/2372732217747890>
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S.-L. T., Walters, E. E., & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, *32*(6), 959–976. <https://doi.org/10.1017/S0033291702006074>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.
- Kluwer, E. S. (2010). From partnership to parenthood: A review of marital change across the transition to parenthood. *Journal of Family Theory & Review*, *2*(2), 105 - 125. <https://doi.org/10.1111/j.1756-2589.2010.00045.x>
- Koopman, J., Howe, M., & Hollenbeck, J. R. (2015). Pulling the Sobel Test up by its bootstraps. In C. E. Lance & R. J. Vandenberg (Eds.), *More statistical and methodological myths and urban legends* (pp. 224–243). Routledge/Taylor & Francis Group.
- Kopystynska, O., Barnett, M. A., Bradford, K., Crapo, J. S., & Higginbotham, B. (2022). Psychological distress, destructive conflict, and parenting among residential and nonresidential fathers. *Marriage & Family Review*, *59*(3), 229-252. <https://doi.org/10.1080/01494929.2022.2131027>

- Kopystynska, O., Barnett, M. A., & Curran, M. A. (2020). Constructive and destructive interparental conflict, parenting, and coparenting alliance. *Journal of Family Psychology, 34*(4), 414–424. <https://doi.org/10.1037/fam0000606>
- Kopystynska, O., Mueller, J., Bradford, K., Chandler, A. B., Foran, H. M., & Higginbotham, B. J. (2022). The influence of interparental conflict and violence on parenting and parent–child relationships. *Personal Relationships, 29*(3), 488–523. <https://doi.org/10.1111/pere.12441>
- Kopystynska, O., Paschall, K. W., Barnett, M. A., & Curran, M. A. (2017). Patterns of interparental conflict, parenting, and children’s emotional insecurity: A person-centered approach. *Journal of Family Psychology, 31*(7), 922–932. <https://doi.org/10.1037/fam0000343>
- LeBaron, A. B., Curran, M. A., Li, X., Dew, J. P., Sharp, T. K., & Barnett, M. A. (2020). Financial stressors as catalysts for relational growth: Bondadaptation among lower-income, unmarried couples. *Journal of Family and Economic Issues, 41*(3), 424–441. <https://doi.org/10.1007/s10834-020-09666-z>
- Lee, J. Y., Lee, S. J., Volling, B. L., & Grogan-Kaylor, A. C. (2023). Examining mechanisms linking economic insecurity to interparental conflict among couples with low income. *Family Relations, 72*(3), 1158–1185. <https://doi.org/10.1111/fare.12698>
- Lee, J. Y., Volling, B. L., Lee, S. J., & Altschul, I. (2020). Longitudinal relations between coparenting and father engagement in low-income residential and nonresidential father families. *Journal of Family Psychology, 34*(2), 226–236. <https://doi.org/10.1037/fam0000612>

- Li, X., Curran, M., Paschall, K., Barnett, M., & Kopystynska, O. (2019). Pregnancy intentions and family functioning among low-income, unmarried couples: Person-centered analyses. *Journal of Family Psychology, 33*(7), 830–840. <https://doi.org/10.1037/fam0000547>
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence Limits for the Indirect Effect: Distribution of the Product and Resampling Methods. *Multivariate Behavioral Research, 39*(1), 99–128. https://doi.org/10.1207/s15327906mbr3901_4
- Maisel, N. C., & Karney, B. R. (2012). Socioeconomic status moderates associations among stressful events, mental health, and relationship satisfaction. *Journal of Family Psychology, 26*(4), 654–660. <https://doi.org/10.1037/a0028901>
- McDaniel, B. T., & Teti, D. M. (2012). Coparenting quality during the first three months after birth: The role of infant sleep quality. *Journal of Family Psychology, 26*(6), 886–895. <https://doi.org/10.1037/a0030707>
- McHale, J. P., & Sirotkin, Y. S. (2019). Coparenting in diverse family systems. In M. H. Bornstein (Ed.), *Handbook of parenting: Being and becoming a parent* (3rd ed., pp. 137–166). Routledge/Taylor & Francis Group. <https://doi.org/10.4324/9780429433214-4>
- McNulty, J. K., Meltzer, A. L., Neff, L. A., & Karney, B. R. (2021). How both partners' individual differences, stress, and behavior predict change in relationship satisfaction: Extending the VSA model. *Proceedings of the National Academy of Sciences, 118*(27), e2101402118. <https://doi.org/10.1073/pnas.2101402118>
- Mickelson, K. D., & Biehle, S. N. (2017). Gender and the transition to parenthood: Introduction to the special issue. *Sex Roles, 76*, 271–275. <https://doi.org/10.1007/s11199-016-0724-9>

- Mickelson, K. D., & Marcussen, K. (2023). Transition to Parenthood in the Twenty-First Century. *Gender and the Transition to Parenthood: Understanding the A, B, C's*, 1-10. https://doi.org/10.1007/978-3-031-24155-0_1
- Muntaner, C., Eaton, W. W., Miech, R., & O'Campo, P. (2004). Socioeconomic position and major mental disorders. *Epidemiologic Reviews*, 26, 53–62. <https://doi.org/10.1093/epirev/mxh001>
- Muntaner, C., Ng, E., Vanroelen, C., Christ, S., & Eaton, W. W. (2013). Social stratification, social closure, and social class as determinants of mental health disparities. In C. S. Aneshensel, J. C. Phelan, & A. Bierman (Eds.), *Handbook of the Sociology of Mental Health* (2nd ed., pp. 205–227). Springer, Dordrecht. https://doi.org/10.1007/978-94-007-4276-5_11
- Neff, L. A., & Karney, B. R. (2009). Stress and reactivity to daily relationship experiences: How stress hinders adaptive processes in marriage. *Journal of Personality and Social Psychology*, 97(3), 435–450. <https://doi.org/10.1037/a0015663>
- Neff, L. A., & Karney, B. R. (2017). Acknowledging the elephant in the room: How stressful environmental contexts shape relationship dynamics. *Current Opinion in Psychology*, 13, 107–110. <https://doi.org/10.1016/j.copsyc.2016.05.013>
- Nomaguchi, K., & Milkie, M. A. (2020). Parenthood and well-being: A decade in review. *Journal of Marriage and Family*, 82(1), 198-223. <https://doi.org/10.1111/jomf.12646>
- Oh, S., Zapcic, I., Vaughn, M. G., Salas-Wright, C. P., & Kim, Y. (2021). Housing instability and depression among US mothers following a nonmarital birth. *International journal of*

environmental research and public health, 18(19), 10322.

<https://doi.org/10.3390/ijerph181910322>

Paat, Y.-F. (2011). The link between financial strain, interparental discord and children's antisocial behaviors. *Journal of Family Violence*, 26(3), 195–210. <https://doi.org/10.1007/s10896-010-9354-0>

Pech, A., Curran, M., Speirs, K., Li, X., Barnett, M., & Paschall, K. (2020). Understanding child behavior problems in young children with previously incarcerated fathers: Parents' depressive symptoms, relationship quality, and coparenting. *Marriage & Family Review*, 56(6), 553-574. <https://doi.org/10.1080/01494929.2020.1728602>

Papp, L. M., Cummings, E. M., & Goeke-Morey, M. C. (2009). For richer, for poorer: Money as a topic of marital conflict in the home. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 58(1), 91–103. <https://doi.org/10.1111/j.1741-3729.2008.00537.x>

Riina, E. M., & Feinberg, M. E. (2018). The trajectory of coparenting relationship quality across early adolescence: Family, community, and parent gender influences. *Journal of Family Psychology*, 32(5), 599–609. <https://doi.org/10.1037/fam0000426>

Rose-Greenland, F., & Smock, P. J. (2013). Living together unmarried: What do we know about cohabiting families? In G. W. Peterson & K. R. Bush (Eds.), *Handbook of Marriage and the Family* (3rd ed., pp. 255–273). Boston, MA: Springer US. https://doi.org/10.1007/978-1-4614-3987-5_12

Ross, C. E., Mirowsky, J., & Huber, J. (1983). Dividing work, sharing work, and in-between: Marriage patterns and depression. *American Sociological Review*, 48, 809 – 823. <http://dx.doi.org/10.2307/2095327>

- Schoppe-Sullivan, S. J., & Altenburger, L. E. (2019). Parental gatekeeping. In M. H. Bornstein (Ed.), *Handbook of parenting: Being and becoming a parent* (3rd ed., pp. 167–198). Routledge/Taylor & Francis Group. <https://doi.org/10.4324/9780429433214-5>
- Schoppe-Sullivan, S. J., & Fagan, J. (2020). The evolution of fathering research in the 21st century: Persistent challenges, new directions. *Journal of Marriage and Family*, *82*(1), 175–197. <https://doi.org/10.1111/jomf.12645>
- Schoppe-Sullivan, S. J., Settle, T., Lee, J., & Kamp Dush, C. M. (2016). Supportive coparenting relationship as a haven of psychological safety at the transition to parenthood. *Research in Human Development*, *13*, 32–48. <https://doi.org/10.1080/15427609.2016.1141281>
- Siefert, K., Williams, D. R., Finlayson, T. L., Delva, J., & Ismail, A. I. (2007). Modifiable Risk and Protective Factors for Depressive Symptoms in Low-Income African American Mothers. *American Journal of Orthopsychiatry*, *77*(1), 113–123. <https://doi.org/10.1037/0002-9432.77.1.113>
- Smythe, K. L., Petersen, I., & Schartau, P. (2022). Prevalence of perinatal depression and anxiety in both parents. *JAMA Network Open*, *5*(6). <https://doi.org/10.1001/jamanetworkopen.2022.18969>
- Spiliotopoulou G. (2009). Reliability reconsidered: Cronbach's alpha and paediatric assessment in occupational therapy. *Australian Occupational Therapy Journal*, *56*(3), 150–155. <https://doi.org/10.1111/j.1440-1630.2009.00785.x>
- Stevenson, M. M., Fabricius, W. V., Cookston, J. T., Parke, R. D., Coltrane, S., Braver, S. L., & Saenz, D. S. (2014). Marital problems, maternal gatekeeping attitudes, and father–child relationships in adolescence. *Developmental Psychology*, *50*(4), 1208–1218. <https://doi.org/10.1037/a0035327>

- Summers, J. A., Boiler, K., Schiffman, R. F., & Raikes, H. H. (2019). The meaning of “good fatherhood:” Low-income fathers’ social constructions of their roles. In *The Early Head Start Fathers and Children* (pp. 145-165). Routledge.
- Thornock, C. M., Nelson, L. J., Robinson, C. C., & Hart, C. H. (2013). The direct and indirect effects of home clutter on parenting. *Family Relations*, *62*(5), 783–794.
<https://doi.org/10.1111/fare.12035>
- Tissot, H., Favez, N., Ghisletta, P., Frascarolo, F., & Despland, J. N. (2017). A longitudinal study of parental depressive symptoms and coparenting in the first 18 months. *Family Process*, *56*(2), 445-458. <https://doi.org/10.1111/famp.12213>
- Trail, T. E., & Karney, B. R. (2012). What's (not) wrong with low-income marriages. *Journal of Marriage and Family*, *74*(3), 413–427. <https://doi.org/10.1111/j.1741-3737.2012.00977.x>
- Umberson, D., Pudrovska, T., & Reczek, C. (2010). Parenthood, Childlessness, and Well-Being: A Life Course Perspective. *Journal of Marriage and the Family*, *72*(3), 612–629.
<https://doi.org/10.1111/j.1741-3737.2010.00721.x>
- van Eldik, W. M., de Haan, A. D., Parry, L. Q., Davies, P. T., Luijk, M. P. C. M., Arends, L. R., & Prinzie, P. (2020). The interparental relationship: Meta-analytic associations with children's maladjustment and responses to interparental conflict. *Psychological Bulletin*, *146*(7), 553–594. <https://doi.org/10.1037/bul0000233>
- Wadsworth, M. E., & Achenbach, T. M. (2005). Explaining the link between low socioeconomic status and psychopathology: testing two mechanisms of the social causation hypothesis. *Journal of Consulting and Clinical Psychology*, *73*(6), 1146–1153.
<https://doi.org/10.1037/0022-006X.73.6.1146>

- Waller, M. R. (2008). How do disadvantaged parents view tensions in their relationships? Insights for relationship longevity among at-risk couples. *Family Relations* 57(2), 128–143. <https://doi.org/10.1111/j.1741-3729.2008.00489.x>
- Weiss, R. L. (1980). Strategic behavioral marital therapy: Toward a model for assessment and intervention. *Advances in Family Intervention, Assessment and Theory*, 1, 229-271.
- Williams, D. T., & Cheadle, J. E. (2016). Economic hardship, parents' depression, and relationship distress among couples with young children. *Society and Mental Health*, 6(2), 73-89. <https://doi.org/10.1177/2156869315616258>
- Williamson, H. C., Bornstein, J. X., Cantu, V., Ciftci, O., Farnish, K. A., & Schouweiler, M. T. (2022). How diverse are the samples used to study intimate relationships? A systematic review. *Journal of Social and Personal Relationships*, 39(4), 1087-1109. <https://doi.org/10.1177/02654075211053849>
- Wu, W., Gu, F., & Fukui, S. (2022). Combining proration and full information maximum likelihood in handling missing data in Likert scale items: A hybrid approach. *Behavior Research Methods*, 54(2), 922-940. <https://doi.org/10.3758/s13428-021-01671-w>
- Wood, R. G., Moore, Q., Clarkwest, A., & Kille-wald, A. (2014). The long-term effects of building strong families: A program for unmarried parents. *Journal of Marriage and Family*, 76(2), 446–463. <https://doi.org/10.1111/jomf.12>
- Xiao, J., & Bulut, O. (2020). Evaluating the performances of missing data handling methods in ability estimation from sparse data. *Educational and Psychological Measurement*, 80(5), 932-954. <https://doi.org/10.1177/00131644209111>